NEWARK ELECTRONICS

CATALOG 101 — 50TH YEAR

TUBES
I.T.V.

Telephone Plugs 0-X-50

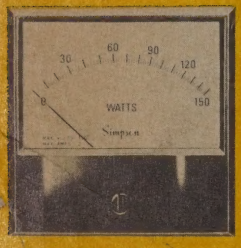
NEW 460 DIGITAL VOM
3½ digits plus analog readout.
AC or DC operation. 62F . . . Net **$395**

NEW 2726 DIGITAL COUNTE
6 full-time digits.
62F 2361 Net . . . $5
See page 637.

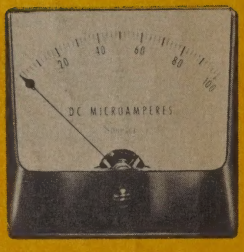
NEW 260-6 VOM
Many new features.
62F 2270 Net . . . **$65.**
See page 638.

Simpson

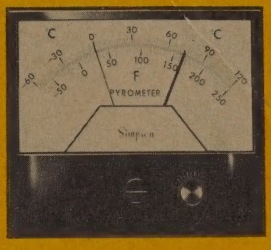
PANEL METERS • TEST EQUIPMENT AND INSTRUMENTATION PRODUCTS *always in stock at NEWARK*



NEW CENTURY SERIES PANEL METERS. Modern styling. Phenolic and glass construction.
See page 662.



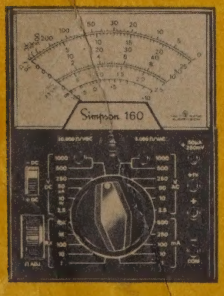
WIDE-VUE METERS
Many ranges and sizes.
See page 664.



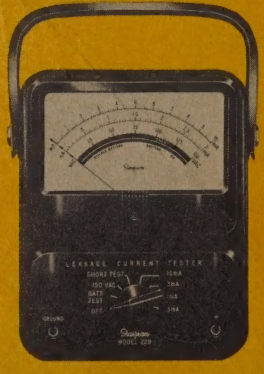
PYROMETERS, TEMPERATURE CONTROLLERS

METER RELAYS, CONTROLLERS
See page 670.

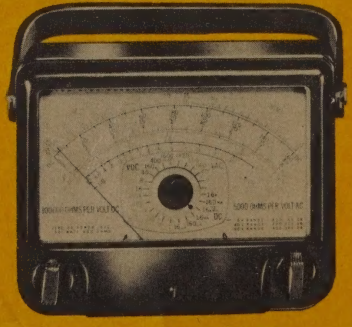
NEW 3623XA EDGEWISE CONTROLLE
Exceptional. *Se*
page 194.



160 HANDI-VOM
Full-size features in palm-size unit.
62F 1723 . . . **$55**
See page 642.



229 AC CURRENT LEAKAGE TESTER
Safety first tester.
62F 324 Net . . . **$90**
See page 643.



269-3 7-INCH VOM
100,000 Ω/volt. 62F 330
Net . . . **$98**
See page 640.

313 FET VOM
High stability.
62F 2273 Net . . . **$12**
See page 641.

Simpson
INSTRUMENTS THAT STAY ACCURATE

2755 MINIATURE STRIP CHART RECORDER
Operate over 30 days unattended. 10-channel events. 62F 2288 Net . . . **$175**
See page 644.

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Printed in U.S.A.

NEWARK

5TH 50 YEAR

Your Newark catalog is a directory and guide to the standard components of over 500 internationally recognized manufacturers of high quality electronics. Select the components you need, and contact the Newark facility nearest you for prompt shipment from stock . . . at current OEM prices.

Nationwide Facilities to Serve You Better

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New York, New York 10010
(212) 255-4600
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FAST THUMB INDEX

IC DIRECTORY
SEMICONDUCTOR DIRECTORY
INTEGRATED CIRCUITS
SEMICONDUCTORS
TUBES
RESISTORS
POTENTIOMETERS
CAPACITORS
SWITCHES
RELAYS
FUSES · BREAKERS
CONNECTORS · SOCKETS
WIRE · CABLE
TRANSFORMERS
LAMPS · LIGHTS
RACKS · CABINETS
TOOLS · POWER SUPPLIES
BATTERIES · HARDWARE CHEMICALS
INSTRUMENTS
SOUND · RECORDING
INDEX

COVER: Magnified metal oxide semiconductor, 1024 word, 1-bit memory.

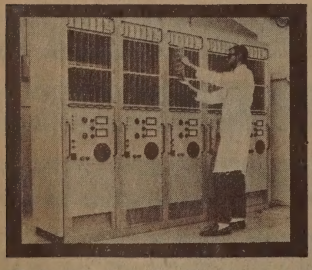
Problem Solving by Newark Through ESP

Extra Services Procurement

Newark's new ESP can provide you, in days, with the special services needed in unique procurement situations . . . special services that may take weeks or even months for normal channels to supply!

Here are just a few of the many "factory" services now available from America's leading electronic component distributor . . . Newark!

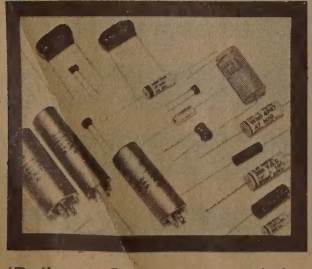
SEMICONDUCTORS



- Beta Selection
- Dynamic Testing
- Matching
- Voltage Selection
- Burn-in
- Static Tests
- High Reliability Testing
- Tape and Reel Packaging

(**Delivery:** 5 to 30 days, depending on parameters and quantities)

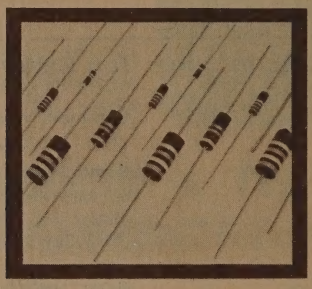
CAPACITORS



- Close Tolerance Testing to 0.1%
- Pretesting
- Matching Units
- Tape and Reel Packaging
- Military Packaging
- Parts Marking
- Component Conditioning
- Lead Cutting and Forming

(**Delivery:** One to two weeks)

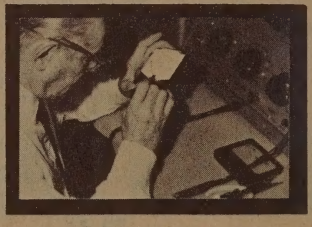
RESISTORS



- Close Tolerance Testing to 0.1%
- Pretesting
- Matched Units
- Reliability Testing
- Reel Tape and Packaging
- Military Packaging
- Parts Marking
- Burn-in
- Temperature Cycling
- Lead Cutting and Forming

(**Delivery:** One to two weeks)

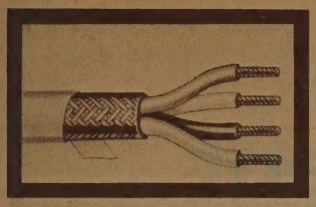
PANEL METERS



- Modification and Calibration
- Special Legends
- Multi-Range Scales
- Range Changes
- Special Scales

(**Delivery:** One to two weeks)

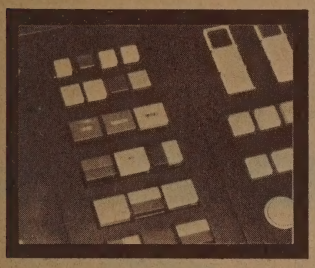
WIRE AND CABLE



- Special Harnesses and Cable Assemblies
- Cutting and Stripping
- Striping and Coding

(**Delivery:** 5 to 30 days, depending on quantity and specifications)

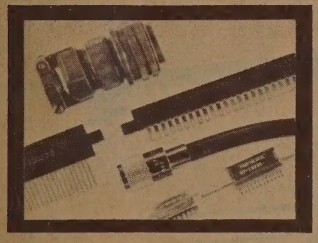
SWITCHES



- Modifications
- Engraving
- Special Assemblies
- Color Coding

(**Delivery:** One to three weeks)

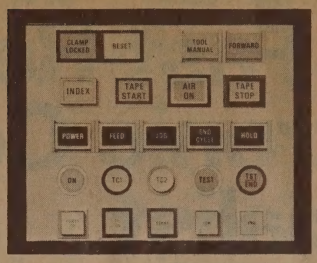
CONNECTORS



- Standard and Special Assemblies in Unlimited Combinations

(**Delivery:** One to three weeks)

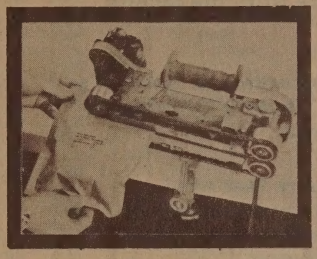
CUSTOM ENGRAVING



- Indicator Lights
- Meters
- Legend Panels and Name Plates
- Lighted Switches
- Pushbutton Switches

(**Delivery:** 5 to 10 days)

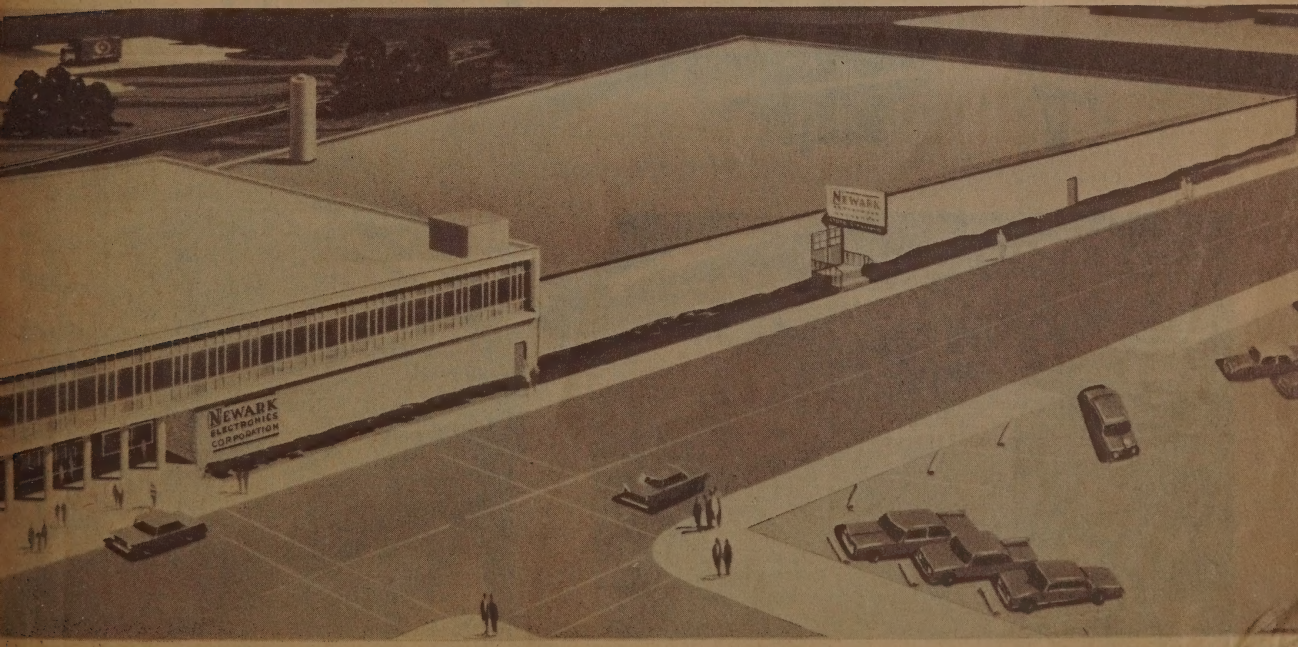
SPECIAL PACKAGING



- Any commercial or military required packaging, domestic or export, of resistors, capacitors, semiconductors, and many other electronic components.

(**Delivery:** 10 days)

IN ADDITION to the services above, **Newark can supply you with certification of Military Qualification Assurance on electronic components.**

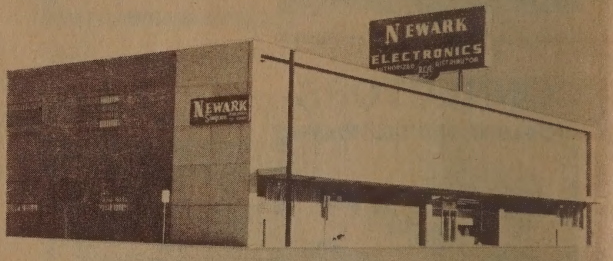


NEWARK!
Your Fast-Response Electronic Component Specialist...

SOLVING YOUR INDUSTRIAL SUPPLY PROBLEMS!

- Locations throughout the U.S.— immediate service from the facility nearest you.
- Extra Service Procurement, Newark's ESP, for special "factory" services in days . . . not weeks.
- Over 250,000 square feet of warehouses with multi-million dollar inventories for fast, off-the-shelf delivery.
- Computerized inventory control and order processing for fastest delivery with minimum back-orders.

Write, phone, wire or TWX NEWARK for the solution to your electronic component procurement problems!



Integrated Circuit Directory

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-999	1000-Up
CA3000	RCA	3.80	2.76	2.30
CA3001	RCA	5.55	4.00	3.35
CA3002	RCA	3.71	2.70	2.25
CA3004	RCA	3.71	2.70	2.25
CA3005	RCA	2.48	1.80	1.50
CA3006	RCA	5.80	4.20	3.50
CA3007	RCA	5.35	3.90	3.25
CA3008	RCA	3.47	2.52	2.10
CA3008A	RCA	5.00	4.08	3.40
CA3010	RCA	2.61	1.90	1.58
CA3010A	RCA	4.79	3.48	2.90
CA3011	RCA	1.47	1.07	.89
CA3012	RCA	1.82	1.32	1.10
CA3013	RCA	2.15	1.56	1.30
CA3014	RCA	2.48	1.80	1.50
CA3015	RCA	3.96	2.88	2.40
CA3015A	RCA	6.44	4.68	3.90
CA3016	RCA	4.79	3.48	2.90
CA3016A	RCA	7.25	5.30	4.40
CA3018	RCA	1.62	1.18	.98
CA3018A	RCA	2.22	1.62	1.35
CA3019	RCA	1.62	1.18	.98
CA3020	RCA	2.56	1.86	1.55
CA3021	RCA	3.14	2.28	1.90
CA3022	RCA	2.64	1.92	1.60
CA3023	RCA	2.56	1.86	1.55
CA3026	RCA	2.06	1.50	1.25
CA3028A	RCA	1.47	1.07	.89
CA3028B	RCA	2.06	1.50	1.25
CA3029	RCA	1.62	1.18	.98
CA3029A	RCA	3.14	2.28	1.90
CA3030	RCA	2.61	1.90	1.58
CA3030A	RCA	4.79	3.48	2.90
CA3031	RCA	4.95	3.60	3.00
CA3032	RCA	3.30	2.40	2.00
CA3033	RCA	4.79	3.48	2.90
CA3033A	RCA	8.09	5.88	4.90
CA3035	RCA	2.48	1.80	1.50
CA3035V1	RCA	2.48	1.80	1.50
CA3036	RCA	1.47	1.07	.89
CA3037	RCA	3.14	2.28	1.90
CA3037A	RCA	4.79	3.48	2.90
CA3038	RCA	4.79	3.48	2.90
CA3038A	RCA	6.44	4.68	3.90
CA3040	RCA	4.87	3.54	2.95
CA3041	RCA	2.06	1.50	1.25
CA3042	RCA	2.06	1.50	1.25
CA3043	RCA	2.81	2.04	1.70
CA3044	RCA	2.31	1.68	1.40
CA3044V1	RCA	2.31	1.68	1.40
CA3045	RCA	2.47	1.80	1.50
CA3046	RCA	1.61	1.17	.98
CA3047	RCA	2.61	1.90	.98
CA3047A	RCA	4.79	3.48	1.58
CA3048	RCA	4.04	2.94	2.45
CA3049	RCA	3.22	2.34	1.95
CA3050	RCA	3.71	2.70	2.25
CA3051	RCA	2.72	1.98	1.65
CA3052	RCA	3.14	2.28	1.90
CA3053	RCA	.81	.59	.49
CA3055	RCA	2.80	2.04	1.70
CA3059	RCA	3.20	2.35	1.95
CA3060	RCA	9.82	7.14	5.95
CA3062	RCA	4.86	3.54	2.95
CA3064	RCA	2.31	1.68	1.40
CA3065	RCA	2.31	1.68	1.40
CA3075	RCA	2.31	1.68	1.40
CA3076	RCA	2.64	1.92	1.60
CD2154	RCA	5.20	3.80	3.15
CD2155D	RCA	23.20	19.20	16.00
CD2150	RCA	3.96	2.88	2.40
CD2151	RCA	3.96	2.88	2.40
CD2152	RCA	3.96	2.88	2.40
CD2153	RCA	5.20	3.80	3.15
CD2200	RCA	10.72	7.80	6.50
CD2200D	RCA	10.72	7.80	6.50
CD2201	RCA	10.72	7.80	6.50
CD2201D	RCA	10.72	7.80	6.50
CD2202	RCA	10.72	7.80	6.50
CD2202D	RCA	10.72	7.80	6.50
CD2203	RCA	12.33	10.20	8.50
CD2203D	RCA	12.33	10.20	8.50
CD2204	RCA	6.60	4.80	4.00
CD2204D	RCA	6.60	4.80	4.00
CD2205	RCA	10.72	7.80	6.50
CD2205D	RCA	10.72	7.80	6.50
CD2500E	RCA	7.45	5.40	4.50
CD2501E	RCA	7.45	5.40	4.50
CD2502E	RCA	9.10	6.60	5.50
CD2503E	RCA	9.10	6.60	5.50
CD4000	RCA	6.50	4.68	3.90
CD4000D	RCA	5.35	3.90	3.25
CD4000E	RCA	3.63	2.64	2.20
CD4001	RCA	6.75	4.92	4.10
CD4001D	RCA	5.70	4.14	3.45
CD4001E	RCA	3.80	2.76	2.30
CD4002	RCA	7.00	5.10	4.25
CD4002D	RCA	5.95	4.32	3.60
CD4002E	RCA	4.15	3.00	2.50
CD4004	RCA	11.90	9.85	8.20
CD4004T	RCA	10.90	9.00	7.50
CD4005	RCA	14.50	12.00	10.00
CD4005D	RCA	13.70	11.35	9.45
CD4006	RCA	14.50	12.00	10.00
CD4006D	RCA	13.80	11.40	9.50
CD4006E	RCA	11.25	9.30	7.75
CD4007	RCA	5.60	4.08	3.40
CD4007D	RCA	4.54	3.30	2.75
CD4007E	RCA	3.80	2.76	2.30
CD4008D	RCA	15.35	12.70	10.60
CD4008E	RCA	10.90	9.00	7.50
CD4009D	RCA	9.10	6.60	5.50
CD4009E	RCA	5.95	4.32	3.60
CD4010D	RCA	9.10	6.60	5.50
CD4010E	RCA	5.95	4.32	3.60
CD4011	RCA	6.75	4.92	4.10
CD4011D	RCA	5.70	4.14	3.45
CD4011E	RCA	3.80	2.76	2.30
CD4012	RCA	7.00	5.10	4.25
CD4012D	RCA	5.95	4.32	3.60
CD4012E	RCA	4.13	3.00	2.50
CD4013	RCA	9.25	6.70	5.60
CD4013D	RCA	8.15	5.95	4.95
CD4013E	RCA	5.45	3.96	3.30
CD4014D	RCA	15.30	12.65	10.55
CD4014E	RCA	11.25	9.30	7.75
CD4015D	RCA	15.30	12.65	10.55
CD4015E	RCA	11.25	9.30	7.75
CD4016	RCA	8.15	5.95	4.95
CD4016D	RCA	8.90	6.50	5.40
CD4016E	RCA	5.45	3.96	3.30
CD4017D	RCA	15.95	13.20	11.00
CD4017E	RCA	11.60	9.60	8.00
CD4018D	RCA	14.00	11.60	9.65
CD4018E	RCA	10.15	8.40	7.00
CD4019D	RCA	8.65	6.30	5.25
CD4019E	RCA	6.10	4.40	3.70
CD4020D	RCA	18.15	15.00	12.50
CD4020E	RCA	13.80	11.40	9.50
CDH004E	RCA	9.25	6.70	5.60
DM962N (MC862P)	NSC	.90	.75	.....

Type No.	Mfr.	1-24	25-99	100-999
DM7200D	NSC	26.90	21.40	18.30
DM7210D	NSC	22.30	17.65	15.20
DM7220D	NSC	19.04	15.10	12.80
DM7400N (SN7400N)	NSC	1.65	1.29	1.10
DM7401N (SN7401N)	NSC	1.65	1.29	1.10
DM7403N (SN7403N)	NSC	1.65	1.29	1.10
DM7404N (SN7404N)	NSC	2.04	1.60	1.36
DM7410N (SN7410N)	NSC	1.65	1.29	1.10
DM7420N (SN7420N)	NSC	1.65	1.29	1.10
DM7440N (SN7440N)	NSC	1.87	1.48	1.26
DM7450N (SN7450N)	NSC	1.65	1.29	1.10
DM7453N (SN7453N)	NSC	1.65	.29	1.10
DM7454N (SN7454N)	NSC	1.65	.29	1.10
DM7460N (SN7460N)	NSC	1.30	1.03	.87
DM7473N (SN7473N)	NSC	3.82	3.00	2.55

INTEGRATED CIRCUIT PAGE LOCATOR

Key	Mfr.	Page No.
GE	General Electric	73, 95, 96
HUG	Hughes Aircraft	98-99
MOT	Motorola	67-72, 78-90, 96
*NSC	National	.....
RCA	RCA	74, 90, 96
SPR	Sprague	.....
TI	Texas Instr.	73, 91-95, 100

*Stocked at Newark Electronics, Denver

Type No.	Mfr.	1-24	25-99	100-999
DM7474N (SN7474N)	NSC	3.24	2.55	2.16
DM7476N (SN7476N)	NSC	4.08	3.20	2.72
DM7486N (SN7486N)	NSC	4.37	3.48	2.96
DM7530D (SN5490J)	NSC	21.78	17.35	14.79
DM7820D	NSC	36.00	28.80	24.00
DM7822D	NSC	27.00	21.60	18.00
DM7830D	NSC	24.00	19.20	16.00
DM8200N	NSC	8.95	7.15	6.96
DM8210N	NSC	11.90	9.50	8.20
DM8520N	NSC	11.90	9.55	7.95
DM8530N (SN7490N)	NSC	6.22	4.85	4.15
DM8532N (SN7492N)	NSC	6.22	4.85	4.15
DM8533N (SN7493N)	NSC	6.22	4.85	4.15
DM8550N (SN7475N)	NSC	5.75	4.50	3.83

Type No.	Mfr.	1-99	100-999	1000-Up
DM8560 (SN74192)	NSC	8.50	7.00	.....

Type No.	Mfr.	1-24	25-99	100-999
DM8560N (SN74192N)	NSC	11.25	9.00	7.50
DM8563N (SN74193N)	NSC	11.25	9.00	7.50
DM8570N	NSC	12.70	10.15	8.45
DM8590N	NSC	12.70	10.15	8.45
DM8840N (SN7441AN)	NSC	9.30	7.30	6.20
DM8850N (U6A960159X)	NSC	9.65	7.75	6.50

Type No.	Mfr.	1-99	100-999	1000-Up
HCOS4000D	HUG	5.35	3.90	.....
HCOS4001D	HUG	5.70	4.14	.....
HCOS4002D	HUG	5.95	4.32	.....
HCOS4004D	HUG	10.90	9.00	.....
HCOS4005D	HUG	13.70	11.35	.....
HCOS4006D	HUG	13.80	11.40	.....
HCOS4007D	HUG	4.54	3.30	.....
HCOS4008D	HUG	15.35	12.70	.....
HCOS4009D	HUG	9.10	6.60	.....
HCOS4010D	HUG	9.10	6.60	.....
HCOS4011D	HUG	5.70	4.14	.....
HCOS4012D	HUG	5.95	4.32	.....
HCOS4013D	HUG	8.15	5.95	.....
HCOS4014D	HUG	15.00	12.65	.....
HCOS4015D	HUG	15.30	12.65	.....

Type No.	Mfr.	1-24	25-99	100-999
HDIG1030	HUG	3.85	3.85	3.10
HDIG1886	HUG	4.45	4.45	3.55
HDIG8551	HUG	10.80	8.50	7.45
HDGP1000	HUG	.85	.85	.70
HDGP1001	HUG	1.00	1.00	.80
HDSR2164	HUG	36.00	28.70	24.95
HDSR3066	HUG	25.50	20.00	17.50
HDSR4064	HUG	34.00	27.00	23.50
HDSW2106	HUG	5.50	5.50	4.40
HDSW3005	HUG	4.15	4.15	3.30
HDSW8318	HUG	3.45	3.45	2.75
HDSW8348	HUG	5.15	5.15	4.10
HDSW8550	HUG	8.10	6.45	5.60
HMUL1445	HUG	21.50	17.00	14.75
HMUL2661	HUG	22.75	18.10	15.75

Integrated Circuit Directory

Type No.	Mfr.	1-99	100-999	1000-Up
HMUX3705	HUG	16.40	14.70	12.60
KC4001	RCA	6.50	.....	.....
KC4002	RCA	4.95	.....	.....
KC4003	RCA	8.95	.....	.....
KC4500	RCA	4.75	.....	.....
LM100	NSC	10.00	8.60	.....
LM101	NSC	7.50	6.30	.....
LM101A	NSC	14.50	10.00	.....
LM103	NSC	7.90	6.40	.....
LM105	NSC	15.00	11.30	.....
LM107	NSC	14.50	10.00	.....
LM170	NSC	9.35	7.50	.....
LM171	NSC	3.10	2.55	.....
LM172	NSC	8.70	7.30	.....
LM200	NSC	7.15	5.95	.....
LM201	NSC	3.25	2.65	.....
LM201A	NSC	8.75	7.40	.....
LM205	NSC	9.40	7.55	.....
LM207	NSC	9.30	7.40	.....
LM270	NSC	4.70	3.80	.....
LM271	NSC	2.60	2.10	.....
LM272	NSC	3.15	2.65	.....
LM300	NSC	3.95	3.20	.....
LM301A	NSC	2.65	2.15	.....
LM302	NSC	3.35	2.70	.....
LM304	NSC	4.00	3.20	.....
LM305	NSC	3.90	3.20	.....
LM306	NSC	4.20	3.35	.....
LM307	NSC	2.65	2.15	.....
LM308	NSC	14.50	10.00	.....
LM370	NSC	3.10	2.60	.....
LM371	NSC	1.60	1.30	.....
LM372	NSC	1.90	1.60	.....

Type No.	Mfr.	1-24	25-99	100-999
LM102	NSC	22.50	18.00	15.00
LM103 (1.8V)	NSC	9.00	7.30	6.00
LM103 (2.0V)	NSC	9.00	7.20	6.00
LM103 (2.4V)	NSC	9.00	7.20	6.00
LM103 (2.7V)	NSC	9.00	7.20	6.00
LM103 (3.0V)	NSC	9.00	7.20	6.00
LM103 (3.3V)	NSC	9.00	7.20	6.00
LM103 (3.6V)	NSC	9.00	7.20	6.00
LM103 (3.9V)	NSC	9.00	7.20	6.00
LM103 (4.3V)	NSC	9.00	7.20	6.00
LM103 (4.7V)	NSC	9.00	7.20	6.00
LM103 (5.1V)	NSC	9.00	7.20	6.00
LM103 (5.6V)	NSC	9.00	7.20	6.00
LM104	NSC	30.00	24.00	20.00
LM105	NSC	22.50	18.00	15.00
LM106	NSC	27.00	21.60	18.00
LM107	NSC	50.00	40.00	33.00
LM109K	NSC	37.50	30.00	25.00
LM170	NSC	19.50	15.60	12.95
LM171	NSC	7.50	6.00	4.95
LM206	NSC	17.20	13.70	11.50
LM307N	NSC	4.85	3.90	3.25
LM309	NSC	8.25	6.60	5.50
LM309K	NSC	9.75	7.80	6.50
LM703L	NSC	1.50	1.25	1.00
LM709	NSC	5.85	4.65	3.90
LM709C	NSC	2.65	2.25	1.90
LM709CN	NSC	2.65	2.25	1.90
LM710A	NSC	5.85	4.65	3.90
LM710C	NSC	2.65	2.25	1.90
LM711C	NSC	2.65	2.25	1.90
LM741CN	NSC	2.90	2.25	1.95
LM747CN	NSC	8.90	7.15	5.95
MC301F	MOT	12.65	10.15	8.45
MC301G	MOT	11.55	9.25	7.70
MC302F	MOT	14.85	11.90	9.90
MC302G	MOT	13.70	11.00	9.15
MC303F	MOT	16.70	13.40	11.15
MC303G	MOT	15.60	12.50	10.40
MC304F	MOT	8.40	6.70	5.60
MC304G	MOT	7.25	5.80	4.85
MC305F	MOT	8.40	6.70	5.60
MC305G	MOT	7.25	5.80	4.85
MC306F	MOT	11.30	9.05	7.55
MC306G	MOT	10.20	8.15	6.80
MC307F	MOT	11.30	9.05	7.55
MC307G	MOT	10.20	8.15	6.80
MC308F	MOT	18.80	15.05	12.55
MC308G	MOT	17.70	14.15	11.80
MC309F	MOT	13.70	11.00	9.15
MC309G	MOT	12.60	10.10	8.40
MC310F	MOT	13.70	11.00	9.15
MC310G	MOT	12.60	10.10	8.40
MC311F	MOT	13.70	11.00	9.15
MC311G	MOT	12.60	10.10	8.40
MC312AF	MOT	16.70	13.40	11.15
MC312AG	MOT	15.60	12.50	10.40
MC312F	MOT	16.70	13.40	11.15
MC312G	MOT	15.60	12.50	10.40
MC313F	MOT	18.35	14.70	12.25
MC314F	MOT	21.95	17.60	14.65
MC314G	MOT	20.85	16.70	13.90
MC315F	MOT	24.35	19.50	16.25
MC315G	MOT	23.25	18.60	15.50
MC316F	MOT	11.30	9.05	7.55
MC316G	MOT	10.20	8.15	6.80
MC317F	MOT	11.30	9.05	7.55
MC317G	MOT	10.20	8.15	6.80
MC318F	MOT	11.30	9.05	7.55
MC318G	MOT	10.20	8.15	6.80
MC351F	MOT	6.45	5.65	5.15
MC351G	MOT	4.55	4.00	3.65
MC351AG	MOT	4.55	4.00	3.65
MC352G	MOT	4.55	4.00	3.65
MC353F	MOT	7.95	7.20	6.25
MC353G	MOT	5.95	5.20	4.75
MC354F	MOT	4.45	4.15	3.45
MC354G	MOT	2.45	2.15	1.95
MC355F	MOT	4.80	4.45	3.75
MC355G	MOT	2.80	2.45	2.25
MC356F	MOT	5.55	5.15	4.35
MC356G	MOT	3.55	3.15	2.85
MC357F	MOT	5.55	5.15	4.35
MC357G	MOT	3.55	3.15	2.85
MC358AG	MOT	9.50	8.35	7.60
MC358F	MOT	11.50	10.35	9.10
MC358G	MOT	9.50	8.35	7.60
MC359F	MOT	5.70	5.25	4.45
MC359G	MOT	3.70	3.25	2.95
MC360F	MOT	5.70	5.25	4.45
MC360G	MOT	3.70	3.25	2.95
MC361F	MOT	5.70	5.25	4.45
MC361G	MOT	3.70	3.25	2.95
MC362AF	MOT	6.85	6.05	5.50
MC362AG	MOT	5.00	4.40	4.00
MC362F	MOT	6.85	6.05	5.50
MC362G	MOT	5.00	4.40	4.00
MC363F	MOT	7.35	6.50	5.90
MC364F	MOT	12.20	10.70	9.75
MC364G	MOT	10.75	9.45	5.00
MC365F	MOT	11.05	9.75	8.85
MC365G	MOT	6.25	5.50	5.00
MC366F	MOT	8.10	7.15	6.50
MC367F	MOT	7.50	6.60	6.00
MC367G	MOT	5.60	4.95	4.50
MC368F	MOT	7.50	6.60	6.00
MC368G	MOT	5.60	4.95	4.50
MC369F	MOT	7.25	6.40	5.80
MC400L	MOT	4.05	3.25	2.70
MC400P	MOT	2.55	2.55	2.55
MC401L	MOT	4.40	3.55	2.95
MC401P	MOT	2.55	2.55	2.55
MC402L	MOT	4.05	3.25	2.95
MC402P	MOT	2.30	2.30	2.30
MC403L	MOT	4.05	3.25	2.70
MC403P	MOT	2.30	2.30	2.30
MC406L	MOT	4.40	3.55	2.95
MC406P	MOT	2.25	2.25	2.25
MC407L	MOT	4.40	3.55	2.95
MC408L	MOT	4.05	3.25	2.70
MC408P	MOT	2.30	2.30	2.30
MC409L	MOT	2.75	2.20	1.85
MC409P	MOT	1.60	1.60	1.60
MC410L	MOT	2.75	2.20	1.85
MC410P	MOT	1.60	1.60	1.60
MC411L	MOT	2.75	2.20	1.85
MC411P	MOT	1.60	1.60	1.60
MC412L	MOT	4.05	3.25	2.70
MC412P	MOT	2.30	2.30	2.30
MC413L	MOT	4.40	3.55	2.95
MC413P	MOT	2.55	2.55	2.55
MC414L	MOT	4.40	3.55	2.95
MC415L	MOT	6.45	5.15	4.30
MC415P	MOT	3.70	3.70	3.70
MC416L	MOT	6.45	5.15	4.30
MC416P	MOT	3.70	3.70	3.70
MC417L	MOT	6.45	5.15	4.30
MC417P	MOT	3.20	2.70	2.45
MC418L	MOT	6.45	5.15	4.30
MC418P	MOT	3.20	2.70	2.45
MC419L	MOT	4.85	3.90	3.25
MC419P	MOT	2.45	2.10	1.90
MC420L	MOT	4.95	3.95	3.30
MC420P	MOT	2.45	2.10	1.90

Type No.	Mfr.	1-24	25-99	100-999
MC421L	MOT	5.30	4.25	3.53
MC421P	MOT	2.90	2.45	2.25
MC422L	MOT	8.75	7.00	5.85
MC422P	MOT	4.40	3.75	3.40
MC423L	MOT	8.75	7.00	5.85
MC423P	MOT	4.40	3.75	3.40
MC424L	MOT	8.75	7.00	5.85
MC424P	MOT	4.40	3.75	3.40
MC425L	MOT	4.40	3.55	2.95
MC425P	MOT	2.75	2.30	2.10
MC426L	MOT	4.85	3.90	3.25
MC426P	MOT	2.75	2.30	2.10
MC427L	MOT	4.25	3.40	2.85
MC427P	MOT	2.25	1.90	1.75
MC428L	MOT	4.23	3.55	2.85
MC428P	MOT	1.70	1.44	1.30
MC429L	MOT	3.50	3.00	2.40
MC429P	MOT	3.15	2.65	2.10
MC450L	MOT	3.20	2.60	2.15
MC450P	MOT	1.85	1.85	1.85
MC451F	MOT	3.60	2.90	2.40
MC451P	MOT	2.05	2.05	2.05
MC452L	MOT	3.20	2.60	2.15
MC452P	MOT	1.85	1.85	1.85
MC453L	MOT	3.20	2.60	2.15
MC453P	MOT	1.85	1.85	1.85
MC454L	MOT	3.60	2.90	2.40
MC454P	MOT	2.05	2.05	2.05
MC455L	MOT	3.60	2.90	2.40
MC455P	MOT	2.05	2.05	2.05
MC456L	MOT	3.60	2.90	2.40
MC456P	MOT	2.05	2.05	2.05
MC457L	MOT	3.60	2.90	2.40
MC458L	MOT	3.20	2.60	2.15
MC458P	MOT	1.85	1.85	1.85
MC459L	MOT	2.75	2.20	1.85
MC459P	MOT	1.60	1.60	1.60
MC460L	MOT	2.75	2.20	1.85
MC460P	MOT	1.60	1.60	1.60
MC461L	MOT	2.75	2.20	1.85
MC461P	MOT	1.60	1.60	1.60
MC462L	MOT	3.20	2.60	2.15
MC462P	MOT	1.85	1.85	1.85
MC463P	MOT	2.00	1.70	1.55
MC464P	MOT	2.00	1.70	1.55
MC465P	MOT	2.60	2.20	2.00
MC466P	MOT	2.60	2.20	2.00
MC467P	MOT	2.60	2.20	2.00
MC468P	MOT	2.60	2.20	2.00
MC469P	MOT	2.00	1.70	1.55
MC470P	MOT	2.00	1.70	1.55
MC471P	MOT	2.40	2.05	1.85
MC472P	MOT	3.65	3.10	2.80
MC473P	MOT	3.65	3.10	2.80
MC474P	MOT	3.65	3.10	2.80
MC475P	MOT	2.20	1.85	1.70
MC476P	MOT	2.20	1.85	1.70
MC477P	MOT	1.80	1.55	1.40
MC478P	MOT	1.70	1.44	1.30
MC479P	MOT	2.40	2.00	1.60
MC500L	MOT	6.45	5.15	4.30
MC501L	MOT	6.45	5.15	4.30
MC502L	MOT	6.45	5.15	4.30
MC503L	MOT	6.45	5.15	4.30
MC504L	MOT	6.45	5.15	4.30
MC505L	MOT	6.45	5.15	4.30
MC506L	MOT	6.45	5.15	4.30
MC507L	MOT	7.40	5.95	4.95
MC508L	MOT	6.45	5.15	4.30
MC509L	MOT	4.55	3.65	3.05
MC510L	MOT	4.55	3.65	3.05
MC511L	MOT	4.55	3.65	3.05
MC512L	MOT	6.45	5.15	4.30
MC513L	MOT	7.40	5.95	4.95
MC514L	MOT	7.40	5.95	4.95
MC515L	MOT	8.75	7.00	5.85
MC516L	MOT	8.75	7.00	5.85
MC517L	MOT	8.75	7.00	5.85
MC518L	MOT	8.75	7.00	5.85
MC520L	MOT	6.45	5.15	4.30
MC521L	MOT	7.70	6.20	5.15
MC522L	MOT	13.40	10.75	8.95
MC523L	MOT	13.40	10.75	8.95
MC524L	MOT	13.40	10.75	8.95
MC525L	MOT	7.40	5.95	4.95
MC526L	MOT	7.40	5.95	4.95
MC527L	MOT	6.45	5.15	4.30
MC528L	MOT	6.45	5.40	4.30
MC529L	MOT	6.10	5.05	4.05
MC550L	MOT	5.40	4.30	3.60
MC551L	MOT	5.40	4.30	3.60
MC552L	MOT	5.40	4.30	3.60

Type No.	Mfr.	1-24	25-99	100-999
MC553L	MOT	5.40	4.30	3.69
MC554L	MOT	5.40	4.30	3.60
MC555L	MOT	5.40	4.30	3.60
MC556L	MOT	5.40	4.30	3.60
MC557L	MOT	6.20	5.00	4.15
MC558L	MOT	5.40	4.30	3.60
MC559L	MOT	4.55	3.65	3.05
MC560L	MOT	4.55	3.65	3.05
MC561L	MOT	4.55	3.65	3.05
MC562L	MOT	5.40	4.30	3.60
MC563L	MOT	6.20	5.00	4.15
MC564L	MOT	6.20	5.00	4.15
MC565L	MOT	7.35	5.90	4.90
MC566L	MOT	7.35	5.90	4.90
MC567L	MOT	7.35	5.90	4.90
MC568L	MOT	7.35	5.90	4.90
MC570L	MOT	5.40	4.30	3.60
MC571L	MOT	6.50	5.20	4.35
MC572L	MOT	11.15	8.95	7.45
MC573L	MOT	11.15	8.95	7.45
MC574L	MOT	11.15	8.95	7.45
MC575L	MOT	6.20	5.00	4.15
MC576L	MOT	6.20	5.00	4.15
MC577L	MOT	5.40	4.30	3.60
MC578L	MOT	5.40	4.50	3.60
MC579L	MOT	4.90	4.05	3.25
MC650G	MOT	8.65	7.60	6.90
MC651G	MOT	12.00	10.50	9.55
MC652G	MOT	12.00	10.50	9.55

Type No.	Mfr.	1-99	100-999	1000-Up
MC660L	MOT	1.68	1.40	1.22
MC660P	MOT	1.40	1.40	1.06
MC661L	MOT	2.16	2.16	1.40
MC661P	MOT	1.33	1.33	1.01
MC662L	MOT	1.89	1.57	1.26
MC662P	MOT	1.52	1.52	1.16
MC663L	MOT	3.36	2.80	2.24
MC664L	MOT	2.34	1.95	1.56
MC664P	MOT	1.87	1.56	1.25
MC665L	MOT	3.19	3.19	2.07
MC665P	MOT	1.60	1.33	1.07
MC666L	MOT	3.19	3.19	2.07
MC666P	MOT	1.80	1.50	1.20
MC667L	MOT	3.16	2.63	2.11
MC667P	MOT	2.76	2.30	1.84
MC668L	MOT	1.60	1.33	1.07
MC668P	MOT	1.15	.96	.77
MC669L	MOT	1.20	1.00	.80
MC669P	MOT	1.17	1.17	.89
MC670L	MOT	1.60	1.33	1.07
MC670P	MOT	1.33	1.33	1.01
MC671L	MOT	1.68	1.40	1.12
MC671P	MOT	1.40	1.40	1.06
MC672L	MOT	1.68	1.40	1.12
MC672P	MOT	1.40	1.40	1.06
MC673L	MOT	2.40	2.40	1.56
MC673P	MOT	1.32	1.10	.88
MC674L	MOT	2.35	2.35	1.52
MC674P	MOT	1.49	1.49	1.13
MC675P	MOT	2.79	2.32	1.86
MC677P	MOT	1.53	1.27	1.02
MC678P	MOT	1.45	1.21	.97
MC679P	MOT	2.01	1.67	1.34
MC680P	MOT	1.21	1.01	.81
MC681P	MOT	1.21	1.01	.81
MC682P	MOT	2.65	2.20	1.76
MC683P	MOT	2.45	2.05	1.62

Type No.	Mfr.	1-99	100-999	1000-4999
(Also See "P" Series Which Follows.)				
MC675L	MOT	3.24	2.70	2.16
MC677L	MOT	2.23	1.86	1.49
MC678L	MOT	2.15	1.78	1.43
MC679L	MOT	2.37	1.97	1.58
MC680L	MOT	1.68	1.40	1.12
MC681L	MOT	1.68	1.40	1.12
MC682L	MOT	3.30	2.75	2.20
MC683L	MOT	3.05	2.55	2.05

Type No.	Mfr.	1-24	25-99	100-999
MC677P	MOT	1.53	1.27	1.02
MC678P	MOT	1.45	1.21	.97
MC679P	MOT	2.01	1.67	1.34
MC680P	MOT	1.21	1.01	.81
MC681P	MOT	1.21	1.01	.81
MC683P	MOT	2.45	2.05	1.62

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC700G	MOT	1.24	.92	.....
MC701G	MOT	1.55	1.15	.....
MC702G	MOT	1.24	.92	.....
MC703G	MOT	1.24	.92	.....
MC704G	MOT	1.38	1.02	.....
MC705G	MOT	1.50	1.11	.....
MC706G	MOT	1.50	1.11	.....
MC707G	MOT	1.24	.92	.....
MC708G	MOT	1.50	1.11	.....
MC709G	MOT	1.24	.92	.....
MC710G	MOT	1.24	.92	.....
MC711G	MOT	1.24	.93	.....
MC712G	MOT	1.50	1.11	.....
MC713G	MOT	1.89	1.40	.....
MC714G	MOT	1.24	.92	.....
MC715G	MOT	1.38	1.02	.....
MC715P	MOT	1.00	.75	.....

Type No.	Mfr.	Pricing
(Also See "P" Series Which Follows.)		
MC700F	MOT	
MC703F	MOT	
MC704F	MOT	
MC705F	MOT	
MC706F	MOT	
MC707F	MOT	
MC708F	MOT	
MC709F	MOT	
MC710F	MOT	
MC711F	MOT	
MC712F	MOT	
MC713F	MOT	
MC714F	MOT	Your Newark Man is Best Able to Provide Detailed Pricing for These Items Unavailable in Smaller Quantities
MC715F	MOT	
MC717F	MOT	
MC718F	MOT	
MC719F	MOT	
MC720F	MOT	
MC721F	MOT	
MC722F	MOT	
MC723F	MOT	
MC724F	MOT	
MC725F	MOT	
MC726F	MOT	
MC727F	MOT	
MC728F	MOT	
MC729F	MOT	
MC771F	MOT	
MC776F	MOT	
MC778F	MOT	
MC784F	MOT	
MC786F	MOT	
MC788F	MOT	

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC717P	MOT	1.08	.81	.....
MC718G	MOT	1.38	1.02	.....
MC718P	MOT	1.00	.75	.....
MC719P	MOT	1.00	.81	.....
MC720G	MOT	1.89	1.40	.....
MC721G	MOT	1.40	1.05	.....
MC722G	MOT	2.90	2.15	.....
MC722P	MOT	1.30	1.95	.....
MC723G	MOT	1.89	1.40	.....
MC723P	MOT	1.30	.95	.....
MC724P	MOT	1.08	.81	.....
MC725P	MOT	1.08	.81	.....
MC726G	MOT	2.21	1.64	.....
MC726P	MOT	1.35	1.00	.....
MC727G	MOT	1.24	.92	.....
MC728G	MOT	1.24	.92	.....
MC764P	MOT	1.70	1.25	.....
MC767P	MOT	3.40	2.50	.....
MC770P	MOT	2.45	1.80	.....
MC771P	MOT	1.80	1.35	.....
MC774G	MOT	2.21	1.64	.....
MC775P	MOT	1.35	1.00	.....
MC776P	MOT	2.00	1.50	.....
MC777P	MOT	3.40	2.50	.....
MC778P	MOT	1.90	1.40	.....
MC779P	MOT	1.90	1.40	.....
MC781G	MOT	1.54	1.14	.....
MC782G	MOT	2.21	1.64	.....
MC783P	MOT	1.55	1.14	.....
MC784P	MOT	1.46	1.08	.....
MC785P	MOT	1.09	.81	.....
MC786P	MOT	1.09	.81	.....
MC787P	MOT	1.90	1.40	.....
MC788P	MOT	1.35	1.00	.....
MC789P	MOT	1.08	.81	.....

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	Pricing
(Also See "P" and "G" Series Which Follows.)		
MC790F	MOT	
MC791F	MOT	
MC792F	MOT	
MC793F	MOT	
MC796F	MOT	
MC797F	MOT	
MC798F	MOT	
MC799F	MOT	
MC800F	MOT	Unavailable in Small Quantities. Be Sure to Get in Touch with Your Newark Representative for Full Pricing Details.
MC803F	MOT	
MC804F	MOT	
MC805F	MOT	
MC806F	MOT	
MC807F	MOT	
MC809F	MOT	
MC811F	MOT	
MC812F	MOT	
MC813F	MOT	
MC814F	MOT	
MC815F	MOT	
MC816F	MOT	
MC819F	MOT	
MC820F	MOT	

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC790P	MOT	2.00	1.50	.....
MC791P	MOT	2.25	1.65	.....
MC792P	MOT	1.09	.81	.....
MC793P	MOT	1.09	.81	.....
MC796P	MOT	3.40	2.50	.....
MC797P	MOT	3.40	2.50	.....
MC798P	MOT	1.21	.90	.....
MC799G	MOT	1.54	1.14	.....
MC799P	MOT	1.08	.81	.....
MC800G	MOT	1.42	1.05	.....
MC801G	MOT	1.67	1.24	.....
MC802G	MOT	1.42	1.05	.....
MC803G	MOT	1.42	1.05	.....
MC804G	MOT	1.53	1.13	.....
MC805G	MOT	1.67	1.24	.....
MC806G	MOT	1.67	1.24	.....
MC807G	MOT	1.42	1.05	.....

Type No.	Mfr.	1-24	25-99	100-Up
MC808G	MOT	2.85	2.30	1.90

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC809G	MOT	1.42	1.05	.....

Type No.	Mfr.	1-24	25-99	100-Up
MC810G	MOT	2.45	2.00	1.65
MC811G	MOT	2.45	2.00	1.65

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC812G	MOT	1.67	1.24	.....
MC813G	MOT	2.12	1.57	.....
MC814G	MOT	1.42	1.05	.....
MC815G	MOT	1.53	1.13	.....
MC815P	MOT	1.08	.81	.....
MC816G	MOT	2.12	1.57	.....
MC816P	MOT	1.40	1.02	.....

Type No.	Mfr.	1-24	24-99	100-Up
MC817F	MOT	3.65	2.95	2.45

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC817P	MOT	1.17	.87	.....

Type No.	Mfr.	1-24	25-99	100-Up
MC818G	MOT	2.60	2.10	1.75

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC818P	MOT	1.08	.81	.....
MC819P	MOT	1.17	.87	.....

Integrated Circuit Directory

INTEGRATED CIRCUIT PAGE LOCATOR

Key	Mfr.	Page No.
GE	General Electric	73, 95, 96
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*NSC	National	.....
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SPR	Sprague	.....
TI	Texas Instr.	73, 91-95, 100

*Stocked at Newark Electronics, Denver

Type No.	Mfr.	1-24	25-99	100-Up
MC820G	MOT	4.20	3.35	2.80
MC821G	MOT	2.30	1.85	1.55

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC822G	MOT	2.48	1.84	.....
MC822P	MOT	1.40	1.02	.....

Type No.	Mfr.	1-24	25-99	100-Up
MC824F	MOT	3.65	2.95	2.45

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC824P	MOT	1.17	.87	.....
MC825P	MOT	1.17	.87	.....
MC826G	MOT	2.48	1.84	.....
MC826P	MOT	1.40	1.02	.....
MC828G	MOT	1.42	1.05	.....
MC829G	MOT	1.42	1.05	.....

Type No.	Mfr.	Pricing
MC821F	MOT	Your Newark Representative Can Give Pricing Information on These Items Unavailable in Smaller Quantities.
MC822F	MOT	
MC825F	MOT	
MC826F	MOT	
MC827F	MOT	
MC828F	MOT	
MC829F	MOT	

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC824AP	MOT	1.26	.93	.....
MC827G	MOT	1.42	1.05	.....

Type No.	Mfr.	1-24	25-99	100-999
(Also See "P" Series Which Follows.)				
MC830F	MOT	1.80	1.50	1.20
MC830G	MOT	3.60	2.90	2.40
MC830L	MOT	1.80	1.50	1.20
MC830P	MOT	.98	.98	.48
MC831G	MOT	5.25	4.20	3.50
MC831L	MOT	4.70	3.90	3.15
MC831P	MOT	2.55	2.55	1.25
MC832G	MOT	4.05	3.25	2.70
MC832L	MOT	1.80	1.50	1.20
MC832P	MOT	.78	.78	.48
MC833F	MOT	1.80	1.50	1.20
MC833G	MOT	4.50	3.60	3.00
MC833L	MOT	1.70	1.50	1.20
MC833P	MOT	.98	.98	.48
MC834F	MOT	2.00	1.65	1.30
MC834L	MOT	2.00	1.65	1.30
MC835F	MOT	2.00	1.65	1.30
MC835L	MOT	2.00	1.65	1.30
MC836F	MOT	2.00	1.65	1.30
MC836L	MOT	2.00	1.65	1.30
MC837F	MOT	2.00	1.65	1.30
MC837P	MOT	1.10	.53	.31
MC838F	MOT	7.20	6.00	4.80
MC838L	MOT	7.20	6.00	4.80
MC839F	MOT	7.20	6.00	4.80
MC839L	MOT	7.20	6.00	4.80
MC840F	MOT	2.00	1.65	1.30
MC840L	MOT	2.00	1.65	1.30
MC841F	MOT	2.00	1.65	1.30
MC841L	MOT	2.00	1.65	1.30
MC843G	MOT	13.35	10.70	8.90
MC844F	MOT	1.80	1.50	1.20
MC844G	MOT	4.05	3.35	2.70
MC844L	MOT	1.80	1.50	1.20
MC845F	MOT	2.35	1.95	1.55
MC845G	MOT	5.25	4.20	3.50
MC845L	MOT	2.35	1.95	1.55

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC835P	MOT	1.10	.53	.31
MC836P	MOT	1.10	.53	.31
MC837L	MOT	2.00	1.65	1.30
MC838P	MOT	3.95	1.95	1.15
MC839P	MOT	3.95	1.95	1.15
MC840P	MOT	1.10	.53	.31
MC841P	MOT	1.10	.53	.31
MC844P	MOT	.98	.48	.28
MC845P	MOT	1.25	.62	.36

Type No.	Mfr.	1-24	25-99	100-999
(Also See "P" Series Which Follows.)				
MC846F	MOT	1.80	1.50	1.20
MC846G	MOT	3.60	2.90	2.40
MC846L	MOT	1.80	1.50	1.20
MC847F	MOT	1.80	1.50	1.20
MC847L	MOT	1.80	1.50	1.20
MC848F	MOT	2.35	1.95	1.55
MC848G	MOT	5.25	4.20	3.50
MC848L	MOT	2.35	1.95	1.55
MC849F	MOT	1.80	1.50	1.20
MC849G	MOT	3.60	2.90	2.40
MC849L	MOT	1.80	1.50	1.20
MC850F	MOT	7.05	5.85	4.70
MC850G	MOT	9.90	7.90	6.60
MC850L	MOT	7.05	5.85	4.70
MC851F	MOT	7.05	5.85	4.70
MC851G	MOT	11.40	9.10	7.60
MC851L	MOT	7.05	5.85	4.70
MC852F	MOT	3.30	2.75	2.20
MC852L	MOT	3.30	2.75	2.20
MC853F	MOT	3.30	2.75	2.20
MC853L	MOT	3.30	2.75	2.20
MC855F	MOT	3.30	2.75	2.20
MC855L	MOT	3.30	2.75	2.20
MC856F	MOT	3.30	2.75	2.20
MC856L	MOT	3.30	2.75	2.20
MC857F	MOT	2.00	1.65	1.30
MC857L	MOT	2.00	1.65	1.30
MC858F	MOT	2.00	1.65	1.30
MC858L	MOT	2.00	1.65	1.30
MC860F	MOT	9.55	7.95	6.35
MC860L	MOT	9.55	7.95	6.35
MC861F	MOT	1.80	1.50	1.20
MC861G	MOT	3.60	2.90	2.40
MC861L	MOT	1.80	1.50	1.20
MC862F	MOT	1.80	1.50	1.20
MC862G	MOT	3.60	2.90	2.40
MC863G	MOT	3.60	2.90	2.40

Type No.	Mfr.	Pricing
MC871F	MOT	Contact Your Newark Representative For Full Pricing Details
MC875F	MOT	
MC883F	MOT	
MC884F	MOT	
MC885F	MOT	

Type No.	Mfr.	1-99	100-999	1000-4999
MC846P	MOT	.98	.48	.28
MC847P	MOT	1.35	1.35	1.00
MC848P	MOT	1.25	.62	.36
MC849P	MOT	1.25	.62	.36
MC850P	MOT	3.85	1.90	1.10
MC851P	MOT	3.85	1.90	1.10
MC852P	MOT	1.80	.88	.51
MC853P	MOT	1.80	.88	.51
MC855P	MOT	1.80	.88	.51
MC856P	MOT	1.80	.88	.51
MC857P	MOT	1.10	.53	.31
MC858P	MOT	1.10	.53	.31
MC860P	MOT	5.20	2.55	1.50
MC861P	MOT	.98	.48	.28
MC862P	MOT	.98	.48	.28
MC863P	MOT	.98	.48	.28

Type No.	Mfr.	1-999	1000-4999	5000-9999
(Also See "F" Series Which Follows.)				
MC867P	MOT	3.65	2.70	.....
MC867AP	MOT	3.26	2.42	.....
MC870P	MOT	2.45	1.80	.....
MC871P	MOT	1.95	1.45	.....
MC874G	MOT	2.48	1.84	.....
MC875P	MOT	1.45	1.07	.....
MC876P	MOT	2.15	1.60	.....
MC877P	MOT	3.65	2.70	.....
MC878P	MOT	2.00	1.50	.....
MC879P	MOT	2.00	1.50	.....
MC880P	MOT	3.65	2.70	.....
MC881G	MOT	1.73	1.28	.....
MC882G	MOT	2.48	1.84	.....
MC883P	MOT	1.65	1.22	.....

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC884P	MOT	1.55	1.16	.....
MC885AP	MOT	1.26	.93	.....
MC885P	MOT	1.17	.87	.....
MC886P	MOT	1.17	.87	.....
MC887P	MOT	2.00	1.50	.....
MC888P	MOT	1.45	1.07	.....
MC889P	MOT	1.17	.87	.....
MC889AP	MOT	1.26	.93	.....
MC890P	MOT	2.15	1.60	.....
MC891P	MOT	2.35	1.75	.....
MC892P	MOT	1.17	.87	.....
MC893P	MOT	1.17	.87	.....
MC894P	MOT	3.40	2.50	.....
MC896P	MOT	3.65	2.70	.....
MC897P	MOT	3.65	2.70	.....
MC898P	MOT	1.30	.97	.....
MC899G	MOT	1.73	1.28	.....
MC899P	MOT	1.17	.87	.....

Type No.	Mfr.	Pricing
(Also See "G" and "L" Series Which Follows.)		
MC886F	MOT	Newark Offers Pricing for These Items in Large Quantities. Unavailable in Small Quantities. Contact your Newark Representative.
MC888F	MOT	
MC889F	MOT	
MC890F	MOT	
MC891F	MOT	
MC892F	MOT	
MC893F	MOT	
MC896F	MOT	
MC897F	MOT	
MC898F	MOT	
MC899F	MOT	
MC900F	MOT	
MC903F	MOT	
MC904F	MOT	
MC905F	MOT	
MC906F	MOT	
MC907F	MOT	
MC908F	MOT	
MC909F	MOT	
MC910F	MOT	
MC911F	MOT	
MC912F	MOT	
MC913F	MOT	
MC914F	MOT	
MC915F	MOT	
MC916F	MOT	
MC917F	MOT	
MC918F	MOT	
MC919F	MOT	
MC921F	MOT	
MC922F	MOT	
MC924F	MOT	
MC925F	MOT	
MC926F	MOT	

Type No.	Mfr.	1-24	25-99	100-999
MC930F	MOT	3.10	2.55	2.05
MC931F	MOT	8.09	6.66	5.35
MC932F	MOT	3.10	2.55	2.05
MC933F	MOT	3.10	2.55	2.05
MC934F	MOT	3.40	2.80	2.25
MC935F	MOT	3.40	2.80	2.25
MC936F	MOT	3.40	2.80	2.25
MC937F	MOT	3.40	2.80	2.25
MC938F	MOT	12.40	10.20	8.20
MC939F	MOT	12.40	10.20	8.20
MC940F	MOT	3.40	2.80	2.25
MC941F	MOT	3.40	2.80	2.25
MC944F	MOT	3.10	2.55	2.05
MC945F	MOT	4.05	3.30	2.65
MC946F	MOT	3.10	2.55	2.05
MC947F	MOT	3.10	2.55	2.05
MC948F	MOT	4.05	3.30	2.65
MC949F	MOT	3.10	2.55	2.05
MC950F	MOT	12.10	9.95	8.00
MC951F	MOT	12.10	9.95	8.00
MC952F	MOT	5.65	4.65	3.75
MC953F	MOT	5.65	4.65	3.75
MC955F	MOT	5.65	4.65	3.75
MC956F	MOT	5.65	4.65	3.75
MC957F	MOT	3.40	2.80	2.25
MC958F	MOT	3.40	2.80	2.25
MC960F	MOT	16.45	13.50	10.85
MC961F	MOT	3.10	2.55	2.05
MC962F	MOT	3.10	2.55	2.05
MC963F	MOT	3.10	2.55	2.05

Type No.	Mfr.	1-999	1000-4999	5000-9999
MC900G	MOT	1.78	1.31	.....
MC901G	MOT	2.09	1.55	.....
MC902G	MOT	1.78	1.31	.....

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC903G	MOT	1.78	1.31	.....
MC904G	MOT	1.91	1.41	.....
MC905G	MOT	2.09	1.55	.....
MC906G	MOT	2.09	1.55	.....
MC907G	MOT	1.78	1.31	.....
MC908G	MOT	2.09	1.55	.....
MC909G	MOT	1.78	1.31	.....
MC910G	MOT	1.78	1.31	.....
MC911G	MOT	1.78	1.31	.....
MC912G	MOT	2.09	1.55	.....
MC913G	MOT	2.65	1.96	.....
MC914G	MOT	1.78	1.31	.....
MC915G	MOT	1.91	1.41	.....
MC916G	MOT	2.65	1.96	.....
MC918G	MOT	1.91	1.41	.....
MC920G	MOT	2.65	1.96	.....
MC921G	MOT	1.78	1.31	.....
MC922G	MOT	3.10	2.30	.....
MC926G	MOT	3.10	2.30	.....

Type No.	Mfr.	1-24	25-99	100-999
MC930G	MOT	6.50	5.20	4.35
MC930L	MOT	3.10	2.55	2.05
MC931G	MOT	9.00	7.20	6.00
MC931L	MOT	8.09	6.66	5.35
MC932G	MOT	7.10	5.70	4.75
MC932L	MOT	3.10	2.55	2.05
MC933G	MOT	5.45	4.40	3.65
MC933L	MOT	3.10	2.55	2.05
MC934L	MOT	3.40	2.80	2.25
MC935L	MOT	3.40	2.80	2.25
MC936L	MOT	3.40	2.80	2.25
MC937L	MOT	3.40	2.80	2.25
MC938L	MOT	12.40	10.20	8.20
MC939L	MOT	12.40	10.20	8.20
MC940L	MOT	3.40	2.80	2.25
MC941L	MOT	3.40	2.80	2.25
MC943G	MOT	22.50	18.00	15.00
MC944G	MOT	7.10	5.70	4.75
MC944L	MOT	3.10	2.55	2.05
MC945G	MOT	9.00	7.20	6.00
MC945L	MOT	4.05	3.30	2.65
MC946G	MOT	6.50	5.20	4.35
MC946L	MOT	3.10	2.55	2.05
MC947L	MOT	3.10	2.55	2.05
MC948L	MOT	4.05	3.30	2.65
MC949L	MOT	3.10	2.55	2.05
MC950L	MOT	12.10	9.95	8.00
MC951L	MOT	12.10	9.95	8.00
MC952L	MOT	5.65	4.65	3.75
MC953L	MOT	5.65	4.65	3.75
MC955L	MOT	5.65	4.65	3.75
MC956L	MOT	5.65	4.65	3.75
MC957L	MOT	3.40	2.80	2.25
MC960L	MOT	16.45	13.50	10.85

Type No.	Mfr.	1-999	1000-4999	5000-9999
MC947G	MOT	3.10	2.30	.....
MC948G	MOT	9.00	7.20	6.00
MC949G	MOT	6.50	5.20	4.35
MC950G	MOT	12.40	10.00	8.30
MC951G	MOT	18.50	14.80	12.35
MC961G	MOT	6.50	5.20	4.35
MC962G	MOT	6.50	5.20	4.35
MC963G	MOT	6.50	5.20	4.35

Type No. (Also See "G" Series Which Follows.)	Mfr.	Pricing
MC971F	MOT	Newark Can Offer Pricing for Larger Quantities of These Items. Small Quantities are Unavailable. Contact Your Newark Representative.
MC975F	MOT	
MC976F	MOT	
MC978F	MOT	
MC983F	MOT	
MC984F	MOT	
MC985F	MOT	
MC986F	MOT	
MC988F	MOT	
MC989F	MOT	
MC991F	MOT	
MC992F	MOT	
MC993F	MOT	
MC996F	MOT	
MC997F	MOT	
MC998F	MOT	
MC999F	MOT	

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC981G	MOT	2.16	1.60	.....
MC982G	MOT	3.10	2.30	.....
MC999G	MOT	2.16	1.60	.....

Type No. (Also See "P" Series Which Follows.)	Mfr.	1-24	25-99	100-999
MC1023F	MOT	14.25	11.40	9.50
MC1027F	MOT	14.25	11.40	9.50
MC1034F	MOT	20.25	16.20	13.50
MC1040F	MOT	14.25	11.40	9.50
MC1070F	MOT	14.25	11.40	9.50

Type No.	Mfr.	1-99	100-999	1000-4999
MC1001P	MOT	1.48	1.25	.99
MC1002P	MOT	1.48	1.25	.99
MC1003P	MOT	1.48	1.25	.99
MC1004P	MOT	1.48	1.25	.99
MC1005P	MOT	1.48	1.25	.99
MC1006P	MOT	1.48	1.25	.99
MC1007P	MOT	1.48	1.25	.99
MC1008P	MOT	1.48	1.25	.99
MC1009P	MOT	1.48	1.25	.99
MC1010P	MOT	1.48	1.25	.99
MC1011P	MOT	1.48	1.25	.99
MC1012P	MOT	1.48	1.25	.99
MC1013P	MOT	2.97	2.47	1.98
MC1014P	MOT	2.97	2.47	1.98
MC1015P	MOT	2.97	2.47	1.98
MC1016P	MOT	2.97	2.47	1.98
MC1017P	MOT	3.72	3.10	2.48
MC1018P	MOT	3.72	3.10	2.48
MC1019P	MOT	4.72	3.93	3.15
MC1020P	MOT	1.48	1.25	.99
MC1021P	MOT	4.72	3.93	3.15
MC1022P	MOT	3.72	3.10	2.48
MC1023P	MOT	2.40	2.00	1.60
MC1024P	MOT	1.48	1.23	.99
MC1025P	MOT	1.48	1.23	.99

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC1026P	MOT	6.50	4.80	.....
MC1027P	MOT	4.45	3.71	2.97
MC1028P	MOT	11.25	8.35	.....

Type No.	Mfr.	1-99	100-999	1000-4999
MC1029P	MOT	4.45	3.71	2.97
MC1030P	MOT	2.23	1.86	1.49
MC1031P	MOP	2.23	1.86	1.49
MC1032P	MOT	4.45	3.71	2.97
MC1033P	MOT	2.97	2.47	1.98

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC1034P	MOT	10.35	7.65	.....
MC1035P	MOT	1.80	1.35	.....

Type No.	Mfr.	1-99	100-999	1000-4999
MC1036P	MOT	15.00	12.48	10.00
MC1037P	MOT	15.00	12.48	10.00

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC1038P	MOT	11.20	8.30	.....

Type No.	Mfr.	1-99	100-999	1000-4999
MC1039P	MOT	5.20	4.33	3.47

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC1040P	MOT	6.50	4.80	.....
MC1041P	MOT	7.45	5.50	.....
MC1042P	MOT	4.45	3.71	2.97
MC1043P	MOT	4.45	3.71	2.97
MC1044P	MOT	4.45	3.71	2.97
MC1045P	MOT	4.45	3.71	2.97
MC1046P	MOT	4.45	3.71	2.97
MC1047P	MOT	2.23	1.86	1.49
MC1048P	MOT	2.23	1.86	1.49
MC1059P	MOT	6.69	5.57	4.46
MC1070P	MOT	4.45	3.71	2.97

Type No.	Mfr.	1-24	25-99	100-999
MC1110G	MOT	37.50	31.25	25.00
MC1124P	MOT	6.30	5.40	4.50
MC1141G	MOT	6.00	5.60	4.40
MC1142G	MOT	5.25	4.50	3.50
MC1150L	MOT	29.25	23.40	19.50
MC1151L	MOT	25.50	20.40	17.00
MC1160G	MOT	6.30	5.00	3.95
MC1161G	MOT	4.45	3.75	2.95
MC1170L	MOT	20.60	17.15	13.70

Type No.	Mfr.	1-99	100-999	1000-4999
MC1201F	MOT	2.23	1.86	1.49
MC1201L	MOT	1.86	1.55	1.24
MC1202F	MOT	2.23	1.86	1.49

Type No.	Mfr.	1-99	100-999	1000-4999
MC1202L	MOT	1.86	1.55	1.24
MC1203F	MOT	2.23	1.86	1.49
MC1203L	MOT	1.86	1.55	1.24
MC1204F	MOT	2.23	1.86	1.49
MC1204L	MOT	1.86	1.55	1.24
MC1205F	MOT	2.23	1.86	1.49
MC1205L	MOT	1.86	1.55	1.24
MC1206F	MOT	2.23	1.86	1.49
MC1206L	MOT	1.86	1.55	1.24
MC1207F	MOT	2.23	1.86	1.49
MC1207L	MOT	1.86	1.55	1.24
MC1208F	MOT	2.23	1.86	1.49
MC1208L	MOT	1.86	1.55	1.24
MC1209F	MOT	2.23	1.86	1.49
MC1209L	MOT	1.86	1.55	1.24
MC1210F	MOT	2.23	1.86	1.49
MC1210L	MOT	1.86	1.55	1.24
MC1211F	MOT	2.23	1.86	1.49
MC1211L	MOT	1.86	1.55	1.24
MC1212F	MOT	2.23	1.86	1.49
MC1212L	MOT	1.86	1.55	1.24
MC1213F	MOT	4.47	3.72	2.98
MC1213L	MOT	3.72	3.10	2.48

Type No.	Mfr.	1-24	25-99	100-999
MC1214F	MOT	8.60	6.90	5.75
MC1214L	MOT	5.15	4.15	3.45
MC1215F	MOT	8.60	6.90	5.75
MC1215L	MOT	5.15	4.15	3.45
MC1216F	MOT	8.60	6.90	5.75
MC1216L	MOT	5.15	4.15	3.45
MC1217F	MOT	8.90	7.15	5.95
MC1217L	MOT	5.45	4.40	3.65
MC1218F	MOT	8.90	7.15	5.95
MC1218L	MOT	5.45	4.40	3.65

Type No.	Mfr.	1-99	100-999	1000-4999
MC1219F	MOT	7.26	6.05	4.03
MC1219L	MOT	6.04	5.03	4.03

Type No.	Mfr.	1-24	25-99	100-999
MC1220F	MOT	4.10	3.30	2.75
MC1220L	MOT	2.45	2.00	1.65
MC1221F	MOT	11.40	9.10	7.60

Type No.	Mfr.	1-99	100-999	1000-4999
MC1221L	MOT	6.04	5.03	4.03

Type No.	Mfr.	1-24	25-99	100-999
MC1222F	MOT	9.35	7.50	6.25
MC1222L	MOT	7.40	5.95	4.95
MC1224F	MOT	4.40	3.55	2.95
MC1224L	MOT	2.70	2.15	1.80
MC1225F	MOT	4.25	3.40	2.85
MC1225L	MOT	2.55	2.05	1.70
MC1226F	MOT	14.25	11.40	9.50
MC1226L	MOT	10.40	8.35	6.95
MC1228L	MOT	18.50	14.80	12.35
MC1229F	MOT	8.25	6.60	5.50
MC1229L	MOT	5.15	4.15	3.45
MC1230F	MOT	11.60	9.30	7.75
MC1230L	MOT	7.95	6.35	5.30
MC1231F	MOT	11 60	9.30	7.75
MC1231L	MOT	7.95	6.35	5.30
MC1233F	MOT	8.60	6.90	5.75
MC1233L	MOT	5.15	4.15	3.45
MC1235F	MOT	4.50	3.60	3.00
MC1235L	MOT	3.00	2.40	2.00
MC1238F	MOT	22.50	18.00	15.00
MC1238L	MOT	18.50	14.80	12.35
MC1239L	MOT	8.45	6.80	5.65
MC1240F	MOT	14.25	11.40	9.50
MC1240L	MOT	11.55	9.25	7.70
MC1247F	MOT	9.85	7.85	6.55
MC1247L	MOT	6.50	5 20	4.35
MC1248F	MOT	9.85	7.85	6.55
MC1248L	MOT	6.50	5.20	4.35
MC1302P	MOT	5.25	5.25	4.35
MC1303L	MOT	5.25	4.35	3.50
MC1304P	MOT	7.20	6.00	4.80
MC1305P	MOT	7.20	6.00	4.80
MC1306P	MOT	2.90	2.45	1.95

Type No.	Mfr.	1-99	100-999	1000-4999
MC1307P	MOT	2.05	1.65	1.47
MC1326P	MOT	1.75	1.40	1.25
MC1328P	MOT	1.70	1.35	1.20

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Type No.	Mfr.	1-99	100-999	1000-4999
MC1330P	MOT	1.15	.90	.80
MC1335P	MOT	1.40	1.10	1.00
MC1350P	MOT	.95	.75	.68

Type No.	Mfr.	1-24	25-99	100-999
MC1351P	MOT	4.10	3.45	2.75
MC1352P	MOT	4.10	3.45	2.75
MC1355P	MOT	1.40	1.10	1.05
MC1380P	MOT	1.15	.90	.80
MC1410G	MOT	2.25	1.90	1.50
MC1414L	MOT	2.10	2.10	2.25
MC1430F	MOT	6.75	5.60	4.50
MC1430G	MOT	5.25	4.35	3.50
MC1430P	MOT	5.25	4.35	3.50
MC1431F	MOT	6.75	5.60	4.50
MC1431G	MOT	5.25	4.35	3.50
MC1431P	MOT	5.25	4.35	3.50
MC1433F	MOT	8.85	7.35	5.90
MC1433G	MOT	3.90	2.65	1.95
MC1433L	MOT	2.90	2.45	1.95
MC1435F	MOT	8.25	6.85	5.50
MC1435G	MOT	2.25	1.90	1.50
MC1435L	MOT	2.25	1.90	1.50
MC1436G	MOT	6.75	5.60	4.50
MC1437L	MOT	2.65	2.20	1.75
MC1437P	MOT	6.50	4.40	3.50
MC1438R	MOT	9.75	8.10	6.50
MC1439G	MOT	2.20	1.80	1.45
MC1439L	MOT	2.40	2.00	1.60
MC1440F	MOT	13.50	11.25	9.00
MC1440G	MOT	1.50	1.25	.98
MC1440L	MOT	12.00	10.00	8.00
MC1441F	MOT	5.25	4.40	3.50
MC1441L	MOT	5.25	4.40	3.50
MC1445F	MOT	6.95	5.80	4.65
MC1445G	MOT	5.90	4.95	3.95
MC1445L	MOT	2.25	1.90	1.50
MC1446L	MOT	12.00	10.00	8.00
MC1454G	MOT	3.30	2.75	2.20
MC1456G	MOT	5.85	4.90	3.90
MC1458G	MOT	3.75	3.12	2.50
MC1460G	MOT	5.75	3.10	2.50
MC1460R	MOT	5.25	4.35	3.50
MC1461G	MOT	5.25	4.35	3.50
MC1461R	MOT	6.75	5.60	4.50

Type No.	Mfr.	1-99	100-999	1000-4999
MC1456CG	MOT	2.85	2.35	1.90
MC1458CG	MOT	2.70	2.25	1.80

Type No.	Mfr.	1-24	25-99	100-999
MC1463G	MOT	4.15	3.45	2.75

Type No.	Mfr.	1-99	100-999	1000-4999
MC1466L	MOT	7.50	6.25	5.00
MC1469R	MOT	6.75	5.60	
MC1488L	MOT	8.25	6.90	5.50
MC1489L	MOT	6.00	5.00	4.00
MC1494L	MOT	12.00	10.00	8.00
MC1495L	MOT	12.00	10.00	8.00
MC1496G	MOT	3.25	2.70	2.15
MC1496L	MOT	3.25	2.70	2.15
MC1510G	MOT	12.00	10.00	8.00
MC1511G	MOT	13.45	11.80	10.75
MC1512G	MOT	15.30	13.50	12.25
MC1514L	MOT	4.90	4.05	3.25
MC1519G	MOT	50.00	40.00	30.00
MC1520F	MOT	12.00	10.00	8.00
MC1520G	MOT	9.75	8.10	6.50
MC1524G	MOT	70.00	55.00	40.00
MC1525F	MOT	12.00	10.00	8.00
MC1526G	MOT	60.00	48.00	36.00
MC1529G	MOT	11.25	9.35	7.50
MC1530F	MOT	15.00	12.50	10.00
MC1530G	MOT	12.75	10.60	8.50
MC1531F	MOT	15.00	12.50	10.00
MC1531G	MOT	12.75	10.60	8.50
MC1533F	MOT	12.00	10.00	8.00
MC1533G	MOT	5.25	4.40	3.50
MC1533L	MOT	5.25	4.40	3.50
MC1535F	MOT	15.00	12.50	10.00
MC1535G	MOT	12.75	10.60	8.50
MC1535L	MOT	12.75	10.65	8.50
MC1536G	MOT	27.00	22.50	18.00
MC1537L	MOT	4.90	4.05	3.25
MC1539G	MOT	3.75	3.10	2.50
MC1539L	MOT	3.75	3.10	2.50
MC1540F	MOT	24.00	20.00	16.00
MC1540G	MOT	5.95	4.95	3.95
MC1540L	MOT	5.95	4.95	3.95
MC1541F	MOT	14.25	11.90	9.50
MC1541L	MOT	12.00	10.00	8.00
MC1543L	MOT	12.00	10.00	8.00
MC1545F	MOT	9.75	8.10	6.50
MC1545G	MOT	8.25	6.85	5.50
MC1545L	MOT	8.25	6.85	5.50
MC1546L	MOT	18.00	15.00	12.00
MC1550F	MOT	7.25	6.05	4.85
MC1550G	MOT	1.50	1.00	.75
MC1552G	MOT	9.00	7.50	6.00
MC1553G	MOT	9.00	7.50	6.00
MC1554G	MOT	14.25	11.85	9.50
MC1556G	MOT	18.50	15.00	12.00
MC1558G	MOT	7.50	6.25	5.00
MC1560G	MOT	10.50	8.75	7.00
MC1560R	MOT	12.75	10.65	8.50
MC1561G	MOT	12.75	10.65	8.50
MC1561R	MOT	37.50	31.25	25.00
MC1563G	MOT	7.90	6.55	5.25
MC1566L	MOT	5.60	4.70	3.75
MC1569G	MOT	6.75	5.65	4.50
MC1580L	MOT	6.75	5.60	4.50
MC1581L	MOT	6.75	5.60	4.50
MC1582L	MOT	6.75	5.60	4.50
MC1583L	MOT	6.75	5.60	4.50
MC1584L	MOT	6.75	5.60	4.50
MC1590G	MOT	5.60	4.70	3.75
MC1594L	MOT	18.00	15.00	12.00
MC1595L	MOT	12.00	10.00	8.00
MC1596G	MOT	7.20	6.00	4.80
MC1596L	MOT	7.20	6.00	4.80
MC1650S	MOT	18.75	15.00	12.50
MC1660L	MOT	11.25	9.40	7.50
MC1660S	MOT	15.00	12.00	10.00
MC1661L	MOT	11.25	9.40	7.50
MC1661S	MOT	15.00	12.00	10.00
MC1662L	MOT	11.25	9.40	7.50
MC1662S	MOT	16.50	13.20	11.00
MC1663L	MOT	11.25	9.40	7.50
MC1663S	MOT	16.50	13.20	11.00
MC1664L	MOT	11.25	9.40	7.50
MC1664S	MOT	16.50	13.20	11.00
MC1665L	MOT	11.25	9.40	7.50
MC1665S	MOT	16.50	13.20	11.00
MC1666L	MOT	22.35	18.60	14.90
MC1666S	MOT	30.00	24.00	20.00
MC1667L	MOT	22.35	18.60	14.90
MC1667S	MOT	30.00	24.00	20.00
MC1668L	MOT	22.35	18.60	14.90
MC1668S	MOT	37.50	30.00	25.00
MC1669L	MOT	22.35	18.60	14.90
MC1669S	MOT	37.50	30.00	25.00
MC1670L	MOT	20.25	16.87	13.50
MC1670S	MOT	27.00	21.60	18.00
MC1671L	MOT	20.25	16.87	13.50
MC1671S	MOT	27.00	21.60	18.00
MC1672L	MOT	14.10	11.75	9.40
MC1672S	MOT	18.75	15.00	12.50
MC1673L	MOT	14.10	11.75	9.40
MC1673S	MOT	18.75	15.00	12.50
MC1674L	MOT	14.10	11.75	9.40
MC1674S	MOT	18.75	15.00	12.50
MC1675L	MOT	14.10	11.75	9.40
MC1675S	MOT	18.75	15.00	12.50
MC1679L	MOT	64.80	54.00	43.20
MC1680L	MOT	42.15	35.10	28.10
MC1681L	MOT	42.15	35.10	28.10
MC1682L	MOT	42.15	35.10	28.10
MC1683L	MOT	42.15	35.10	28.10
MC1684L	MOT	42.15	35.10	28.10
MC1685L	MOT	42.15	35.10	28.10
MC1692L	MOT	11.25	9.40	7.50
MC1709	MOT	75.00	62.50	50.00
MC1709CF	MOT	2.25	1.80	1.50
MC1709CG	MOT	1.47	1.17	.98
MC1709CL	MOT	1.47	1.17	.98
MC1709CP-1	MOT	1.20	.96	.80
MC1709CP-2	MOT	1.27	1.02	.85
MC1709F	MOT	4.87	3.90	3.25
MC1709G	MOT	2.62	2.10	1.75
MC1709L	MOT	2.62	2.10	1.75
MC1710CF	MOT	2.25	1.90	1.50
MC1710CG	MOT	1.50	1.25	.98
MC1710CL	MOT	1.50	1.25	.98
MC1710F	MOT	4.90	4.05	3.25
MC1710G	MOT	2.65	2.20	1.75
MC1710L	MOT	5.70	4.55	3.80
MC1711CF	MOT	2.25	1.90	1.50
MC1711CG	MOT	1.50	1.25	.98
MC1711CL	MOT	1.50	1.25	.98
MC1711F	MOT	13.35	10.70	8.90
MC1711G	MOT	2.65	2.20	1.75
MC1711L	MOT	2.65	2.20	1.75
MC1712CF	MOT	2.80	2.20	1.85
MC1712CG	MOT	2.80	2.20	1.85
MC1712CL	MOT	3.38	2.70	2.25
MC1712F	MOT	8.55	6.85	5.70
MC1712G	MOT	7.90	6.30	5.25
MC1723CG	MOT	2.85	2.40	1.90
MC1723G	MOT	5.85	4.85	3.90
MC1741CF	MOT	5.25	4.40	3.50
MC1741CG	MOT	2.20	1.80	1.45
MC1741CL	MOT	2.40	2.00	1.60
MC1741CP-1	MOT	2.10	1.68	1.40
MC1741CP-2	MOT	2.62	2.10	1.75
MC1741F	MOT	6.75	5.65	4.50
MC1741G	MOT	5.85	4.90	3.90
MC1741L	MOT	6.00	5.00	4.00
MC1800F	MOT	3.60	2.90	2.40
MC1800L	MOT	3.60	2.90	2.40
MC1800P	MOT	.98	.98	.88
MC1801F	MOT	3.60	2.90	2.40
MC1801L	MOT	1.80	1.50	1.20
MC1801P	MOT	.98	.98	.88
MC1802F	MOT	3.60	2.90	2.40
MC1802L	MOT	1.80	1.50	1.20
MC1802P	MOT	.98	.98	.88
MC1803F	MOT	3.60	2.90	2.40
MC1803L	MOT	1.80	1.50	1.20
MC1803P	MOT	.98	.98	.88
MC1804F	MOT	3.60	2.90	2.40
MC1804L	MOT	1.80	1.50	1.20
MC1804P	MOT	.98	.98	.88
MC1805F	MOT	3.60	2.90	2.40
MC1805L	MOT	1.80	1.50	1.20
MC1805P	MOT	.98	.98	.88
MC1806L	MOT	1.80	1.50	1.20
MC1806F	MOT	4.20	3.35	2.80
MC1806P	MOT	.98	.98	.88
MC1807F	MOT	4.20	3.35	2.80
MC1807L	MOT	1.80	1.50	1.20
MC1807P	MOT	.98	.98	.88
MC1808F	MOT	4.20	3.35	2.80
MC1808L	MOT	1.80	1.50	1.20
MC1808P	MOT	.98	.98	.88
MC1809F	MOT	4.20	3.35	2.80
MC1809L	MOT	1.80	1.50	1.20
MC1809P	MOT	.98	.98	.88
MC1810F	MOT	4.20	3.35	2.80
MC1810L	MOT	1.80	1.50	1.20
MC1810P	MOT	.98	.98	.48
MC1811F	MOT	4.20	3.35	2.80
MC1811L	MOT	1.80	1.50	1.20
MC1811P	MOT	.98	.98	.48
MC1812F	MOT	6.45	5.15	4.30
MC1812L	MOT	3.25	2.70	2.15
MC1812P	MOT	1.75	1.75	.85
MC1813P	MOT	3.65	3.65	1.80
MC1814F	MOT	15.00	12.00	10.00
MC1814L	MOT	6.50	5.40	4.30
MC1814P	MOT	3.55	3.55	1.75
MC1815F	MOT	5.25	4.20	3.50
MC1815L	MOT	2.70	2.25	1.80
MC1815P	MOT	1.45	1.45	.72
MC1816F	MOT	5.25	4.20	3.50
MC1816L	MOT	2.70	2.25	1.80
MC1816P	MOT	.98	.98	.48
MC1818F	MOT	3.60	2.90	2.40
MC1818L	MOT	1.80	1.50	1.20
MC1818P	MOT	.98	.98	.48
MC1820L	MOT	1.80	1.50	1.20
MC1820P	MOT	1.75	.85	.50

Type No.	Mfr.	1-24	25-99	100-999
MC1900F	MOT	3.10	2.55	2.05
MC1900L	MOT	3.10	2.55	2.05
MC1901F	MOT	3.10	2.55	2.05
MC1901L	MOT	3.10	2.55	2.05
MC1902F	MOT	3.10	2.55	2.05
MC1902L	MOT	3.10	2.55	2.05
MC1903F	MOT	3.10	2.55	2.05
MC1903L	MOT	3.10	2.55	2.05
MC1904F	MOT	3.10	2.55	2.05
MC1904L	MOT	3.10	2.55	2.05
MC1905F	MOT	3.10	2.55	2.05
MC1905L	MOT	3.10	2.55	2.05
MC1906F	MOT	3.10	2.55	2.50
MC1906L	MOT	3.10	2.55	2.05
MC1907F	MOT	3.10	2.55	2.05
MC1907L	MOT	3.10	2.55	2.05
MC1908F	MOT	3.10	2.55	2.05
MC1908L	MOT	3.10	2.55	2.05

Type No.	Mfr.	1-24	25-99	100-999
MC1909F	MOT	3.10	2.55	2.05
MC1909L	MOT	3.10	2.55	2.05
MC1910F	MOT	3.10	2.55	2.05
MC1910L	MOT	3.10	2.55	2.05
MC1911F	MOT	3.10	2.55	2.05
MC1911L	MOT	3.10	2.55	2.05
MC1912F	MOT	5.60	4.60	3.70
MC1912L	MOT	5.60	4.60	3.70
MC1913F	MOT	11.50	9.45	7.60
MC1913L	MOT	11.50	9.45	7.60
MC1914F	MOT	11.15	9.20	7.40
MC1914L	MOT	11.15	9.20	7.40
MC1915F	MOT	4.65	3.80	3.05
MC1915L	MOT	4.65	3.80	3.05
MC1916F	MOT	4.65	3.80	3.05
MC1916L	MOT	4.65	3.80	3.05
MC1918F	MOT	3.10	2.55	2.05
MC1918L	MOT	3.10	2.55	2.05

Type No.	Mfr.	1-99	100-999	1000-4999
MC2000P	MOT	2.60	2.20	2.00
MC2001P	MOT	2.60	2.20	2.00
MC2002P	MOT	2.00	1.70	1.55
MC2003P	MOT	2.60	2.20	2.00
MC2004P	MOT	2.60	2.20	2.00
MC2005P	MOT	2.60	2.20	2.00
MC2006P	MOT	2.00	1.70	1.55
MC2007P	MOT	2.60	2.20	2.00
MC2011P	MOT	2.60	2.20	2.00

Type No.	Mfr.	1-24	25-99	100-999
MC2012L	MOT	4.70	3.80	3.15

Type No.	Mfr.	1-99	100-999	1000-4999
MC2013P	MOT	2.85	2.40	2.20
MC2016P	MOT	3.20	2.75	2.20

Type No.	Mfr.	1-24	25-99	100-999
MC2016L	MOT	4.15	3.45	2.75

Type No.	Mfr.	1-99	100-999	1000-4999
MC2023P	MOT	5.15	4.35	3.95
MC2024P	MOT	5.15	4.35	3.95
MC2025P	MOT	3.65	3.10	2.80
MC2026P	MOT	3.65	3.10	2.80
MC2028P	MOT	3.65	3.10	2.80
MC2050P	MOT	2.20	1.85	1.70
MC2051P	MOT	2.20	1.85	1.70
MC2052P	MOT	2.00	1.70	1.55
MC2053P	MOT	2.20	1.85	1.70
MC2054P	MOT	2.20	1.85	1.70
MC2055P	MOT	2.20	1.85	1.70
MC2056P	MOT	2.00	1.70	1.55
MC2057P	MOT	2.20	1.85	1.70
MC2058P	MOT	2.55	2.15	1.95

Type No.	Mfr.	1-24	25-99	100-999
MC2058L	MOT	4.25	3.40	2.85
MC2062L	MOT	3.95	3.20	2.65

Type No.	Mfr.	1-99	100-999	1000-4999
MC2061P	MOT	2.20	1.85	1.70
MC2063L	MOT	4.80	3.85	3.20
MC2063P	MOT	2.40	2.05	1.85
MC2065P	MOT	2.20	1.85	1.70
MC2066P	MOT	2.70	2.25	1.80

Type No.	Mfr.	1-24	25-99	100-999
MC2066L	MOT	3.15	2.65	2.10

Type No.	Mfr.	1-99	100-999	1000-4999
MC2073P	MOT	4.30	3.60	3.30
MC2074P	MOT	4.30	3.60	3.30
MC2075P	MOT	2.90	2.50	2.25
MC2076P	MOT	2.90	2.50	2.25
MC2078P	MOT	2.90	2.50	2.25

Type No.	Mfr.	1-24	25-99	100-999
MC2100L	MOT	7.20	5.75	4.80
MC2101L	MOT	7.20	5.75	4.80
MC2102L	MOT	4.55	3.65	3.05
MC2103L	MOT	7.20	5.75	4.80
MC2104L	MOT	7.20	5.75	4.80
MC2105L	MOT	7.20	5.75	4.80
MC2106L	MOT	4.55	3.65	3.05
MC2107L	MOT	7.20	5.75	4.80
MC2111L	MOT	7.20	5.75	4.80
MC2112L	MOT	7.20	5.75	4.80
MC2113L	MOT	7.20	5.75	4.80
MC2116L	MOT	7.00	5.80	4.65
MC2123L	MOT	14.85	11.90	9.90
MC2124L	MOT	14.85	11.90	9.90
MC2125L	MOT	12.30	9.85	8.20
MC2126L	MOT	12.30	9.85	8.20
MC2128L	MOT	12.30	9.85	8.20
MC2150L	MOT	5.90	4.75	3.95
MC2151L	MOT	5.90	4.75	3.95
MC2152L	MOT	4.55	3.65	3.05
MC2153L	MOT	5.90	4.75	3.95
MC2154L	MOT	5.90	4.75	3.95
MC2155L	MOT	5.90	4.75	3.95
MC2156L	MOT	4.55	3.65	3.05
MC2157L	MOT	5.90	4.75	3.95
MC2161L	MOT	5.90	4.75	3.95
MC2162L	MOT	5.90	4.75	3.95
MC2163L	MOT	5.90	4.75	3.95
MC2165L	MOT	7.95	6.60	5.30
MC2166L	MOT	5.40	4.50	3.60
MC2173L	MOT	12.35	9.90	8.25
MC2174L	MOT	12.35	9.90	8.25
MC2175L	MOT	10.25	8.20	6.85
MC2176L	MOT	10.25	8.20	6.85
MC2178L	MOT	10.25	8.20	6.85
MC3000F	MOT	2.00	1.65	1.32
MC3000L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3000P	MOT	1.08	1.08	.54

Type No.	Mfr.	1-24	25-99	100-999
MC3001F	MOT	2.15	1.80	1.44
MC3001L	MOT	2.15	1.80	1.44

Type No.	Mfr.	1-99	100-999	1000-4999
MC3001P	MOT	1.18	1.18	.59

Type No.	Mfr.	1-24	25-99	100-999
MC3002F	MOT	2.00	1.65	1.32
MC3002L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3002P	MOT	1.08	1.08	.54

Type No.	Mfr.	1-24	25-99	100-999
MC3003F	MOT	2.15	1.80	1.44
MC3003L	MOT	2.15	1.80	1.44

Type No.	Mfr.	1-99	100-999	1000-4999
MC3003P	MOT	1.18	1.18	.59

Type No.	Mfr.	1-24	25-99	100-999
MC3004L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3004P	MOT	1.08	.54	.31

Type No.	Mfr.	1-24	25-99	100-999
MC3005L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3005P	MOT	1.08	1.08	.54

Type No.	Mfr.	1-24	25-99	100-999
MC3006L	MOT	2.15	1.80	1.44

Type No.	Mfr.	1-99	100-999	1000-4999
MC3006P	MOT	1.18	.59	.34

Type No.	Mfr.	1-24	25-99	100-999
MC3007L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3007P	MOT	1.08	.54	.31

Type No.	Mfr.	1-24	25-99	100-999
MC3008L	MOT	2.35	1.95	1.55
MC3009L	MOT	2.35	1.95	1.55
MC3010F	MOT	2.00	1.65	1.32
MC3010L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3010P	MOT	1.08	1.08	.54

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-24	25-99	100-999
MC3011L	MOT	2.15	1.80	1.44
MC3012L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3012P	MOT	1.08	.54	.31

Type No.	Mfr.	1-24	25-99	100-999
MC3015F	MOT	2.00	1.54	1.32
MC3015L	MOT	2.00	1.54	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3015P	MOT	1.08	1.08	.54

Type No.	Mfr.	1-24	25-99	100-999
MC3016L	MOT	1.95	1.65	1.32
MC3018L	MOT	2.15	1.80	1.44
MC3019L	MOT	2.15	1.80	1.44
MC3020F	MOT	2.00	1.65	1.32
MC3020L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3020P	MOT	1.08	1.08	.54

Type No.	Mfr.	1-24	25-99	100-999
MC3021L	MOT	3.25	2.70	2.15
MC3022L	MOT	3.25	2.70	2.15
MC3023L	MOT	2.00	1.65	1.32
MC3024L	MOT	2.15	1.80	1.44
MC3025F	MOT	2.00	1.65	1.32
MC3025L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3025P	MOT	1.08	1.08	.54
MCH2870MR	MOT	24.00	20.00	16.00
MCH2870CR	MOT	12.75	10.60	8.50

Type No.	Mfr.	1-24	25-99	100-999
MC3026F	MOT	2.15	1.80	1.44
MC3026L	MOT	2.15	1.80	1.44

Type No.	Mfr.	1-99	100-999	1000-4999
MC3026P	MOT	1.18	.59	.34

Type No.	Mfr.	1-24	25-99	100-999
MC3028F	MOT	2.15	1.80	1.44
MC3028L	MOT	2.15	1.80	1.44

Type No.	Mfr.	1-99	100-999	1000-4999
MC3028P	MOT	1.18	.59	.34

Type No.	Mfr.	1-24	25-99	100-999
MC3029F	MOT	2.15	1.80	1.44
MC3029L	MOT	2.15	1.80	1.44

Type No.	Mfr.	1-99	100-999	1000-4999
MC3029P	MOT	1.18	1.18	.59

Type No.	Mfr.	1-24	25-99	100-999
MC3030F	MOT	2.00	1.65	1.32
MC3030L	MOT	2.00	1.65	1.32

Type No.	Mfr.	1-99	100-999	1000-4999
MC3030P	MOT	1.08	.54	.31
MC3031P	MOT	1.08	.54	.31
MC3032P	MOT	1.08	.54	.31
MC3033P	MOT	1.08	.54	.31
MC3034P	MOT	1.08	.54	.31
MC3054P	MOT	1.65	.83	.48
MC3055P	MOT	1.47	.73	.42

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SPR	Sprague	.....
TI	Texas Instr.	73, 91-95, 100

*Stocked at Newark Electronics, Denver

Type No.	Mfr.	1-24	25-99	100-999
MC3050F	MOT	4.00	4.00	4.00
MC3050L	MOT	2.85	2.40	1.90
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC3050P	MOT	1.55	.78	.45
MC3051P	MOT	1.55	.78	.45
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC3052F	MOT	2.85	2.40	1.90
MC3052L	MOT	2.85	2.40	1.90
MC3052P	MOT	1.55	.78	.45
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC3053P	MOT	1.75	.88	.50
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC3060L	MOT	3.95	3.30	2.65
Type No.	**Mfr.**	**1-99**	**100-999**	**100-4999**
MC3060P	MOT	2.15	1.08	.62
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC3061L	MOT	4.30	3.60	2.90
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC3061P	MOT	2.35	1.18	.67
Type No.	**Mfr.**	**1-24**	**24-99**	**100-999**
MC3062L	MOT	4.50	3.75	3.00
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC3062P	MOT	2.45	1.22	.70
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC3100L	MOT	3.40	2.80	2.25
MC3101L	MOT	3.70	3.05	2.45
MC3102L	MOT	3.40	2.80	2.25
MC3103L	MOT	3.70	3.05	2.45
MC3104L	MOT	3.40	2.80	2.25
MC3105L	MOT	3.40	2.80	2.25
MC3106L	MOT	3.70	3.05	2.45
MC3107L	MOT	3.40	2.80	2.25
MC3108L	MOT	4.00	3.30	2.65
MC3109L	MOT	4.00	3.30	2.65
MC3110L	MOT	3.40	2.80	2.25
MC3111L	MOT	3.70	3.05	2.45
MC3112L	MOT	3.40	2.80	2.25
MC3115L	MOT	3.40	2.80	2.25
MC3116L	MOT	3.40	2.80	2.25
MC3118L	MOT	3.70	3.05	2.45
MC3119L	MOT	3.70	3.05	2.45
MC3120L	MOT	3.40	2.80	2.25
MC3121L	MOT	5.55	4.60	3.70
MC3122L	MOT	5.55	4.60	3.70
MC3123L	MOT	3.40	2.80	2.25
MC3124L	MOT	3.70	3.05	2.45
MC3125L	MOT	3.40	2.80	2.25
MC3126L	MOT	3.70	3.05	2.45
MC3128L	MOT	3.70	3.05	2.45
MC3129L	MOT	3.70	3.05	2.45
MC3130L	MOT	3.40	2.80	2.25
MC3131L	MOT	3.40	2.80	2.25
MC3132L	MOT	3.40	2.80	2.25
MC3133L	MOT	3.40	2.80	2.25
MC3134L	MOT	3.40	2.80	2.25
MC3151L	MOT	4.90	4.10	3.30
MC3152L	MOT	4.90	4.10	3.30
MC3153L	MOT	5.55	4.60	3.70
MC3154L	MOT	5.25	4.35	3.50
MC3155L	MOT	4.60	3.85	3.05
MC3160L	MOT	6.75	5.65	4.50
MC3161L	MOT	7.35	6.15	4.90
MC3162L	MOT	7.65	6.40	5.10
MC4000L	MOT	5.40	4.50	3.60
MC4000P	MOT	2.95	1.47	.84
MC4001P	MOT	5.00	2.50	1.43
MC4002F	MOT	7.05	5.85	4.70
MC4002L	MOT	7.05	5.85	4.70
MC4002P	MOT	3.80	1.90	1.09
MC4004F	MOT	7.75	6.45	5.75
MC4004L	MOT	7.75	6.45	5.75
MC4004P	MOT	4.20	2.10	1.20
MC4005F	MOT	6.30	5.25	4.20
MC4005L	MOT	6.30	5.25	4.20
MC4005P	MOT	3.40	1.70	.98
MC4006F	MOT	7.05	5.85	4.70
MC4006L	MOT	7.05	5.85	4.70
MC4006P	MOT	3.80	1.90	1.09
MC4007L	MOT	7.05	5.85	4.70
MC4007P	MOT	3.80	1.90	1.09
MC4008L	MOT	6.30	5.25	4.20
MC4008P	MOT	3.40	1.70	.98
MC4010L	MOT	6.30	5.25	4.20
MC4010P	MOT	3.40	1.70	.98
MC4012L	MOT	7.95	6.60	5.30
MC4012P	MOT	4.30	2.15	1.23
MC4015L	MOT	7.00	5.85	4.70
MC4015P	MOT	3.80	1.90	1.09
MC4016L	MOT	9.90	8.25	6.60
MC4016P	MOT	6.50	5.50	5.00
MC4018L	MOT	9.90	8.25	6.60
MC4018P	MOT	6.50	5.50	5.00
MC4023F	MOT	7.75	6.45	5.15
MC4023L	MOT	7.75	6.45	5.15
MC4023P	MOT	4.20	2.10	1.20
MC4024F	MOT	4.80	4.00	3.20
MC4024L	MOT	3.95	3.30	2.65
MC4024P	MOT	2.60	2.60	2.20
MC4026F	MOT	5.40	4.50	3.60
MC4026L	MOT	5.40	4.50	3.60
MC4026P	MOT	2.95	1.47	.84
MC4027F	MOT	4.35	3.60	2.90
MC4027L	MOT	4.35	3.60	2.90
MC4027P	MOT	2.35	1.18	.67
MC4028F	MOT	6.30	5.25	4.20
MC4028L	MOT	6.30	5.25	4.20
MC4028P	MOT	3.40	1.70	.98
MC4029F	MOT	5.40	4.50	3.60
MC4029L	MOT	5.40	4.50	3.60
MC4029P	MOT	2.95	1.47	.84
MC4030F	MOT	6.30	5.25	4.20
MC4030L	MOT	6.30	5.25	4.20
MC4030P	MOT	3.40	1.70	.98
MC4031F	MOT	5.40	4.50	3.60
MC4031L	MOT	5.40	4.50	3.60
MC4031P	MOT	2.95	1.47	.84
MC4032F	MOT	4.35	3.60	2.90
MC4032L	MOT	4.35	3.60	2.90
MC4032P	MOT	2.35	1.18	.67
MC4035F	MOT	5.95	4.95	3.95
MC4035L	MOT	5.95	4.95	3.95
MC4035P	MOT	3.20	1.60	.92
MC4037F	MOT	5.95	4.95	3.95
MC4037L	MOT	5.95	4.95	3.95
MC4037P	MOT	3.20	1.60	.92
MC4038P	MOT	4.70	2.35	1.34
MC4039P	MOT	4.70	2.35	1.34
MC4040P	MOT	4.70	2.35	1.34
MC4041P	MOT	4.70	2.35	1.34
MC4042P	MOT	1.18	.59	.34
MC4043P	MOT	2.25	1.13	.64
MC4044F	MOT	4.80	4.00	3.20
MC4044L	MOT	3.95	3.30	2.65
MC4044P	MOT	2.60	2.60	2.20
MC4048P	MOT	4.70	2.35	1.34
MC4050L	MOT	17.55	14.60	11.70
MC4050P	MOT	10.60	9.00	8.15
Type No.	**Mfr.**	**1-24**	**25-99**	**100-Up**
(Also See "L" Series Which Follows.)				
MC4304F	MOT	13.20	11.00	8.80
MC4305F	MOT	10.75	8.95	7.15
MC4324F	MOT	7.10	5.90	4.75
MC4326F	MOT	9.20	7.70	6.15
MC4327F	MOT	7.35	6.15	4.90
MC4328F	MOT	10.75	8.95	7.15
MC4329F	MOT	9.20	7.70	6.15
MC4330F	MOT	10.75	8.95	7.15
MC4331F	MOT	9.20	7.70	6.15
MC4332F	MOT	7.35	6.15	4.90
Type No.	**Mfr.**	**1-24**	**25-99**	**100-Up**
(Also See "L" Series Which Follows.)				
MC4335F	MOT	10.15	8.45	6.75
MC4337F	MOT	10.15	8.45	6.75
MC4344F	MOT	7.10	5.90	4.75
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-Up**
MC4304L	MOT	13.20	11.00	.....
MC4305L	MOT	10.75	8.95	.....
MC4306L	MOT	11.95	9.95	.....
MC4324L	MOT	7.10	5.90	.....
MC4326L	MOT	9.20	7.70	.....
MC4327L	MOT	7.35	6.15	.....
MC4328L	MOT	10.75	8.95	.....
MC4329L	MOT	9.20	7.70	.....
MC4330L	MOT	10.75	8.95	.....
MC4331L	MOT	9.20	7.70	.....
MC4332L	MOT	7.35	6.15	.....
MC4335L	MOT	10.15	8.45	.....
MC4337L	MOT	10.15	8.45	.....
MC4344L	MOT	7.10	5.90	.....
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC5310F	MOT	3.10	2.55	2.05
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-Up**
MC5400F	MOT	3.10	2.55	.....
MC5400L	MOT	3.10	2.55	.....
MC5401F	MOT	3.10	2.55	.....
MC5401L	MOT	3.10	2.55	.....
MC5402F	MOT	3.10	2.55	.....
MC5402L	MOT	3.10	2.55	.....
MC5403L	MOT	3.10	2.55	.....
MC5404F	MOT	3.70	3.10	.....
MC5404L	MOT	3.70	3.10	.....
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
(Also See "L" Series Which Follows.)				
MC5405L	MOT	3.10	2.55	2.05
MC5410L	MOT	3.10	2.55	2.05
MC5420F	MOT	3.10	2.55	2.05
MC5420L	MOT	3.10	2.55	2.05
MC5430F	MOT	3.10	2.55	2.05
MC5430L	MOT	3.10	2.55	.....
MC5440F	MOT	3.10	2.55	2.05
MC5440L	MOT	3.10	2.55	2.05
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC5445L	MOT	23.95	19.95	.....
MC5449F	MOT	14.75	12.30	.....
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC5450F	MOT	3.10	2.55	2.05
MC5450L	MOT	3.10	2.55	2.05
MC5451F	MOT	3.10	2.55	2.05
MC5451L	MOT	3.10	2.55	2.05
MC5453F	MOT	3.10	2.55	2.05
MC5453L	MOT	3.10	2.55	2.05
MC5454F	MOT	3.10	2.55	2.05
MC5454L	MOT	3.10	2.55	2.05
MC5460F	MOT	3.10	2.55	2.05
MC5460L	MOT	3.10	2.55	2.05
MC5472F	MOT	4.30	3.60	2.85
MC5472L	MOT	4.30	3.60	2.85
MC5473F	MOT	6.15	5.10	4.10
MC5473L	MOT	10.75	8.95	7.15
MC5475L	MOT	6.15	5 10	4.15
MC5479F	MOT	6.15	5.10	4.15
MC5479L	MOT	12.00	10.00	8.00
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC5490F	MOT	12.00	10.00	.....
MC5492F	MOT	12.00	10.00	.....
Type No.	**Mfr.**	**1-24**	**25-99**	**100-999**
MC5490L	MOT	12.00	10.00	8.00
MC5493L	MOT	1.80	1.50	1.20
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-4999**
MC5442L	MOT	13.20	11.00	.....
MC5443L	MOT	18.45	15.35	.....
MC5444L	MOT	18.45	15.35	.....
MC5446L	MOT	19.65	16.40	.....
MC5447L	MOT	18.45	15.35	.....
MC5448L	MOT	15.35	12.80	.....
MC5480L	MOT	8.30	6.90	.....
MC5483L	MOT	19.35	16.15	.....
MC5491AL	MOT	16.90	14.10	.....
MC5490F	MOT	12.00	10.00	.....

Type No.	Mfr.	1-99	100-999	1000-4999
MC5492L	MOT	12.00	10.00	.....
MC5495L	MOT	13.50	11.25	.....

Type No.	Mfr.	1-24	25-99	100-999
(Also See "P" Series Which Follows.)				
MC7400F	MOT	1.80	1.50	1.20
MC7400L	MOT	1.80	1.50	1.20
MC7401F	MOT	1.80	1.50	1.20
MC7401L	MOT	1.80	1.50	1.20
MC7402F	MOT	1.80	1.50	1.20
MC7402L	MOT	1.80	1.50	1.20
MC7404F	MOT	2.15	1.80	1.44
MC7404L	MOT	2.15	1.80	1.44
MC7405L	MOT	2.15	1.80	1.44
MC7410F	MOT	1.80	1.50	1.20
MC7410L	MOT	1.80	1.50	1.20
MC7420F	MOT	1.80	1.50	1.20
MC7420L	MOT	1.80	1.50	1.20
MC7430F	MOT	1.80	1.50	1.20
MC7430L	MOT	1.80	1.50	1.20
MC7440F	MOT	1.80	1.50	1.20
MC7440L	MOT	1.80	1.50	1.20
MC7441AL	MOT	9.90	8.25	6.60
MC7442L	MOT	7.75	6.45	5.15
MC7443L	MOT	10.95	9.15	7.30
MC7444L	MOT	10.95	9.15	7.30
MC7445L	MOT	14.05	11.70	9.35
MC7446L	MOT	11.50	9.60	7.70
MC7447L	MOT	10.60	8.85	7.10
MC7448L	MOT	9.00	7.50	6.00
MC7449F	MOT	8.65	7.20	5.75
MC7450F	MOT	1.80	1.50	1.20
MC7450L	MOT	1.80	1.50	1.20
MC7400P	MOT	.98	.49	.28
MC7401P	MOT	.98	.49	.28
MC7401P	MOT	.98	.49	.28
MC7402P	MOT	.98	.49	.28
MC7403P	MOT	.98	.49	.28
MC7404P	MOT	1.18	.59	.34
MC7420P	MOT	.98	.49	.28
MC7430P	MOT	.98	.49	.28
MC7440P	MOT	.98	.49	.28
MC7442P	MOT	4.20	2.10	1.20
MC7443P	MOT	5.90	2.95	1.70
MC7444P	MOT	5.90	2.95	1.70
MC7445P	MOT	7.65	3.80	2.20
MC7446P	MOT	6.30	3.15	1.80
MC7447P	MOT	5.90	2.95	1.70

Type No.	Mfr.	1-99	100-999	1000-4999
(Also See "F" and "L" Series Which Follows.)				
MC7450P	MOT	.98	.49	.28
MC7451P	MOT	.98	.49	.28
MC7453P	MOT	.98	.49	.28
MC7454P	MOT	.98	.49	.28
MC7460P	MOT	.98	.49	.28
MC7472P	MOT	1.38	.69	.39
MC7473P	MOT	1.96	.98	.56
MC7475P	MOT	3.40	1.70	.98
MC7476P	MOT	2.15	1.08	.62
MC7479P	MOT	1.95	.98	.56

Type No.	Mfr.	1-24	25-99	100-999
MC7451F	MOT	1.80	1.50	1.20
MC7451L	MOT	1.80	1.50	1.20
MC7453F	MOT	1.80	1.50	1.20
MC7453L	MOT	1.80	1.50	1.20
MC7454F	MOT	1.80	1.50	1.20
MC7454L	MOT	1.80	1.50	1.20
MC7460F	MOT	1.80	1.50	1.20
MC7460L	MOT	1.80	1.50	1.20
MC7472F	MOT	2.55	2.15	1.70
MC7473F	MOT	3.60	3.00	2.40
MC7479F	MOT	3.60	3.00	2.40
MC7479L	MOT	3.60	3.00	2.40
MC7480L	MOT	4.85	4.05	3.25
MC7483L	MOT	11.35	9.45	7.55
MC7490F	MOT	7.00	5.85	4.70
MC7490L	MOT	7.00	5.85	4.70
MC7491AL	MOT	9.90	8.25	6.60
MC7492F	MOT	7.00	5.85	4.70
MC7492L	MOT	7.00	5.85	4.70
MC7493L	MOT	7.00	5.85	4.70
MC7495F	MOT	7.90	6.60	5.30
MC7495L	MOT	7.90	6.60	5.30
MC7480L	MOT	4.85	4.05	3.25

Type No.	Mfr.	1-99	100-999	1000-4999
MC7480P	MOT	2.65	1.32	.76

Type No.	Mfr.	1-24	25-99	100-999
MC7483L	MOT	11.35	9.45	2.55

Type No.	Mfr.	1-99	100-999	1000-4999
MC7483P	MOT	6.20	3.10	1.75

Type No.	Mfr.	1-24	25-99	100-999
MC7490F	MOT	7.00	5.85	4.70
MC7490L	MOT	7.00	5.85	4.70

Type No.	Mfr.	1-99	100-999	1000-4999
MC7490P	MOT	3.80	1.90	1.09
MC7491AP	MOT	5.40	2.70	1.55

Type No.	Mfr.	1-24	25-99	100-999
MC7491AL	MOT	9.90	8.25	6.60
MC7492F	MOT	7.00	5.85	4.70
MC7492L	MOT	7.00	5.85	4.70

Type No.	Mfr.	1-99	100-999	1000-4999
MC7492P	MOT	3.80	1.90	1.09
MC7493P	MOT	3.80	1.90	1.09

Type No.	Mfr.	1-24	25-99	100-999
MC7495F	MOT	7.90	6.60	5.30
MC7495L	MOT	7.90	6.60	5.30

Type No.	Mfr.	1-99	100-999	1000-4999
MC7495P	MOT	4.30	2.15	1.23

Type No.	Mfr.	1-24	25-99	100-999
(Also See "P" Series Which Follows.)				
MC8300L	MOT	8.65	7.20	5.75
MC8301L	MOT	7.75	6.45	5.15
MC8304L	MOT	9.55	7.95	6.35
MC8309L	MOT	5.40	4.50	3.60
MC8310L	MOT	9.00	7.50	6.00
MC8312L	MOT	5.40	4.50	3.60
MC8316L	MOT	11.70	9.75	7.80
MC8328L	MOT	14.05	11.70	9.35

Type No.	Mfr.	1-99	100-999	1000-4999
MC8300P	MOT	4.70	2.35	1.34
MC8301P	MOT	4.20	2.10	1.20
MC8304P	MOT	5.20	2.60	1.48
MC8308P	MOT	4.90	2.45	1.40
MC8309P	MOT	2.95	1.47	.84
MC8310P	MOT	4.90	2.45	1.40
MC8311P	MOT	4.90	2.45	1.40
MC8312P	MOT	2.95	1.47	.84
MC8316P	MOT	6.40	3.20	1.80
MC8328P	MOT	7.60	3.80	2.20

Type No.	Mfr.	1-24	25-99	100-999
MC8601F	MOT	4.50	3.75	3.00
MC8601L	MOT	4.50	3.75	3.00

Type No.	Mfr.	1-99	100-999	1000-4999
MC8601P	MOT	2.45	1.22	.70
MC9300L	MOT	14.75	12.30	9.80
MC9301L	MOT	13.20	11.00	8.80
MC9304L	MOT	16.30	13.60	10.85
MC9308L	MOT	15.35	12.80	10.25
MC9309L	MOT	9.20	7.70	6.15
MC9310L	MOT	15.35	12.80	10.25
MC9311L	MOT	15.35	12.80	10.25
MC9312L	MOT	9.20	7.70	6.15
MC9316L	MOT	20.00	16.65	13.30
MC9328L	MOT	23.95	20.00	15.95
MC9601F	MOT	7.65	6.40	5.10
MC9601L	MOT	7.65	6.40	5.10

Type No.	Mfr.	1-999	1000-4999	5000-Up
MC9701P	MOT	2.45	1.80	.....
MC9704P	MOT	3.40	2.50	.....
MC9707P	MOT	2.45	1.80	.....
MC9709P	MOT	2.45	1.80	.....
MC9713P	MOT	1.40	1 05	.....
MC9714P	MOT	1.55	1.15	.....
MC9715P	MOT	1.28	.95	.....
MC9718P	MOT	1.09	.81	.....
MC9719P	MOT	1.09	.81	.....
MC9719AP	MOT	1.26	.93	.....
MC9720P	MOT	1.09	.81	.....
MC9721P	MOT	1.09	.81	.....
MC9722P	MOT	2.25	1.65	.....
MC9760P	MOT	5.55	4.10	.....
MC9801P	MOT	2.65	1.95	.....
MC9804P	MOT	3.65	2.70	.....
MC9807P	MOT	2.65	1.95	.....
MC9809P	MOT	2.65	1.95	.....
MC9813P	MOT	1.50	1.13	.....
MC9814P	MOT	1.65	1.24	.....
MC9815P	MOT	1.40	1.02	.....
MC9818P	MOT	1.17	.87	.....
MC9819P	MOT	1.17	.87	.....
MC9820P	MOT	1.17	.87	.....
MC9819AP	MOT	1.26	.93	.....
MC9821P	MOT	1.17	.87	.....
MC9822P	MOT	2.35	1.75	.....
MC9860P	MOT	5.95	4.40	.....

Type No.	Mfr.	1-24	25-99	100-999
(Also See "P" Series Which Follows.)				
MC15482F	MOT	12.30	10.25	8.20
MC15482L	MOT	12.30	10.25	8.20
MC17482L	MOT	7.20	6.00	4.80
MC17482F	MOT	7.20	6.00	4.80
MC25482F	MOT	12.30	10.25	8.20
MC25482L	MOT	12.30	10.25	8.20
MC27482F	MOT	7.20	6.00	4.80
MC27482L	MOT	7.20	6.00	4.80
MC54107L	MOT	6.15	5.10	4.10
MC54145L	MOT	13.80	11.50	9.20
MC74107L	MOT	3.60	3.00	2.40
MC74121F	MOT	3.60	3.00	2.40
MC74121L	MOT	3.60	3.00	2.40
MC74145L	MOT	8.10	6.75	5.40

Type No.	Mfr.	1-99	100-999	1000-4999
MC17482P	MOT	3.90	1.95	1.12
MC27482P	MOT	3.90	1.95	1.12
MC74107P	MOT	1.95	.98	.56
MC74121P	MOT	1.95	.98	.56
MC74145P	MOT	4.40	2.20	1.26

Type No.	Mfr.	1-24	25-99	100-999
MCE930F	MOT	15.00	12.50	10.00
MCE932F	MOT	16.40	13.65	10.95
MCE933F	MOT	10.95	9.15	7.30
MCE936F	MOT	16.40	13.65	10.95
MCE944F	MOT	16.40	13.65	10.95
MCE945F	MOT	27.00	22.50	18.00
MCE946F	MOT	15.00	12.50	10.00
MCE948F	MOT	27.00	22.50	18.00
MCE962F	MOT	15.00	12.50	10.00
MCE54H00F	MOT	32.25	26.90	21.50
MCE54H04F	MOT	38.70	32.25	25.80
MCE54H10F	MOT	32.25	26.90	21.50
MCE54H20F	MOT	29.25	24.40	19.50
MCE54H31F	MOT	30.40	25.30	20.25
MCE54H40F	MOT	30.10	25.05	20.05
MCE54H51F	MOT	29.25	24.40	19.50
MCE54H54F	MOT	28.65	23.90	19.10
MCE54H56F	MOT	32.25	26.90	21.50
MCE54H57F	MOT	32.25	26.90	21.50
MCE54H79F	MOT	43.85	36.55	29.25
MCH1002	MOT	11.40	9.50	7.60
MCH1439G	MOT	18.00	15.00	12.00
MCH2005	MOT	13.10	10.95	8.75
MCH5801	MOT	3.00	3.00	2.40
MCH5802	MOT	3.20	3.20	2.55
MCH5805	MOT	3.40	3.40	2.70
MCK3000	MOT	34.32	34.32	.....

Type No.	Mfr.	1-24	25-99	100-Up
MDA920-1	MOT	1.42	1.26	.95
MDA920A-1	MOT	1.42	1.26	.95
MDA920-1	MOT	1.69	1.50	1.15
MDA920A-2	MOT	1.69	1.50	1.15
MDA920-3	MOT	1.95	1.73	1.30
MDA920A-3	MOT	1.95	1.73	1.30
MDA920-4	MOT	2.30	2.05	1.55
MDA920A-4	MOT	2.30	2.05	1.55
MDA920-5	MOT	2.40	2.10	1.60
MDA920A-5	MOT	2.40	2.10	1.60
MDA920-6	MOT	2.45	2.20	1.65
MDA920A-6	MOT	2.45	2.20	1.65
MDA920-7	MOT	3.20	2.85	2.15
MDA920A-7	MOT	3.20	2.85	2.15
MDA922-1	MOT	1.87	1.67	1.25
MDA922-2	MOT	2.00	1.79	1.35
MDA922-3	MOT	2.30	2.05	1.55
MDA922-4	MOT	2.75	2.45	1.85
MDA922-5	MOT	2.90	2.60	1.95
MDA930-1	MOT	.82	.73	.55

Integrated Circuit Directory

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-24	25-99	100-Up
MDA930-2	MOT	.90	.80	.60
MDA930-3	MOT	.97	.86	.65
MDA930-4	MOT	1.14	1.01	.76
MDA930-5	MOT	1.21	1.08	.81
MDA930-6	MOT	1.27	1.13	.85
MDA930-7	MOT	1.65	1.46	1.10
MDA940-1	MOT	.82	.73	.55
MDA940A-1	MOT	.82	.73	.55
MDA940-2	MOT	2.65	2.40	2.00
MDA940-3	MOT	2.95	2.40	2.20
MDA940-4	MOT	1.14	1.01	.76
MDA940A-4	MOT	1.14	1.01	.76
MDA940-5	MOT	1.21	1.08	.81
MDA940-6	MOT	1.27	1.13	.85
MDA940-7	MOT	1.65	1.46	1.10
MDA942-1	MOT	2.50	2.20	1.85
MDA942A-1	MOT	2.60	2.35	1.95
MDA942-2	MOT	2.80	2.50	2.10
MDA942-3	MOT	3.25	2.95	2.45
MDA942-4	MOT	3.70	3.35	2.80
MDA942A-4	MOT	3.85	3.50	2.90
MDA942-5	MOT	4.20	3.80	3.15
MDA942-6	MOT	4.65	4.20	3.50
MDA942A-6	MOT	4.80	4.30	3.60
MDA950-1	MOT	.72	.63	.55
MDA950-2	MOT	.90	.80	.60
MDA950-3	MOT	.97	.86	.65
MDA950-4	MOT	1.14	1.01	.76
MDA950-5	MOT	1.21	1.08	.81
MDA950-6	MOT	1.27	1.13	.85
MDA952-1	MOT	3.25	2.95	2.45
MDA952-2	MOT	3.50	3.20	2.65
MDA952-3	MOT	4.45	4.00	3.35
MDA952-4	MOT	4.90	4.45	3.70
MDA952-5	MOT	6.00	5.40	4.50
MDA952-6	MOT	7.30	6.60	5.50
MDA960-1	MOT	2.90	2.55	1.95
MDA960-2	MOT	3.35	2.95	2.25
MDA960-3	MOT	3.75	3.30	2.50
MDA962-1	MOT	3.65	3.30	2.75
MDA962-2	MOT	3.90	3.55	2.95
MDA962-3	MOT	4.85	4.40	3.65
MDA962-4	MOT	5.30	4.80	4.00

Type No.	Mfr.	1-24	25-99	100-999
MDA962-5	MOT	6.40	5.75	4.80
MDA970-1	MOT	3.20	2.90	2.15
MDA970-2	MOT	3.65	3.30	2.45
MDA970-3	MOT	4.10	3.70	2.75
MDA972-1	MOT	9.65	8.70	7.25
MDA972-2	MOT	10.25	9.25	7.70
MDA972-3	MOT	11.45	10.30	8.60
MDA972-4	MOT	12.55	11.35	9.45
MDA972-5	MOT	13.75	12.40	10.35
MDA980-1	MOT	3.20	2.90	2.40
MDA980-2	MOT	3.45	3.10	2.60
MDA980-3	MOT	4.05	3.65	3.05
MDA980-4	MOT	4.50	4.10	3.40
MDA980-5	MOT	5.05	4.55	3.80
MDA980-6	MOT	6.90	6.25	5.20
MDA990-1	MOT	4.00	3.60	3.00
MDA990-2	MOT	4.25	3.85	3.20
MDA990-3	MOT	4.80	4.30	3.60
MDA990-4	MOT	5.30	4.80	4.00
MDA990-5	MOT	5.80	5.20	4.35
MDA990-6	MOT	7.85	7.10	5.90
MDA1330C	MOT	42.00	37.25	28.00
MDA1330D	MOT	42.00	37.25	28.00
MDA1330H	MOT	39.00	34.60	26.00
MDA1330U	MOT	42.00	37.25	28.00
MDA1331C	MOT	81.00	71.80	54.00
MDA1331D	MOT	81.00	71.80	54.00
MDA1331H	MOT	75.00	66.50	50.00
MDA1331U	MOT	81.00	71.80	54.00
MDA1332H	MOT	84.00	74.50	56.00
MDA1333H	MOT	150.00	133.00	100.00
MDA1491-1	MOT	3.00	2.65	2.00

Type No.	Mfr.	1-24	25-99	100-999
MDA1491-2	MOT	3.30	2.95	2.20
MDA1491-3	MOT	4.00	3.50	2.65
MDA1491-4	MOT	4.45	3.90	2.95
MDA1491-5	MOT	5.10	4.50	3.40
MDA1491-6	MOT	6.40	5.65	4.25
MDA1505-1	MOT	5.65	5.10	4.25
MDA1505-2	MOT	6.05	5.45	4.55
MDA1505-3	MOT	7.32	6.60	5.50
MDA1505-4	MOT	7.91	7.15	5.95
MDA1505-5	MOT	9.30	8.40	7.00
MDA1505-6	MOT	10.45	9.42	7.85
MDA1591-1	MOT	2.60	2.40	2.00
MDA1591-2	MOT	2.82	2.64	2.20
MDA1591-3	MOT	3.62	3.18	2.65
MDA1591-4	MOT	3.92	3.54	2.95
MDA1591-5	MOT	4.52	4.08	3.40
MDA1591-6	MOT	5.65	5.10	4.25

Type No.	Mfr.	1-99	100-999	1000-Up
MFC4000A	MOT	.99	.76	.....
MFC4010A	MOT	.95	.72	.....
MFC4040	MOT	.92	.71	.....
MFC4050	MOT	1.05	.81	.....
MFC4060	MOT	1.17	.90	.....
MFC6010	MOT	.90	.70	.....
MFC6040	MOT	1.65	1.27	.....
MFC8000	MOT	2.31	1.78	.....
MFC8001	MOT	2.62	2.02	.....
MFC8002	MOT	2.99	2.29	.....
MFC8010	MOT	1.95	1.50	.....
MFC8020	MOT	1.98	1.52	.....
MFC8030	MOT	1.65	1.27	.....
MFC8040	MOT	1.77	1.36	.....
MFC9000	MOT	3.81	2.93	.....
MFC9010	MOT	2.94	2.26	.....
MIC5830	MOT	14.95	12.00	.....
MIC5830A	MOT	13.50	10.50	.....
MIC5831	MOT	14.50	11.50	.....

Type No.	Mfr.	1-9	10-29	30-59
MIC5840	MOT	225.00	200.00	185.00

Type No.	Mfr.	1-9	10-99	100-Up
MIC5890	MOT	15.00	13.50	10.00

Type No.	Mfr.	1-99	100-999	1000-Up
MM500	NSC	6.50	5.00	.....
MM502	NSC	9.60	8.00	.....
MM504	NSC	7.20	6.00	.....
MM505	NSC	19.20	16.00	.....
MM506	NSC	36.00	30.00	.....
MM509	NSC	10.80	9.00	.....
MM510	NSC	15.00	12.00	.....
MM552	NSC	18.00	14.40	12.00

Type No.	Mfr.	1-25	25-99	100-999
NH0001	NSC	72.00	57.60	48.00
NH0002	NSC	18.50	16.50	14.00
NH0002C	NSC	12.50	10.00	8.50
NH0003C	NSC	32.00	26.00	22.00
NH0005A	NSC	48.00	37.75	30.00
NH0005(NS7560)	NSC	21.00	17.00	13.00
NH0005C	NSC	13.00	10.00	7.00
NH0006	NSC	22.50	18.00	15.00
NH0006CN	NSC	7.50	5.75	4.50
NH0007	NSC	26.00	21.00	17.50
NH0007C	NSC	17.00	14.50	13.00
NH0008	NSC	30.00	24.00	20.00
NH0008C	NSC	15.00	12.00	9.70
NH0014CD	NSC	18.00	16.00	15.00

Type No.	Mfr.	1-99	100-999	1000-9999
PA113/4 JPA113	GE	15.15	10.10	6.75

Type No.	Mfr.	1-9	10-99	100-999
PA189	GE	3.75	3.00	2.25
PA222	GE	7.65	6.12	4.59
PA223	GE	5.00	4.00	3.00
PA230	GE	3.35	2.68	2.01

Type No.	Mfr.	1-99	100-999	1000-9999
PA234	GE	2.75	2.20	1.65
PA237	GE	3.60	3.60	2.88

Type No.	Mfr.	1-9	10-99	100-999
PA238	GE	6.75	5.40	4.05
PA239	GE	5.70	4.56	3.42

Type No.	Mfr.	1-99	100-999	1000-4999
PA246	GE	5.00	4.00	3.00

Type No.	Mfr.	1-9	10-99	100-999
PA263	GE	4.30	3.44	2.58

Type No.	Mfr.	1-99	100-999	1000-4999
PA264	GE	5.00	4.00	3.00
PA265	GE	5.50	4.40	3.30

Type No.	Mfr.	1-9	10-99	100-999
PA266	GE	3.15	2.52	1.89

Type No.	Mfr.	1-99	100-999	1000-4999
PA424	GE	3.20	3.20	2.35

Type No.	Mfr.	1-9	10-99	100-999
PA430	GE	6.40	6.40	4.70

Type No.	Mfr.	1-99	100-999	1000-4999
PA436	GE	3.00	2.25	1.90

Type No.	Mfr.	1-9	10-99	100-999
PA494	GE	5.77	4.62	3.48

Type No.	Mfr.	1-99	100-999	1000-4999
PADT-20	AMP	.84	.56	.....

Type No.	Mfr.	1-9	10-99	100-999
PD455	GE	7.50	6.00	4.50
PD474	GE	6.50	5.20	3.90
PD487	GE	8.20	6.56	4.90

Type No.	Mfr.	1-99	100-999	1000-9999
PD496	GE	9.00	7.50	6.00
PD497	GE	10.50	8.75	7.00

Type No.	Mfr.	1-9	10-99	100-999
PD500	GE	7.75	6.20	4.65

Type No.	Mfr.	1-24	25-99	100-999
SE-506K	SPR	52.50	42.00	36.75
SE-518K	SPR	22.50	18.00	15.75
SH351A	TI	142.00	114.00	.....

Type No.	Mfr.	1-999	1000-4999	5000-Up
SK3040	RCA	2.25	.....	.....
SK3041	RCA	2.52	.....	.....

Type No.	Mfr.	1-24	25-99	100-999
SN345A	TI	89.00	71.00	.....
SN366A	TI	53.00	42.00	.....
SN524AL	TI	17.00	13.60	11.60
SN525	TI	35.70	28.40	24.20
SN525A	TI	57.00	45.00	38.50
SN530	TI	17.75	14.25	12.10
SN530L	TI	17.75	14.20	12.20
SN531	TI	11.35	9.00	7.70
SN531L	TI	11.35	9.00	7.70
SN532L	TI	11.35	9.00	7.70
SN533	TI	11.35	9.00	7.70
SN534	TI	11.35	9.00	7.70
SN534L	TI	11.35	9.00	7.70
SN535-2	TI	11.35	9.00	7.70
SN535L	TI	11.35	9.00	7.70
SN717A	TI	130.00	103.00	.....
SN724	TI	12.15	9.70	8.25
SN724L	TI	12.15	9.70	8.25
SN725	TI	25.20	20.00	17.10
SN5400F	TI	5.31	4.23	3.60
SN5400N	TI	2.33	1.85	1.58
SN5401F	TI	5.31	4.23	3.60
SN5401N	TI	2.33	1.85	1.58
SN5401N	TI	2.33	1.85	1.58
SN5402F	TI	6.10	4.86	4.14
SN5402N	TI	2.67	2.12	1.81
SN5403N	TI	2.33	1.85	1.58
SN5404F	TI	6.64	5.28	4.50
SN5405F	TI	6.64	5.28	4.50
SN5406N	TI	5.25	4.18	3.56
SN5407N	TI	5.25	4.18	3.56
SN5409N	TI	2.56	2.04	1.74
SN5410F	TI	5.31	4.23	3.60
SN5410N	TI	2.33	1.85	1.58
SN5413N	TI	3.64	2.90	2.47
SN5416N	TI	4.37	3.48	2.97
SN5417N	TI	4.37	3.48	2.97

Type No.	Mfr.	1-24	25-99	100-999
SN5420F	TI	4.50	3.58	3.05
SN5420N	TI	1.99	1.58	1.35
SN5423N	TI	2.80	2.23	1.90
SN5426N	TI	2.80	2.23	1.90
SN5430F	TI	4.50	3.58	3.05
SN5430N	TI	1.99	1.58	1.35
SN5437N	TI	3.26	2.59	2.21
SN5438N	TI	3.26	2.59	2.21
SN5440F	TI	6.10	4.86	4.14
SN5440N	TI	2.67	2.12	1.81
SN5441N	TI	30.80	24.50	21.00
SN5441AN	TI	23.81	18.96	16.16
SN5442N	TI	11.90	9.48	8.08
SN5443N	TI	11.90	9.48	8.08
SN5444	TI	11.90	9.48	8.08
SN5445N	TI	18.14	14.44	12.31
SN5448N	TI	11.90	9.48	8.08
SN5449	TI	15.47	12.31	10.50
SN5450F	TI	5.31	4.25	3.60
SN5450N	TI	2.33	1.85	1.58
SN5451F	TI	5.31	4.23	3.60
SN5451N	TI	2.33	1.85	1.58
SN5453F	TI	5.31	4.23	3.60
SN5453N	TI	2.33	1.85	1.58
SN5454F	TI	5.31	4.23	3.60
SN5454N	TI	2.33	1.85	1.58
SN5460F	TI	3.98	3.17	2.70
SN5460N	TI	1.74	1.39	1.18
SN5470F	TI	7.97	6.34	5.41
SN5472	TI	7.43	5.92	5.04
SN5472N	TI	3.25	2.59	2.21
SN5473F	TI	12.21	9.72	8.29
SN5473N	TI	5.36	4.26	3.64
SN5474F	TI	10.61	8.44	7.20
SN5474N	TI	4.66	3.71	3.16
SN5475	TI	8.19	6.52	5.56
SN5476	TI	5.65	4.50	3.83
SN5477S	TI	18.71	14.89	12.70
SN5480F	TI	14.28	11.37	9.70
SN5480N	TI	6.28	5.00	4.26
SN5481N	TI	13.68	10.90	9.29
SN5482F	TI	17.98	14.31	12.20
SN5482N	TI	9.31	7.41	6.32
SN5483N	TI	14.82	11.80	10.06
SN5484N	TI	14.41	11.48	9.78
SN5486J	TI	9.88	7.86	6.70
SN5486N	TI	5.50	4.38	3.73
SN5486S	TI	9.88	7.86	6.70
SN5490N	TI	9.57	7.62	6.50
SN5491AN	TI	12.96	10.32	8.80
SN5491F	TI	20.86	16.61	14.79
SN5491N	TI	21.22	16.89	14.40
SN5491AN	TI	12.96	10.32	8.80
SN5492S	TI	21.78	17.35	14.79
SN5492N	TI	9.57	7.62	6.50
SN5493S	TI	21.78	17.35	14.79
SN5493N	TI	9.57	7.62	6.50
SN5494N	TI	10.27	8.17	6.97
SN5495S	TI	21.86	17.41	14.85
SN5496N	TI	12.31	9.80	8.35
SN5510	TI	6.60	5.90	5.10
SN5510L	TI	6.60	5.90	5.10
SN5511	TI	22.00	18.00	15.40

Type No.	Mfr.	1-99	100-999	1000-4999
SN5524J	TI	18.10	16.00	13.90
SN5524J	MOT	12.50	11.00	9.60
SN5525J	TI	14.00	12.30	10.70
SN5525J	MOT	9.62	8.50	7.40

Type No.	Mfr.	1-24	25-99	100-999
SN7300	TI	12.10	9.45	7.50
SN7301	TI	12.50	9.75	7.75
SN7301-2	TI	8.50	6.75	5.75
SN7302	TI	14.50	11.35	9.15
SN7304	TI	14.50	11.35	9.15
SN7304P	TI	5.65	4.50	3.85
SN7311	TI	6.50	5.15	4.40
SN7311P	TI	6.50	5.15	4.40
SN7315	TI	10.50	8.15	6.40
SN7320	TI	5.65	4.50	3.85
SN7330	TI	9.65	7.50	5.85
SN7330-2	TI	5.65	4.50	3.85
SN7331	TI	10.50	8.15	6.40
SN7331-2	TI	6.50	5.15	4.40
SN7350	TI	9.65	7.50	5.85
SN7360	TI	6.50	5.15	3.85
SN7370	TI	7.70	6.15	5.25
SN7380	TI	13.75	10.75	8.60
SN7380-2	TI	3.54	2.82	2.40
SN7400F	TI	3.54	2.82	2.40
SN7400N	TI	1.56	1.24	1.06
SN7401F	TI	3.54	2.82	2.40
SN7401N	TI	1.56	1.24	1.06
SN7402F	TI	4.06	3.23	2.76
SN7402N	TI	1.56	1.24	1.06
SN7403N	TI	1.56	1.24	1.06
SN7404F	TI	4.42	3.52	3.00
SN7404N	TI	1.56	1.24	1.06
SN7405F	TI	4.42	3.52	3.00
SN7405N	TI	1.56	1.24	1.06
SN7406N	TI	3.50	2.79	2.38
SN7407N	TI	3.50	2.79	2.38
SN7408N	TI	1.09	.87	.67
SN7409N	TI	1.09	.87	.67
SN7410F	TI	3.54	2.82	2.40
SN7410N	TI	1.56	1.24	1.06
SN7411N	TI	2.17	1.73	1.47
SN7412N	TI	1.55	1.23	1.05
SN7413N	TI	2.43	1.93	1.65
SN7416N	TI	2.92	2.32	1.85
SN7417N	TI	2.92	2.32	1.85
SN7420F	TI	2.99	2.38	2.03
SN7420N	TI	1.56	1.24	1.06
SN7423N	TI	1.18	.94	.73
SN7425N	TI	1.18	.94	.73
SN7426N	TI	1.09	.87	.67
SN7430F	TI	1.99	2.38	2.03
SN74302	TI	2.99	2.38	2.03
SN7430N	TI	1.56	1.24	1.06
SN7430P	TI	2.17	1.73	1.47
SN7432	TI	1.71	1.36	1.16
SN7437N	TI	1.27	1.01	.78
SN7438N	TI	2.17	1.73	1.47
SN7440F	TI	4.06	3.23	2.76
SN7440N	TI	1.70	1.35	1.15
SN7441AN	TI	8.63	6.88	5.86
SN7442N	TI	6.67	5.31	4.53
SN7443N	TI	9.50	7.57	6.45
SN7444N	TI	9.50	7.57	6.45
SN7445N	TI	12.10	9.64	8.22
SN7446N	TI	9.96	7.93	6.76
SN7447N	TI	9.20	7.33	6.25
SN7448N	TI	7.92	6.31	5.38
SN7449S	TI	10.28	8.19	6.98
SN7450F	TI	3.54	2.82	2.40
SN7450N	TI	1.56	1.24	1.06
SN7450P	TI	.....	.....	.....
SN7451F	TI	3.54	2.82	2.40
SN7451N	TI	1.56	1.24	1.06
SN7451P	TI	.....	.....	.....
SN7453F	TI	3.54	2.82	2.40
SN7453N	TI	1.56	1.24	1.06
SN7454F	TI	3.54	2.82	2.40
SN7454N	TI	1.56	1.24	1.06
SN7460F	TI	2.65	2.11	1.80
SN7460N	TI	1.56	1.24	1.06
SN7468J	TI	5.50	4.38	3.73
SN7470F	TI	5.31	4.23	3.60
SN7470N	TI	2.48	1.97	1.68
SN7472F	TI	4.95	3.94	3.36
SN7472N	TI	2.17	1.73	1.47
SN7473F	TI	7.45	5.95	5.05
SN7473N	TI	3.56	2.84	2.42
SN7474F	TI	7.07	5.63	4.80
SN7474N	TI	3.11	2.48	2.11
SN7475N	TI	5.48	4.36	3.72
SN7476N	TI	3.73	2.97	2.53
SN7477S	TI	12.47	9.93	8.46
SN7480F	TI	9.52	7.58	6.46
SN7480N	TI	4.20	3.34	2.85
SN7481N	TI	6.69	5.33	4.54
SN7482F	TI	11.98	9.54	8.13
SN7482N	TI	6.22	4.95	4.22
SN7483N	TI	9.87	7.86	6.70
SN7484N	TI	5.53	4.41	3.34
SN7485N	TI	6.98	5.57	4.32
SN7486N	TI	4.37	3.48	2.96
SN7486S	TI	6.56	5.22	4.45
SN7487N	TI	7.35	5.99	5.11
SN7489N	TI	10.68	8.50	7.20
SN7490F	TI	14.53	11.57	9.86
SN7490N	TI	6.07	5.46	4.65
SN7491F	TI	19.90	15.90	13.50
SN7491AN	TI	8.55	6.81	5.81
SN7492N	TI	6.07	5.46	4.65
SN7492S	TI	14.53	11.57	9.86
SN7493N	TI	6.07	4.84	4.12
SN7493S	TI	14.53	11.57	9.86
SN7494N	TI	6.85	5.46	4.65
SN7495N	TI	6.85	5.46	4.65
SN7495S	TI	14.57	11.61	9.89
SN7496N	TI	8.23	6.55	5.59
SN7497N	TI	7.61	6.06	5.17
SN7520N	TI	7.40	6.55	5.70
SN7521N	TI	5.45	4.85	4.20
SN7522N	TI	6.75	5.97	5.20
SN7523N	TI	5.07	4.48	3.90
SN7524N	TI	6.25	5.50	4.80
SN7525N	TI	4.80	4.25	3.75
SN7526N	TI	7.15	6.77	5.90
SN7527N	TI	5.92	5.23	4.55
SN7528N	TI	6.35	5.64	4.90
SN7529J	TI	4.95	4.37	3.80
SN7529N	TI	4.95	4.37	3.80

Type No.	Mfr.	1-24	25-99	100-249
SN15830F	TI	3.22	2.46	2.15
SN15830J	TI	3.22	2.46	2.15
SN15830N	TI	.90	.90	.75
SN15831F	TI	4.50	3.44	3.00
SN15831J	TI	4.50	3.44	3.00
SN15831N	TI	1.15	1.15	1.02
SN15832F	TI	3.22	2.46	2.15
SN15832J	TI	3.22	2.46	2.15
SN15832N	TI	.90	.90	.75
SN15833F	TI	3.00	2.29	2.00
SN15833J	TI	3.00	2.29	2.00
SN15833N	TI	.90	.90	.75
SN15834N	TI	.98	.98	.85
SN15835N	TI	.98	.98	.85
SN15836F	TI	3.55	2.71	2.36
SN15836J	TI	3.55	2.71	2.36
SN15836N	TI	.98	.98	.85
SN15837F	TI	3.55	2.71	2.36
SN15837J	TI	3.55	2.71	2.56
SN15837N	TI	.98	.98	.85
SN15838N	TI	.98	.98	.85
SN15844	TI	4.70	3.70	3.20
SN15844J	TI	3.22	2.46	2.15
SN15844F	TI	3.22	2.46	2.15
SN15844J	TI	3.22	2.46	2.15
SN15844N	TI	.90	.90	.75
SN15845	TI	4.50	3.44	3.00
SN15845F	TI	4.50	3.44	3.00
SN15845J	TI	4.50	3.44	3.00
SN15845N	TI	1.15	1.15	1.02
SN15846	TI	3.22	2.46	2.15
SN15846F	TI	3.22	2.46	2.15
SN15846J	TI	3.22	2.46	2.15
SN15846N	TI	.90	.90	.75
SN15848F	TI	4.50	3.44	3.00
SN15848J	TI	4.50	3.44	3.00
SN15848N	TI	1.15	1.15	1.02
SN15849F	TI	3.22	2.46	2.15
SN15849J	TI	3.22	2.46	2.15
SN15849N	TI	1.15	1.15	1.02
SN15850F	TI	9.65	7.37	6.44
SN15850J	TI	9.65	7.37	6.44
SN15850N	TI	3.75	3.75	3.50
SN15851	TI	9.65	7.37	6.44
SN15851F	TI	9.65	7.37	6.44
SN15851J	TI	9.65	7.37	6.44
SN15851N	TI	3.75	3.75	3.50
SN15857N	TI	.90	.90	.75
SN15858N	TI	.90	.90	.75
SN15861F	TI	3.22	2.46	2.15
SN15861J	TI	3.22	2.46	2.15
SN15861N	TI	.90	.90	.75
SN15862	TI	3.22	3.22	2.46
SN15862F	TI	3.22	2.46	2.15
SN15862J	TI	3.22	2.46	2.15
SN15862N	TI	.90	.90	.75
SN15863F	TI	3.22	2.46	2.15
SN15863J	TI	3.22	2.46	2.15
SN15863N	TI	.90	.90	.75
SN15930F	TI	4.12	3.15	2.75
SN15930N	TI	1.68	1.50	1.08
SN15931F	TI	5.77	4.41	3.85
SN15931N	TI	2.46	2.10	1.65
SN15932F	TI	4.12	3.15	2.75
SN15932N	TI	1.68	1.50	1.08
SN15933F	TI	3.79	2.90	2.53
SN15933N	TI	1.51	1.36	1.06
SN15936F	TI	4.54	3.47	3.03
SN15936N	TI	1.85	1.65	1.19
SN15937F	TI	4.54	3.47	3.03
SN15937N	TI	1.85	1.65	1.19
SN15944F	TI	4.12	3.15	2.75
SN15944N	TI	1.68	1.50	1.08
SN15945F	TI	5.77	4.41	3.85

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Type No.	Mfr.	1-24	25-99	100-249
SN15945N	TI	2.46	2.10	1.65
SN15946F	TI	4.12	3.15	2.75
SN15946N	TI	1.68	1.50	1.08
SN15948F	TI	5.77	4.41	3.85
SN15948N	TI	2.46	2.10	1.65
SN15949F	TI	4.12	3.15	2.75
SN15949N	TI	1.68	1.50	1.08
SN15950F	TI	12.37	9.45	8.25
SN15950N	TI	5.05	4.50	3.24
SN15951F	TI	12.37	9.45	8.25
SN15951N	TI	5.05	4.50	3.24
SN15961F	TI	4.12	3.15	2.75
SN15961N	TI	1.68	1.50	1.08
SN15962F	TI	4.12	3.15	2.75
SN15962N	TI	1.68	1.50	1.08
SN15963F	TI	4.12	3.15	2.75
SN15963N	TI	1.68	1.50	1.08
SN52702	TI	8.02	8.02	6.01
SN52702AF	TI	10.38	10.38	7.79
SN52702AL	TI	2.80	2.35	2.00
SN52702AN	TI	3.75	3.75	3.10
SN52702F	TI	8.02	8.02	6.01
SN52702L	TI	2.55	2.55	2.10
SN52702N	TI	1.60	1.60	1.45
SN52709	TI	7.70	7.70	5.77
SN52709AF	TI	11.15	11.15	8.36
SN52709AL	TI	2.75	2.75	2.25
SN52709AN	TI	1.80	1.80	1.65
SN52709F	TI	7.70	7.70	5.77
SN52709L	TI	2.45	2.45	2.00
SN52709N	TI	1.50	1.50	1.35
SN52710	TI	5.59	5.95	4.46
SN52710F	TI	5.95	5.95	4.46
SN52710L	TI	2.55	2.55	2.10
SN52710N	TI	1.60	1.60	1.45
SN52711	TI	9.97	9.97	7.48
SN52711F	TI	9.97	9.97	7.48
SN52711L	TI	2.65	2.65	2.20
SN52711N	TI	1.75	1.75	1.60

Type No.	Mfr.	1-24	25-99	100-999
SN54100N	TI	13.68	10.90	9.29
SN54107N	TI	5.36	4.26	3.64
SN54110N	TI	2.17	1.73	1.47
SN54111N	TI	3.47	2.76	2.36
SN54121N	TI	8.10	6.45	5.50
SN54122N	TI	6.51	5.19	4.42
SN54145N	TI	15.38	12.25	10.45
SN54150N	TI	17.81	14.19	12.10
SN54151N	TI	8.90	7.09	6.05
SN54152S	TI	16.03	12.77	10.88
SN54153N	TI	8.90	7.09	6.05
SN54154N	TI	13.20	10.51	8.96
SN54155N	TI	6.69	5.33	4.54
SN54156N	TI	6.69	5.33	4.54
SN54170J	TI	21.76	17.33	14.78
SN54180J	TI	25.51	20.31	17.32
SN54180N	TI	14.17	11.28	9.62
SN54180S	TI	25.51	20.31	17.32
SN54166N	TI	12.05	9.60	8.18
SN54181N	TI	36.45	29.02	24.75
SN54198N	TI	16.09	12.81	10.92
SN54199N	TI	16.09	12.81	10.92

Type No.	Mfr.	1-99	100-999	1000-4999
SN55107J	TI	7.20	6.10	5.50
SN55108J	TI	7.20	6.10	5.50
SN55109J	TI	7.40	6.30	5.70
SN55110J	TI	7.80	6.60	6.00

Type No.	Mfr.	1-24	25-99	100-999
SN72702	TI	4.24	4.24	3.18
SN72702F	TI	4.24	4.24	3.18
SN72702L	TI	1.30	1.30	1.15
SN72702N	TI	1.05	1.05	.90
SN72709	TI	4.96	4.96	3.72
SN72709F	TI	4.96	4.96	3.72
SN72709L	TI	1.25	1.25	1.10
SN72709N	TI	1.00	1.00	.85
SN72710	TI	4.77	4.77	3.58
SN72710F	TI	4.77	4.77	3.58
SN72710L	TI	1.30	1.30	1.15
SN72710N	TI	1.05	1.05	.90
SN72711	TI	7.33	7.33	5.50
SN72711P	TI	7.33	7.33	5.50
SN72711L	TI	1.35	1.35	1.20
SN72711N	TI	1.10	1.10	.95

Type No.	Mfr.	1-99	100-999	1000-4999
SN72733L	TI	4.45	3.90	3.40
SN72733N	TI	4.25	3.75	3.25

Type No.	Mfr.	1-24	25-99	100-999
SN72741N	TI	2.25	2.25	2.00
SN72741P	TI	1.80	1.80	1.50
SN74100N	TI	7.78	6.19	5.28
SN74107N	TI	3.56	2.84	2.42
SN74110N	TI	2.17	1.73	1.47
SN74121N	TI	4.34	3.46	2.95
SN74122N	TI	4.34	3.46	2.95
SN74123N	TI	6.92	5.51	4.70
SN74145N	TI	7.00	5.57	4.75
SN74150N	TI	10.25	8.17	6.96
SN74151N	TI	5.12	4.08	3.48
SN74152S	TI	10.69	8.51	7.25
SN74153N	TI	4.67	3.72	3.17
SN74154N	TI	7.84	6.24	5.32
SN74155N	TI	4.45	3.55	3.03
SN74160N	TI	3.55	2.83	2.20
SN74161N	TI	3.55	2.83	2.20
SN74162N	TI	3.55	2.83	2.20
SN74163N	TI	3.55	2.83	2.20
SN74164N	TI	6.55	5.22	4.05
SN74165N	TI	6.55	5.22	4.05
SN74166N	TI	6.55	5.22	4.05
SN74170N	TI	8.70	6.93	5.87
SN74180J	TI	14.17	11.28	9.62
SN74180N	TI	6.22	4.95	4.22
SN74180S	TI	17.01	13.54	11.54
SN74181N	TI	23.72	18.91	14.67
SN74184N	TI	3.47	2.76	2.34
SN74185N	TI	3.47	2.76	2.34
SN74190N	TI	7.13	5.68	4.41
SN74191N	TI	7.13	5.68	4.41
SN74192N	TI	11.34	9.03	7.70
SN74193N	TI	11.34	9.03	7.70
SN74196N	TI	3.06	2.44	1.89
SN74197N	TI	3.06	2.44	1.89
SN74198N	TI	7.71	6.15	4.77
SN74199N	TI	7.71	6.15	4.77
SN74948N	TI	3.65	2.90	2.50

Type No.	Mfr.	1-99	100-999	1000-Up
SN75100L	TI	4.55	4.05	3.50
SN75107N	TI	3.60	3.05	2.75
SN75108N	TI	3.60	3.05	2.75
SN75109N	TI	3.70	3.15	2.85
SN75110N	TI	3.90	3.30	3.00
SN75120T	TI	9.80	7.15	6.50

Type No.	Mfr.	1-24	25-99	100-Up
SN75154N	TI	7.10	6.00	. . . . .

Type No.	Mfr.	1-99	100-999	1000-Up
SN75324N	TI	7.00	6.20	5.40

Type No.	Mfr.	1-24	24-99	100-999
SN75450N	TI	1.48	1.48	1.26
SN75451P	TI	1.15	1.15	.97
SN76502N	TI	2.80	2.80	2.50
SN76514N	TI	2.85	2.85	2.55

Type No.	Mfr.	1-99	100-999	1000-Up
SN151800N	TI	.90	.90	.75
SN151801N	TI	.90	.90	.75
SN151802N	TI	.90	.90	.75
SN151803N	TI	.90	.90	.75
SN151804N	TI	.90	.90	.75
SN151805N	TI	.90	.90	.75
SN151810N	TI	.90	.90	.75
SN151811N	TI	.90	.90	.75
SN158093F	TI	6.43	4.91	4.29
SN158093J	TI	6.43	4.91	4.29
SN158093N	TI	1.56	1.56	1.36
SN158093N	TI	1.56	1.56	1.36
SN158094F	TI	6.43	4.91	4.29
SN158094N	TI	1.56	1.56	1.39
SN158094N	TI	1.56	1.36	.93
SN158097F	TI	6.43	4.91	4.29
SN158097J	TI	6.43	4.91	4.29
SN158097N	TI	1.56	1.56	1.36
SN158097N	TI	1.56	1.56	1.36
SN158099F	TI	6.43	4.91	4.29
SN158099J	TI	6.43	4.91	4.29
SN158099N	TI	1.56	1.56	1.36
SN158099N	TI	1.56	1.56	1.30
SN158302	TI	3.65	2.90	2.55
SN158312	TI	5.25	4.20	3.65
SN158452	TI	4.50	3.44	3.00
SN159093F	TI	8.25	6.30	5.50
SN159093N	TI	3.02	2.70	1.95
SN159094F	TI	8.25	6.30	5.50
SN159094N	TI	3.02	2.70	1.95
SN159097N	TI	3.02	2.70	1.95
SN159099N	TI	3.02	2.70	1.95

Type No.	Mfr.	1-24	25-99	100-Up
SP616A	SPR	1.80	1.45	1.20
SP629A	SPR	3.50	2.80	2.35
SP631A	SPR	1.55	1.25	1.05
SP659A	SPR	2.00	1.60	1.35

Type No.	Mfr.	1-99	100-999	1000-Up
TIV305	TI	3.25	1.75	1.10

Type No.	Mfr.	1-24	25-99	100-249
TMS-1A-1700AA	TI	34.25	20.75	18.00
TMS-1A-1702LA	TI	15.25	9.20	8.00
TMS-1A-6009AA	TI	40.00	24.15	21.00
TMS-1B-3016LA	TI	13.00	8.00	6.90
TMS-7B-3000LA	TI	20.50	12.15	10.75
TMS-7B-3001LA	TI	22.75	13.80	12.00
TMS-7C-3002LA	TI	28.75	17.20	15.00
TMS-7C-3003LA	TI	34.00	20.00	17.50

Type No.	Mfr.	1-24	25-99	100-499
TMS-3406LR	TI	12.50	7.55	6.50

Type No.	Mfr.	1-24	25-99	100-999
TMS2403JC	TI	30.00	18.10	15.60
TMS2404JC	TI	30.00	18.10	15.60
TMS2602JC	TI	36.00	21.70	18.80
TMS2603JC	TI	36.00	21.70	18.80
TMS4103JC	TI	32.40	19.60	16.90
TMS3000LR	TI	10.60	6.40	5.50
TMS3001LR	TI	11.00	6.65	5.75
TMS3002LR	TI	12.00	7.25	6.25
TMS3003LR	TI	14.00	8.70	7.50
TMS3012JR	TI	43.60	26.40	22.70
TMS3016LR	TI	8.60	5.20	4.50
TMS3028LR	TI	20.00	12.00	10.30
TMS3101LC	TI	9.60	5.80	5.00
TMS3112JC	TI	28.60	17.70	14.80
TMS3304LR	TI	16.80	10.20	8.75
TMS3305LR	TI	16.80	10.20	8.75
TMS3309JC	TI	31.60	18.90	16.25
TMS4000JC	TI	41.00	27.80	24.00
TMS4003JR	TI	41.00	27.80	24.00
TMS4177JC	TI	32.40	19.60	16.90
TMS4178JC	TI	32.40	19.60	16.90
TMS4179JC	TI	32.40	19.60	16.90
TMS4305JC	TI	60.00	36.20	31.20
TMS4886JC	TI	72.00	43.50	37.50
TMS5700JC	TI	38.40	23.20	20.00
TMS6000JR	TI	28.80	17.40	15.00
TMS6002JR	TI	19.20	11.60	10.00
TMS6005JR	TI	19.20	11.60	10.00
TMS6009JR	TI	21.50	13.00	11.25

Type No.	Mfr.	1-99	100-999	1000-Up
TN-53	SPR	.85	.57	.52
TN-59	SPR	.65	.45	.41

Type No.	Mfr.	1-24	25-99	100-999
ULN-211A	SPR	4.20	3.40	2.80
USN7400A	SPR	1.86	1.48	1.26
USN7401A	SPR	1.86	1.48	1.26
USN7402A	SPR	2.13	1.70	1.45
USN7404A	SPR	2.33	1.85	1.58
USN7410A	SPR	1.86	1.48	1.26
USN7420A	SPR	1.58	1.26	1.07
USN7430A	SPR	1.58	1.26	1.07
USN7440A	SPR	2.73	1.70	1.45
USN7450A	SPR	2.50	2.00	1.70
USN7451A	SPR	1.86	1.48	1.26
USN7453A	SPR	1.86	1.48	1.26
USN7454A	SPR	1.86	1.48	1.26
USN7460A	SPR	1.80	1.40	1.20
USN7472A	SPR	2.60	2.07	1.77
USN7473A	SPR	4.29	3.41	2.91
USN7474A	SPR	3.72	2.96	2.52
USN7475A	SPR	6.56	5.22	4.45
USN7479A	SPR	7.10	5.70	5.00
USN7493A	SPR	7.66	6.10	5.20
USN7496A	SPR	9.84	7.84	6.68

Type No.	Mfr.	1-9	10-24	25-Up
XC63	MOT	150.00	120.00	100.00
XC72	MOT	240.00	192.00	160.00
XC73	MOT	210.00	168.00	140.00

Type No.	Mfr.	1-99	100-999	1000-Up
XD500	TI	136.00	112.00	85.00
XD501	TI	224.00	192.00	162.00
XD502	TI	320.00	263.00	200.00

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-999	1000-Up
1N34A	AME	.39	.26	.....
1N34A	RCA	.33	.....	.....
1N34AS	GE	.33	.22	.14
1N60	RCA	.33	.....	.....
1N82A	RCA	.96	.....	.....
1N91	GE	.90	.60	.50
1N92	GE	1.95	1.30	1.15
1N92	MOT	1.95	1.30	.....
1N93	GE	2.70	1.80	1.60
1N93	MOT	2.70	1.80	.....
1N93A/JAN	GE	3.45	2.30	2.10
1N116	GE	.54	.36	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N138A	HOF	2.50	2.00	1.85
1N151	GE	2.70	.....	2.15
1N158/4JA211BH2AC1	GE	6.10	.....	5.00
1N248	GE	1.65	.....	1.10
1N248	WES	1.58	.....	1.10
1N248A	GE	1.65	.....	1.10
1N248B	GE	1.65	.....	1.10

Type No.	Mfr.	1-99	100-999	1000-Up
1N248B	MOT	1.50	1.00	.....
1N248C	GE	1.65	1.10	.....
1N248C	MOT	1.55	1.05	.....
1N249	WES	1.65	1.15	.....
1N249B	MOT	1.65	1.10	.....
1N249B/JAN	WES	2.45	1.69	.....
1N249B/USA	RCA	3.33	2.42	2.05
1N249B/JAN	GE	3.90	2.60	.....
1N250B	MOT	2.40	1.60	.....
1N250B/JAN	WES	3.63	2.42	.....
1N250B/USA	RCA	4.08	2.96	2.47
1N250B/JAN	GE	5.47	3.65	.....
1N250C	GE	2.78	1.85	.....
1N250C	MOT	2.70	1.80	.....
1N251	GE	.65	.43	.22
1N251	TI	.32	.21	.13
1N251/JAN	TI	.32	.21	.13
1N251/JAN	GE	.72	.48	.....
1N251/JAN	RAY	1.10	.75	.....
1N253	GE	1.05	.70	.60
1N253	MOT	1.05	.70	.....
1N254	TI	1.13	.70	.64
1N254/JAN	GE	1.13	.75	.....
1N255	GE	1.58	1.05	.....
1N255	TI	1.58	1.05	.75
1N256	TI	2.16	1.44	1.05
1N256/JAN	TI	2.64	1.76	.....
1N270	RCA	.29	.....	.....
1N295	RCA	.33	.....	.....
1N332	TI	1.72	1.10	.95
1N333	TI	1.72	1.10	.95
1N338	TI	1.05	.70	.63
1N342	TI	1.72	1.10	.95
1N347	TI	1.05	.70	.63

Type No.	Mfr.	1-99	100-Mix	100-999
1N429	INT	5.00	.....	4.10
1N429	MOT	5.45	4.70	4.10
1N429/JAN	MOT	7.30	6.30	5.50
1N429/USAF	MOT	7.30	6.30	5.50
1N430	INT	15.50	.....	12.40

Type No.	Mfr.	1-99	100-999	1000-Up
1N440	GE	.75	.50	.41
1N440B	GE	.75	.50	.41
1N440B	TI	.66	.48	.35
1N441B	GE	.78	.52	.43
1N443	GE	1.11	.74	.59
1N443B	GE	1.11	.74	.59
1N443B	RCA	.79	.58	.48
1N443B	TI	.97	.65	.52
1N444B	TI	1.05	.70	.56
1N445B	GE	1.62	1.08	.86
1N445B	RCA	1.12	.82	.68

Type No.	Mfr.	1-99	100-999	1000-Up
1N456	TI	.35	.29	.15
1N456A	TI	.35	.29	.15
1N457	TI	.44	.23	.16
1N457/JAN	TI	.44	.29	.16
1N457A	TI	.44	.23	.16
1N458	TI	.47	.31	.17
1N458/JAN	TI	.47	.31	.17
1N458A	TI	.47	.31	.17
1N459	TI	.48	.32	.18
1N459/JAN	TI	.48	.32	.18
1N459A	TI	.48	.32	.18
1N461	TI	.34	.23	.15
1N462	TI	.36	.23	.16
1N463	TI	.44	.29	.17
1N464	TI	.45	.30	.18
1N482	TI	.48	.40	.19
1N482A	TI	.48	.32	.18
1N483	TI	.51	.32	.18
1N483A	TI	.51	.32	.18
1N483B	TI	.51	.32	.18
1N483B/JAN	TI	.51	.32	.18
1N484	TI	.51	.32	.18
1N484A	TI	.51	.32	.18
1N485	TI	.58	.38	.18
1N485A	TI	.58	.38	.....
1N485B	TI	.58	.38	.18
1N485B/JAN	TI	.85	.60	.....
1N486B	TI	.78	.52	.23
1N486B/JAN	TI	1.25	.98	.....
1N532	TI	.60	.40	.24
1N533	TI	.67	.45	.28
1N534	TI	.76	.51	.30
1N536	GE	.51	.33	.26
1N536	TI	.45	.30	.20
1N536	WES	.40	.29	.....
1N537	GE	.57	.39	.29
1N537	RCA	.40	.29	.24
1N537	TI	.49	.33	.21
1N538	GE	.58	.39	.20
1N538	RCA	.45	.32	.27
1N539	GE	.67	.46	.36
1N539	RCA	.50	.36	.30
1N539	TI	.70	.40	.24
1N540	GE	.77	.52	.42
1N540	RCA	.56	.41	.34
1N540	TI	.67	.45	.27
1N547	GE	1.08	.73	.58
1N547	RCA	.79	.57	.48
1N547	TI	.96	.64	.33
1N560	GE	1.63	1.09	.87
1N561/1N5054	WES	1.22	1.02	.....
1N606A	TI	2.02	1.35	.98
1N607	TI	1.00	.67	.59
1N610	TI	1.12	.75	.66
1N611	TI	1.42	.95	.81
1N625	TI	.40	.26	.16
1N626	TI	.40	.26	.16
1N627	TI	.51	.34	.16
1N628	TI	.61	.40	.16
1N629	TI	.68	.44	.20
1N643	TI	.98	.65	.21
1N643/JAN	TI	.98	.65	.21
1N645	TI	1.40	.80	.17
1N645/JAN	TI	1.55	1.00	.60
1N646	TI	1.60	1.05	.22
1N646/AF	TI	1.85	1.24	.....
1N647	TI	1.70	1.10	.25
1N647/JAN	TI	1.70	1.10	.....
1N648	TI	1.80	1.20	.30
1N648/AF	TI	2.15	1.45	.....
1N649	TI	2.25	1.40	.40
1N649/AF	TI	3.00	2.43	.....
1N649/JAN	TI	2.25	1.40	.....
1N658	TI	1.48	.98	.....
1N659	TI	.56	.36	.16
1N660	TI	.65	.34	.17
1N661	TI	.98	.68	.....
1N662	TI	.25	.15	.13
1N662/JAN	TI	.25	.15	.13
1N663	TI	.58	.38	.....
1N663/JAN	TI	.58	.38	.18

Type No.	Mfr.	1-99	100-Mix	100-999
1N702A	TI	1.05	.....	.85
1N702A-0	MOT	2.60	.....	2.10
1N702A-1	MOT	2.60	.....	2.10
1N702A-2	MOT	2.60	.....	2.10
1N702A-3	MOT	2.60	.....	2.10
1N702A-4	MOT	2.60	.....	2.10
1N702A-5	MOT	2.60	.....	2.10
1N702A-6	MOT	2.60	.....	2.10

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Type No.	Mfr.	1-99	100-Mix	100-999
1N702A-7	MOT	2.60	.....	2.10
1N702A-8	MOT	2.60	.....	2.10
1N702A-9	MOT	2.60	.....	2.10
1N703	TI	.90	.....	.60
1N703A-0	MOT	2.60	.....	2.10
1N703A-1	MOT	2.60	.....	2.10
1N703A-2	MOT	2.60	.....	2.10
1N703A-3	MOT	2.60	.....	2.10
1N703A-4	MOT	2.60	.....	2.10
1N703A-5	MOT	2.60	.....	2.10
1N703A-6	MOT	2.60	.....	2.10
1N704A-0	MOT	2.60	.....	2.10
1N704A-1	MOT	2.60	.....	2.10
1N704A-2	MOT	2.60	.....	2.10
1N704A-3	MOT	2.60	.....	2.10
1N704A-4	MOT	2.60	.....	2.10
1N704A-5	MOT	2.60	.....	2.10
1N705A	TI	1.05	.....	.85
1N705A-0	MOT	2.60	.....	2.10
1N705A-1	MOT	2.60	.....	2.10
1N705A-2	MOT	2.60	.....	2.10
1N705A-3	MOT	2.60	.....	2.10
1N705A-4	MOT	2.60	.....	2.10
1N705A-5	MOT	2.60	.....	2.10
1N705A-6	MOT	2.60	.....	2.10
1N705A-7	MOT	2.60	.....	2.10
1N705A-8	MOT	2.60	.....	2.10
1N706A	TI	1.05	.....	.85
1N706A-0	MOT	2.60	.....	2.10
1N706A-1	MOT	2.60	.....	2.10
1N706A-2	MOT	2.60	.....	2.10
1N706A-3	MOT	2.60	.....	2.10
1N706A-4	MOT	2.60	.....	2.10
1N706A-5	MOT	2.60	.....	2.10
1N706A-6	MOT	2.60	.....	2.10
1N706A-7	MOT	2.60	.....	2.10
1N706A-8	MOT	2.60	.....	2.10
1N706A-9	MOT	2.60	.....	2.10
1N707	TI	.90	.....	.60
1N707A	TI	1.05	.....	.85
1N707A-0	MOT	2.60	.....	2.10
1N707A-1	MOT	2.60	.....	2.10
1N707A-2	MOT	2.60	.....	2.10
1N707A-3	MOT	2.60	.....	2.10
1N707A-4	MOT	2.60	.....	2.10
1N707A-5	MOT	2.60	.....	2.10
1N707A-6	MOT	2.60	.....	2.10
1N707A-7	MOT	2.60	.....	2.10

Type No.	Mfr.	1-99	100-999	1000-Up
1N708	MOT	1.85	1.50	.....
1N708	TI	.90	.60	.16
1N708A	TI	1.05	.85	.18
1N709	MOT	1.85	1.50	.....
1N709	TI	.90	.60	.20
1N709A	TI	1.05	.85	.18
1N710	MOT	1.85	1.50	.....
1N710	TI	.90	.60	.16
1N710A	TI	1.05	.85	.18
1N711	MOT	1.85	1.50	.....
1N711	TI	.90	.60	.16
1N711A	TI	1.05	.85	.18
1N712	MOT	1.85	1.50	.....
1N712	TI	.90	.60	.16
1N712A	TI	1.05	.85	.18
1N713	MOT	1.85	1.50	.....

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Type No.	Mfr.	1-99	100-999	1000-Up
1N713	TI	.90	.60	.16
1N713A	TI	1.05	.85	.18
1N714	MOT	1.85	1.50	.....
1N714	TI	.90	.60	.16
1N714A	TI	1.05	.85	.18
1N715	MOT	1.85	1.50	.....
1N715	TI	.90	.60	.16
1N715A	TI	1.05	.85	.18
1N716	INT	1.00	.80	.....
1N716	MOT	1.85	1.50	.....
1N716	TI	.90	.60	.16
1N716A	TI	1.05	.85	.18
1N717	MOT	1.85	1.50	.....
1N718	MOT	1.85	1.50	.....
1N719	MOT	1.85	1.50	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N720	MOT	1.85	.....	1.50
1N721	MOT	1.85	.....	1.50
1N722	MOT	1.85	.....	1.50
1N723	MOT	1.85	.....	1.50
1N724	MOT	1.85	.....	1.50
1N725	MOT	1.85	.....	1.50
1N726	MOT	1.85	.....	1.50
1N727	MOT	1.85	.....	1.50
1N728	MOT	1.85	.....	1.50
1N729	MOT	3.50	.....	2.80
1N730	MOT	3.50	.....	2.80
1N731	MOT	3.50	.....	2.80
1N732	MOT	3.50	.....	2.85
1N733	MOT	3.50	.....	2.80
1N734	MOT	3.50	.....	2.80
1N735	MOT	3.50	.....	2.80
1N736	MOT	3.50	.....	2.80
1N737	MOT	3.50	.....	2.80
1N738	MOT	3.50	.....	2.80
1N739	MOT	3.50	.....	2.80
1N740	MOT	3.50	.....	2.80
1N741	MOT	3.50	.....	2.80
1N742	MOT	3.50	.....	2.80
1N743	MOT	3.50	.....	2.80
1N744	MOT	3.50	.....	2.80
1N745	MOT	3.50	.....	2.80
1N746	INT	.....	.....	.....
1N746/14M3.3AZ10	MOT	2.00	1.70	1.50
1N746	TI	.90	.....	.60
1N746A/.4M3.3AZ5	MOT	2.75	2.35	2.05
1N746A	TI	1.05	.....	.85
1N746A/JAN	TI	1.10	.....	.90
1N746A/JAN	MOT	2.95	2.20	2.55
1N747/4M3.6AZ10	MOT	2.00	1.70	1.50
1N747	TI	.90	.....	.60
1N747A/.4M3.6AZ5	MOT	2.75	2.35	2.05
1N747A	TI	1.05	.....	.85
1N747A/JAN	MOT	2.95	2.20	2.55
1N747A/JAN	TI	1.10	.....	.90
1N748/.4M3.9AZ10	MOT	2.00	1.70	1.50
1N748	TI	.90	.....	.60
1N748A/.4M3.9AZ5	MOT	2.75	2.35	2.05
1N748A	TI	1.05	.....	.85
1N748A/JAN	MOT	2.95	2.55	2.20
1N748A/JAN	TI	1.10	.....	.90
1N749	INT	1.10	.....	.90
1N749/.4M4.3AZ10	MOT	2.00	1.70	1.50
1N749	TI	.90	.....	.60
1N749/.4M4.3AZ5	MOT	2.75	2.35	2.05
1N749A	TI	1.05	.....	.85
1N749A/JAN	MOT	2.95	2.55	2.20
1N749A/JAN	TI	1.10	.....	.90
1N750/.4M4.7AZ10	MOT	2.00	1.70	1.50
1N750	TI	.90	.....	.60
1N750A/.4M4.7AZ5	MOT	2.75	2.35	2.05
1N750A	TI	1.05	.....	.85
1N750A/JAN	MOT	2.95	2.55	2.20
1N750A/JAN	TI	1.10	.....	.90
1N751	TI	.90	.....	.60
1N751A/.4M5.1AZ5	MOT	2.75	2.35	2.05
1N751A	TI	1.05	.....	.85
1N751A/JAN	MOT	2.95	2.55	2.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N751A/JAN	TI	1.10	.....	.90
1N751B	INT	1.00	.....	.80
1N752	INT	1.00	.....	.80
1N752/.4M5.6AZ5	MOT	2.75	2.35	2.05
1N752	TI	.90	.....	.60
1N752A/.4M6.2AZ10	MOT	2.75	2.35	2.05
1N752A	TI	1.05	.....	.85
1N752A/JAN	MOT	2.95	2.55	2.20
1N752A/JAN	TI	1.10	.....	.90
1N753/.4M6.2AZ10	MOT	2.00	1.70	1.50
1N753A/.4M6.2AZ15	MOT	2.75	2.35	2.05
1N753A	TI	1.05	.....	.85
1N753A/JAN	MOT	2.95	2.55	2.20
1N753A/JAN	TI	1.10	.....	.90
1N754/.4M6.8AZ10	MOT	2.00	1.70	1.50
1N754A/.4M6.8AZ15	MOT	2.75	2.35	2.05
1N754A	TI	.90	.....	.60
1N754A/JAN	MOT	2.95	2.55	2.20
1N754A/JAN	TI	1.10	.....	.90
1N755/.4M7.5AZ10	MOT	2.00	1.70	1.50
1N755	TI	.90	.....	.60
1N755A/.4M7.5AZ5	MOT	2.75	2.35	2.05
1N755A	TI	1.05	.....	.85
1N755A/JAN	MOT	2.95	2.55	2.20
1N755A/JAN	TI	1.10	.....	.90
1N756/.4M8.2AZ10	MOT	2.00	1.70	1.50
1N756	TI	.90	.....	.60
1N756A/.4M8.2AZ5	MOT	2.75	2.35	2.05
1N756A	TI	1.05	.....	.85
1N756A/JAN	MOT	2.95	2.55	2.20
1N756A/JAN	TI	1.10	.....	.90
1N757/.4M9.1AZ10	MOT	2.00	1.70	1.50
1N757	TI	.90	.....	.60
1N757A/.4M9.1AZ5	MOT	2.75	2.35	2.05
1N757A	TI	1.05	.....	.85
1N757A/JAN	MOT	2.95	2.55	2.20
1N757A/JAN	TI	1.10	.....	.90
1N758/.4M10AZ10	MOT	2.00	1.70	1.50
1N758	TI	.90	.....	.60
1N758A/.4M10AZ5	MOT	2.75	2.35	2.05
1N758A	TI	1.05	.....	.85
1N758A/JAN	MOT	2.95	2.55	2.20
1N758A/JAN	TI	1.10	.....	.90
1N759/.4M12AZ10	MOT	2.00	1.70	1.50
1N759	TI	.90	.....	.60
1N759A/.4M12AZ5	MOT	2.75	2.35	2.05
1N759A	TI	1.05	.....	.85
1N759A/JAN	MOT	2.95	2.55	2.20
1N759A/JAN	TI	1.10	.....	.90
1N761	TI	.90	.....	.60
1N761-1	MOT	2.80	.....	2.10
1N761-2	MOT	2.80	.....	2.10
1N762	TI	.90	.....	.60
1N762-1	MOT	2.80	.....	2.10
1N762-2	MOT	2.80	.....	2.10
1N763	TI	.90	.....	.60
1N763-1	MOT	2.80	.....	2.10
1N763-2	MOT	2.80	.....	2.10
1N763-3	MOT	2.80	.....	2.10
1N764	TI	.90	.....	.60
1N764-1	MOT	2.80	.....	2.10
1N764-2	MOT	2.80	.....	2.10
1N764-3	MOT	2.80	.....	2.10
1N764-4	MOT	2.80	.....	2.10
1N765	TI	.90	.....	.60
1N765-1	MOT	2.80	.....	2.10
1N765-2	MOT	2.80	.....	2.10
1N766	TI	.90	.....	.60
1N766-1	MOT	2.80	.....	2.10
1N766-2	MOT	2.80	.....	2.10
1N766-3	MOT	2.80	.....	2.10
1N768-1	MOT	2.80	.....	2.10
1N768-2	MOT	2.80	.....	2.10
1N768-3	MOT	2.80	.....	2.10
1N769-1	MOT	2.80	.....	2.10
1N769-2	MOT	2.80	.....	2.10
1N769-3	MOT	2.80	.....	2.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N769-4	MOT	2.80	.....	2.10
1N773A	GE	2.85	.....	2.29
1N816	MOT	.33	.....	.25

Type No.	Mfr.	1-9	10-99	100-249
1N821	INT	2.30	1.85	1.60
1N821	MOT	2.75	2.35	2.10
1N821/JAN	MOT	2.97	2.55	2.25
1N821A	INT	2.55	2.05	1.75

Type No.	Mfr.	1-24	25-99	100-Up
1N821A	MOT	3.05	2.60	2.30

Type No.	Mfr.	1-9	10-99	100-249
1N823	MOT	3.50	3.10	2.75
1N823/JAN	MOT	4.35	3.75	3.30
1N823A	MOT	3.90	3.35	2.95
1N825	INT	3.60	3.00	2.55

Type No.	Mfr.	1-24	25-99	100-999
1N825	MOT	5.80	5.00	4.40
1N825/JAN	MOT	7.10	6.10	5.40

Type No.	Mfr.	1-9	10-99	100-249
1N825A	INT	4.70	4.10	3.65
1N827	INT	8.75	7.50	7.25
1N827	HOF	4.35	3.45	3.25

Type No.	Mfr.	1-24	25-99	100-Up
1N827	MOT	10.85	9.35	8.25
1N827/JAN	MOT	13.05	11.25	9.90

Type No.	Mfr.	1-9	10-99	100-249
1N827A	INT	10.35	9.00	7.60

Type No.	Mfr.	1-99	100-MIX	100-999
1N829	INT	11.25	.....	10.10

Type No.	Mfr.	1-24	25-99	100-999
1N829	MOT	16.30	14.05	12.35
1N829/JAN	MOT	28.25	24.35	21.45
1N829A	MOT	19.55	16.85	14.85

Type No.	Mfr.	1-99	100-999	1000-Up
1N903	GE	1.02	.68	.31
1N904	GE	.99	.66	.29
1N914	GE	.30	.20	.14
1N914	TI	.32	.21	.13
1N914/JAN	TI	.32	.21	.13
1N914A	GE	.40	.26	.15
1N914A	TI	.37	.24	.14
1N914B	GE	.80	.54	.17
1N914B	TI	.77	.52	.16
1N916	GE	.52	.34	.16
1N916	TI	.50	.32	.....
1N916A	TI	.56	.37	.....
1N916B	TI	.72	.48	.....

Type No.	Mfr.	1-24	25-99	100-Up
1N935	MOT	2.30	2.00	1.75

Type No.	Mfr.	1-9	10-99	100-249
1N935A	INT	1.80	1.60	1.35

Type No.	Mfr.	1-24	25-99	100-Up
1N935A	MOT	2.60	2.25	2.00

Type No.	Mfr.	1-9	10-99	100-249
1N935B	INT	2.45	2.20	1.85

Type No.	Mfr.	1-24	25-99	100-Up
1N935B	MOT	3.55	3.05	2.70
1N935B/JAN	MOT	5.30	4.55	4.00

Type No.	Mfr.	1-9	10-99	100-249
1N936	INT	1.90	1.70	1.45

Type No.	Mfr.	1-24	25-99	100-Up
1N936	MOT	2.75	2.35	2.10

Type No.	Mfr.	1-9	10-99	100-249
1N936A	INT	2.45	2.20	1.85

Type No.	Mfr.	1-24	25-99	100-Up
1N936A	MOT	3.55	3.05	2.70

Type No.	Mfr.	1-9	10-99	100-249
1N936B	INT	2.90	2.60	2.20

Type No.	Mfr.	1-24	25-99	100-Up
1N936B	MOT	4.20	3.60	3.20

Type No.	Mfr.	1-9	10-99	100-249
1N937	INT	3.70	3.30	2.80

Type No.	Mfr.	1-9	10-99	100-Up
1N937	MOT	5.35	4.60	3.70

Type No.	Mfr.	1-9	10-99	100-249
1N937A	INT	4.25	3.85	3.25

Type No.	Mfr.	1-24	25-99	100-Up
1N937A	MOT	6.15	5.30	4.65
1N937B	MOT	7.10	6.10	4.90

Type No.	Mfr.	1-24	25-99	100-999
1N937B/JAN	MOT	9.30	8.00	6.40

Type No.	Mfr.	1-9	10-99	100-249
1N938	INT	4.80	4.30	3.65

Type No.	Mfr.	1-24	25-99	100-Up
1N938	MOT	6.95	6.00	4.80

Type No.	Mfr.	1-9	10-99	100-249
1N938A	INT	5.20	4.70	4.00

Type No.	Mfr.	1-24	25-99	100-Up
1N938A	MOT	7.55	6.50	5.20

Type No.	Mfr.	1-9	10-99	100-249
1N938B	INT	6.90	6.20	5.30

Type No.	Mfr.	1-24	25-99	100-Up
1N938B	MOT	10.00	8.60	6.90
1N938B/JAN	MOT	13.35	11.75	9.40

Type No.	Mfr.	1-9	10-99	100-249
1N939	INT	12.40	11.15	9.80

Type No.	Mfr.	1-24	25-99	100-Up
1N939A	MOT	25.35	21.85	17.50
1N939B/JAN	MOT	29.80	26.70	21.35
1N941B/JAN	MOT	7.45	6.70	5.35
1N942	MOT	3.50	3.00	2.40
1N942A	MOT	4.35	3.75	3.00
1N942B	MOT	4.95	4.25	3.40
1N943	MOT	6.90	5.95	4.75
1N943B/JAN	MOT	12.80	11.55	9.25
1N944	MOT	10.15	8.75	7.00
1N944A	MOT	13.05	11.25	9.00
1N944B	MOT	17.30	14.95	11.95
1N944B/JAN	MOT	17.30	15.60	12.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N957	MOT	2.15	1.85	1.60
1N957	TI	.80	.....	.50
1N957A	MOT	2.35	2.00	1.75
1N957B	MOT	2.95	2.55	2.20
1N958	TI	.80	.....	.50
1N958A	MOT	2.35	2.00	1.75
1N958B	MOT	2.95	2.55	2.20
1N959	MOT	2.15	1.85	1.60
1N959	TI	.80	.....	.50
1N959B	MOT	2.95	2.55	2.20
1N960	MOT	2.15	1.85	1.60
1N960	TI	.80	.....	.50
1N960A	MOT	2.35	2.00	1.75
1N960B	MOT	2.95	2.55	1.00
1N961	TI	.80	.....	.50
1N961	MOT	2.15	1.85	1.60
1N961A	MOT	2.35	2.00	1.75
1N961A	TI	.90	.....	.60
1N961B	MOT	2.95	2.55	2.20
1N961B	TI	1.05	.....	.85
1N962	INT	1.00	.....	.80
1N962	MOT	2.15	1.95	1.60
1N962B	MOT	2.95	2.55	2.20
1N962B	TI	1.05	.....	.85
1N962B/JAN	MOT	3.50	3.05	2.65
1N963A	MOT	2.35	2.00	1.75
1N963B/JAN	MOT	3.50	3.05	2.65

Type No.	Mfr.	1-99	100-Mix	100-999
1N964	MOT	2.15	1.85	1.60
1N964A	MOT	2.35	2.00	1.75
1N964B	MOT	2.95	2.55	2.20
1N964N/JAN	MOT	3.50	3.05	2.65
1N965A	MOT	2.35	2.00	1.75
1N965B	MOT	2.95	2.55	2.20
1N965B/JAN	MOT	3.50	3.05	2.65
1N966	MOT	2.15	1.85	1.60
1N966A	MOT	2.35	2.00	1.75
1N966B	MOT	2.95	2.55	2.20
1N966B/JAN	MOT	3.50	3.05	2.65
1N967	MOT	2.15	1.85	1.60
1N967A	MOT	2.35	2.00	1.75
1N967B	MOT	2.95	2.55	2.20
1N967B/JAN	MOT	3.50	3.05	2.65
1N968	MOT	2.15	1.85	1.60
1N968A	MOT	2.35	2.00	1.75
1N968B	MOT	2.95	2.55	2.20
1N968B/JAN	MOT	3.50	3.05	2.65
1N969	MOT	2.15	1.85	1.60
1N969A	MOT	2.35	2.00	1.65
1N969B/JAN	MOT	3.50	3.05	2.65
1N969B/USN	HOF	3.25	2.95	2.60
1N970	MOT	2.15	1.85	1.60
1N970A	MOT	2.35	2.00	1.75
1N970B	MOT	2.95	2.55	2.20
1N970B	MOT	2.95	2.55	2.20
1N970B/JAN	MOT	3.50	3.05	2.65
1N970B/USN	HOF	3.25	2.95	2.60
1N971B	MOT	2.95	2.55	2.20
1N971B/JAN	MOT	3.50	3.05	2.65
1N972B	INT	1.00	.....	.85
1N972B	MOT	2.95	2.55	2.20
1N972B/JAN	MOT	4.00	3.45	3.00
1N973	MOT	1.00	.....	.80
1N973A	MOT	2.35	2.00	1.75
1N973B	MOT	2.95	2.55	2.20
1N973B/JAN	MOT	4.00	3.45	3.00
1N974	MOT	2.15	1.86	1.60
1N974A	MOT	2.35	2.00	1.75
1N974B	MOT	2.95	2.55	2.20
1N974/JAN	MOT	4.00	3.45	3.00
1N975	MOT	2.15	1.85	1.60
1N975A	MOT	2.35	2.00	1.75
1N975B	MOT	2.95	2.55	2.20
1N975B/JAN	MOT	4.00	3.45	3.00
1N976B	MOT	2.95	2.55	2.55
1N977	MOT	2.15	1.85	1.60
1N977B	MOT	2.95	2.55	2.20
1N977B/JAN	MOT	4.00	3.45	3.00
1N978B	MOT	2.95	2.55	2.20
1N978B/JAN	MOT	4.00	3.45	3.00
1N979	MOT	2.15	1.85	1.60
1N979A	MOT	2.35	2.00	1.75
1N979B	MOT	2.95	2.55	2.20
1N979B/JAN	MOT	4.00	3.45	3.00
1N980	MOT	2.15	.....	1.60
1N980A	MOT	2.35	2.00	1.75
1N980B	MOT	2.95	2.55	2.00
1N980B/JAN	MOT	4.00	3.45	3.00
1N981B	MOT	2.95	2.55	2.20
1N981B/JAN	MOT	4.00	3.45	3.00
1N983B/JAN	MOT	4.00	3.45	3.00
1N984	MOT	2.15	1.85	1.60
1N984A	MOT	2.35	2.00	1.75
1N984B	MOT	2.95	2.55	2.20
1N984B/JAN	MOT	4.00	3.45	3.00
1N985	MOT	2.60	2.25	1.95
1N985A	MOT	3.00	2.60	2.25
1N985B	MOT	3.65	3.15	2.75
1N985B/JAN	MOT	4.45	3.85	3.35
1N986	MOT	2.60	2.25	1.95
1N986A	MOT	3.00	2.60	2.25
1N986B/JAN	MOT	4.45	3.85	3.35
1N987	MOT	2.60	2.25	1.95
1N987A	MOT	3.00	2.60	2.25
1N987B/JAN	MOT	4.45	3.85	3.35
1N988	MOT	2.60	2.25	1.95
1N988A	MOT	3.00	2.60	2.25
1N988B	MOT	3.65	3.15	2.75
1N988B/JAN	MOT	4.45	3.85	3.35
1N989	MOT	2.60	2.25	1.95
1N990	MOT	2.60	2.25	.....
1N990A	MOT	3.00	2.60	2.25
1N990B/JAN	MOT	4.45	3.85	3.35
1N991	MOT	2.60	2.25	1.95
1N991A	MOT	3.00	2.60	2.25
1N991B/JAN	MOT	4.45	3.85	3.35
1N992	MOT	2.60	2.25	1.95
1N992A	MOT	3.00	2.60	2.25
1N992B	HOF	1.00	.95	.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N992B	MOT	3.65	3.15	2.75
1N992B/JAN	MOT	4.45	3.85	3.35

Type No.	Mfr.	1-24	25-99	100-999
1N1081/10M	SAR	.60	.55	.51

Type No.	Mfr.	1-99	100-Mix	100-999
1N1082/5MA2	INT	.65	.....	.52
1N1083	INT	.70	.....	.56

Type No.	Mfr.	1-24	25-99	100-999
1N1083/30M	SAR	.70	.61	.57
1N1084/M500	SAR	.75	.63	.59

Type No.	Mfr.	1-99	100-999	1000-Up
1N1084/5MA4	INT	.75	.60	.....

Type No.	Mfr.	1-24	25-99	100-999
1N1085A/10LA	SAR	3.34	2.86	2.66
1N1086A/20LA	SAR	4.00	3.43	3.20
1N1087A/30LA	SAR	4.67	3.73	.....
1N1088A/40LA	SAR	4.00	3.43	3.20
1N1092/40LF	SAR	5.35	4.67	4.27

Type No.	Mfr.	1-99	100-999	1000-Up
1N1095	GE	.87	.58	.47
1N1095	RCA	.61	.48	.40
1N1095	TI	.76	.51	.28
1N1096	TI	.97	.64	.33
1N1101	TI	.63	.42	.35
1N1103	TI	.67	.45	.27
1N1104	TI	.76	.51	.28
1N1105	TI	.97	.64	.32
1N1108/80SM	SAR	3.15	2.54	.....

Type No.	Mfr.	1-24	25-99	100-999
1N1109/120SM	SAR	4.00	3.43	3.20

Type No.	Mfr.	1-99	100-999	1000-Up
1N1110/160SM	SAR	4.75	3.86	.....
1N1111/200SM	SAR	5.65	4.53	.....
1N1112/240SM	SAR	6.50	5.20	.....
1N1113/280SM	SAR	7.35	5.87	.....
1N1115	GE	1.05	.70	.....
1N1115	TI	1.05	.70	.63
1N1116	GE	1.12	.75	.....
1N1117	GE	1.43	.95	.77
1N1118	GE	1.73	1.15	.....
1N1118	TI	1.72	1.10	.93
1N1119	GE	1.80	1.20	.99
1N1119	TI	1.80	1.20	1.00
1N1120	GE	2.40	1.60	1.30
1N1124	TI	1.86	1.24	1.05
1N1124A	TI	1.86	1.24	1.05
1N1124R	TI	1.84	1.24	1.05
1N1125	TI	2.55	1.70	1.27
1N1126	TI	3.05	2.05	1.78
1N1126R	TI	3.05	2.05	1.78
1N1128	TI	4.95	3.30	.....
1N1128A	TI	4.95	3.30	2.80
1N1130/JAN	TI	7.03	4.69	.....
1N1131/JAN	TI	7.03	4.69	.....
1N1183	MOT	1.80	1.20	.....
1N1183/40HF5	INT	1.95	1.30	.....
1N1183A	RCA	2.15	1.56	1.30
1N1183AR	WES	2.14	1.43	.....
1N1183R	WES	1.80	1.20	.....
1N1183RA	WES	2.14	1.43	.....
1N1184	GE	2.40	1.60	.....
1N1184	MOT	2.10	1.40	.....
1N1184/40HF10	INT	2.40	1.60	.....
1N1184/JAN	GE	3.70	2.47	.....
1N1184R	WES	2.10	1.38	.....
1N1184RA	WES	2.47	1.65	.....
1N1185	GE	2.92	1.95	.....
1N1185	MOT	2.60	1.75	.....
1N1185A	WES	3.10	2.07	.....
1N1185R	WES	2.54	1.62	.....
1N1185RA	WES	3.10	2.07	.....
1N1186	GE	3.45	2.30	.....
1N1186	MOT	3.15	2.10	.....
1N1186/40HF20	INT	3.40	2.25	.....
1N1186/JAN	WES	5.60	4.30	.....
1N1186/USAF	RCA	5.20	3.47	.....
1N1186A	RCA	3.55	2.58	2.15
1N1186A	WES	3.55	2.37	.....
1N1186R	WES	3.10	2.00	.....

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Type No.	Mfr.	1-99	100-999	1000-Up
1N1186R/JAN	GE	5.47	3.65	.....
1N1186RA	RCA	3.55	2.58	2.15
1N1186RA	WES	3.55	2.37	.....
1N1187	GE	4.72	3.15	.....
1N1187	MOT	4.65	3.10	.....
1N1187/40HF30	INT	4.70	3.10	.....
1N1187A	RCA	4.95	3.60	3.00
1N1187A	WES	4.95	3.30	.....
1N1187R	WES	4.48	3.00	.....
1N1187RA	WES			
1N1188	GE	5.85	3.90	.....
1N1188	MOT	5.25	3.50	.....
1N1188/40HF40	INT	5.80	3.80	.....
1N1188/JAN	WES	8.85	6.18	.....
1N1188/USAF	RCA	7.84	5.23	.....
1N1188A	WES	6.19	4.13	.....
1N1188R	WES	5.40	3.58	.....
1N1188R/JAN	GE	8.89	5.93	.....
1N1188RA	WES	6.19	4.13	.....
1N1189	INT	6.40	4.20	.....
1N1189	WES	6.45	4.30	.....
1N1189A	WES	7.43	4.95	.....
1N1189R	WES	6.10	4.05	.....
1N1189RA	WES	7.43	4.95	.....
1N1190	INT	6.80	4.50	.....
1N1190	GE	6.90	4.60	.....
1N1190	MOT	6.75	4.50	.....
1N1190/JAN	WES	12.05	8.05	.....
1N1190/USAF	RCA	11.55	8.00	.....

Type No.	Mfr.	1-24	25-99	100-999
1N1190/ST460P	SAR	4.89	4.19	3.90

Type No.	Mfr.	1-99	100-999	1000-Up
1N1190A	RCA	8.65	6.30	5.25
1N1190A	WES	8.65	5.80	.....
1N1190R	WES	6.65	4.30	.....
1N1190RA	WES	8.65	5.80	.....
1N1191	WES	1.42	.90	.....
1N1191R	WES	1.42	.90	.....
1N1192	GE	1.73	1.15	.....
1N1192	MOT	1.50	1.05	.....
1N1192	WES	1.60	1.08	.....
1N1192R	WES	1.60	1.08	.....
1N1193	MOT	1.80	1.20	.....
1N1193	WES	2.00	1.34	.....
1N1193R	WES	2.00	1.34	.....
1N1194	GE	2.48	1.65	.....
1N1194	MOT	2.60	1.75	.....
1N1194	WES	2.20	1.50	.....
1N1194R	WES	2.20	1.50	.....
1N1195	MOT	3.80	2.55	.....
1N1195	WES	3.51	2.35	.....
1N1195A	MOT	3.95	2.65	.....
1N1195R	WES	3.51	2.65	.....
1N1196	MOT	4.35	3.25	.....
1N1196	WES	4.20	2.90	.....
1N1196A	GE	4.95	3.30	.....
1N1196A	MOT	4.70	3.15	.....
1N1196R	WES	4.20	2.90	.....
1N1197	MOT	5.55	3.70	.....
1N1197	WES	5.40	3.50	.....
1N1197A	MOT	5.70	3.85	.....
1N1197R	WES	5.40	3.50	.....
1N1198	WES	6.10	4.10	.....
1N1198	MOT	6.75	4.50	.....

Type No.	Mfr.	1-99	100-999	1000-Up
1N1198A	MOT	7.05	4.70	.....
1N1198A	RCA	7.01	5.10	4.25
1N1198A/JAN	RCA	7.84	5.42	.....
1N1198R	WES	6.10	4.10	.....
1N1199	GE	1.24	.83	.....
1N1199	WES	1.05	.71	.....
1N1199A	GE	1.24	.83	.....
1N1199A	INT	1.20	.80	.....
1N1199A	RCA	1.24	.90	.75
1N1199A	WES	1.24	.83	.....
1N1199R	WES	1.05	.79	.....
1N1199RA	WES	1.24	.83	.....
1N1200	GE	1.41	.92	.....
1N1200	WES	1.20	.79	.....
1N1200/ST210P	SAR	1.30	.97	.....
1N1200A	GE	1.41	.94	.....
1N1200A	INT	1.35	.94	.....
1N1200A	RCA	1.41	1.02	.85
1N1200A	WES	1.41	.94	.....
1N1200R	WES	1.20	.79	.....
1N1200RA	RCA	1.41	1.02	.85
1N1200RA	WES	1.41	.94	.....
1N1201	GE	1.81	1.21	.....
1N1201	INT	1.75	1.20	.....
1N1201A	WES	1.82	1.21	.....
1N1201AR	WES	1.82	1.21	.....
1N1201R	WES	1.54	1.03	.....
1N1201RA	WES	1.82	1.21	.....
1N1202	GE	2.62	1.75	.....
1N1202	WES	2.11	1.40	.....
1N1202A	GE	2.62	1.75	.....
1N1202A	INT	2.45	1.65	.....
1N1202A	RCA	2.48	1.80	1.50
1N1202R	WES	2.11	1.40	.....
1N1202R/JAN	GE	3.96	2.64	.....
1N1202RA	RCA	2.48	1.80	1.50
1N1202RA	WES	2.48	1.65	.....
1N1203	WES	2.95	1.96	.....
1N1203A	GE	3.60	2.40	.....
1N1203A	INT	3.45	2.35	.....
1N1203A	WES	3.47	2.31	.....
1N1203R	WES	2.95	1.96	.....
1N1203RA	WES	3.47	2.31	.....
1N1204	GE	4.57	3.05	.....
1N1204	WES	3.78	2.52	.....
1N1204/JAN	WES	5.55	3.70	.....
1N1204/USAF	RCA	5.28	3.84	.....
1N1204A	INT	4.40	2.95	.....
1N1204A	RCA	4.46	3.24	2.70
1N1204A	WES	4.46	2.97	.....
1N1204R	INT	4.40	2.95	.....
1N1204R	WES	3.78	2.25	.....
1N1204RA	WES	4.46	2.97	.....
1N1205	WES	4.52	3.02	.....
1N1205A	WES	5.33	3.55	.....
1N1205R	WES	4.52	3.02	.....
1N1205RA	WES	5.33	3.55	.....
1N1206	WES	5.25	3.51	.....
1N1206/JAN	WES	8.25	5.50	.....

Type No.	Mfr.	1-24	25-99	100-Up
1N1206/ST260P	SAR	2.34	2.00	1.86

Type No.	Mfr.	1-99	100-999	1000-Up
1N1206A	GE	6.37	4.25	.....
1N1206A	INT	6.10	4.10	.....
1N1206A	WES	6.19	4.13	.....
1N1206R	WES	5.25	3.51	.....
1N1206RA	RCA	6.19	4.50	3.75
1N1206RA	WES	6.19	4.13	.....

Type No.	Mfr.	1-24	25-99	100-999
1N1237/S-5017	SAR	5.25	4.69	4.13
1N1238/S-5018	SAR	5.25	4.69	.....
1N1239/S-5019	SAR	7.77	6.94	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N1313	MOT	3.10	2.70	2.35
1N1313A	MOT	5.45	4.70	4.10
1N1314	MOT	3.10	2.70	2.35
1N1314A	MOT	5.45	4.70	4.10
1N1315	MOT	3.10	2.70	2.35
1N1315A	MOT	5.45	4.70	4.10
1N1316	MOT	3.10	2.70	2.35
1N1316A	MOT	5.45	4.70	4.10
1N1317	MOT	3.10	2.70	2.35
1N1317A	MOT	5.45	4.70	4.10
1N1318	MOT	3.10	2.70	2.35
1N1318A	MOT	5.45	4.70	4.10
1N1319	MOT	3.10	2.70	2.35
1N1319A	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N1320	MOT	3.10	2.70	2.35
1N1320A	MOT	5.45	4.70	4.10
1N1321	MOT	3.10	2.70	2.35
1N1321A	MOT	5.45	4.70	4.10
1N1322	MOT	3.10	2.70	2.35
1N1322A	MOT	5.45	4.70	4.10
1N1323	MOT	3.10	2.70	2.35
1N1323A	MOT	5.45	4.70	4.10
1N1324	MOT	3.10	2.70	2.35
1N1324A	MOT	5.45	4.70	4.10
1N1325	MOT	3.10	2.70	2.35
1N1325A	MOT	5.45	4.70	4.10
1N1326	MOT	3.10	2.70	2.35
1N1326A	MOT	5.45	4.70	4.10
1N1327	MOT	3.10	2.70	2.35
1N1327A	MOT	5.45	4.70	4.10
1N1341	GE	1.12	.....	.75
1N1341	WES	.96	.....	.64
1N1341A	GE	1.12	.....	.75
1N1341A	INT	.95	.....	.75
1N1341A	WES	1.13	.....	.75
1N1341R	WES	.96	.....	.64
1N1341RA	WES	1.13	.....	.75
1N1342	INT	1.20	.....	.85
1N1342	WES	1.09	.....	.72
1N1342/10H3P	SAR	1.19	.....	.89
1N1342A	GE	1.27	.....	.85
1N1342A	INT	1.20	.....	.85
1N1342A	WES	1.28	.....	.85
1N1342R	WES	1.09	.....	.72
1N1342RA	WES	1.28	.....	.85
1N1343	WES	1.39	.....	.93
1N1343A	INT	1.55	.....	1.00
1N1343A	WES	1.64	.....	1.09
1N1343R	WES	1.39	.....	.93
1N1343RA	WES	1.64	.....	1.09
1N1344	GE	2.22	.....	1.48
1N1344	WES	1.83	.....	1.21

Type No.	Mfr.	1-24	25-99	100-999
1N1344/20H3P	SAR	1.20	1.03	.96

Type No.	Mfr.	1-99	100-999	1000-Up
1N1344A	GE	2.22	1.48	.....
1N1344A	WES	2.15	1.43	.....
1N1344B	RCA	2.15	1.56	1.30
1N1344R	WES	1.83	1.21	.....
1N1344RA	WES	2.15	1.43	.....
1N1344RB	RCA	2.15	1.56	1.30
1N1345	WES	2.59	1.73	.....
1N1345A	GE	3.16	2.11	.....
1N1345A	WES	3.05	2.04	.....
1N1345R	WES	2.59	1.73	.....
1N1345RA	WES	3.05	2.04	.....
1N1345RB	RCA	3.05	2.22	1.85
1N1346	GE	3.96	2.64	.....
1N1346	WES	3.37	2.24	.....

Type No.	Mfr.	1-24	25-99	100-Up
1N1346/40H3P	SAR	1.50	1.29	1.20

Type No.	Mfr.	1-99	100-999	1000-Up
1N1346A	GE	3.96	2.64	.....
1N1346A	WES	3.96	2.64	.....
1N1346R	WES	3.37	2.24	.....
1N1346RA	WES	3.96	2.74	.....
1N1346RB	RCA	3.96	2.88	2.40
1N1347	WES	4.07	2.71	.....
1N1347A	WES	4.79	3.19	.....
1N1347B	RCA	4.79	3.48	.....
1N1347R	WES	4.07	2.71	.....
1N1347RA	WES	4.78	3.85	.....
1N1348	GE	5.48	3.65	2.90
1N1348	WES	4.91	3.27	.....

Type No.	Mfr.	1-24	25-99	100-Up
1N1348/60H3P	SAR	2.12	1.82	1.69

Type No.	Mfr.	1-99	100-Mix	100-999
1N1348A	GE	5.48	.....	3.65
1N1348A	WES	5.78	.....	3.85
1N1348R	WES	4.91	.....	3.27
1N1348RA	WES	1.13	.....	.75
1N1351	INT	8.25	.....	6.60
1N1351	MOT	6.20	5.35	4.65
1N1351A	MOT	7.85	6.80	5.90
1N1352	INT	8.25	.....	6.60
1N1352	MOT	6.20	5.35	4.65
1N1352A	MOT	7.85	6.80	5.90
1N1353	MOT	6.20	5.35	4.65

Type No.	Mfr.	1-99	100-Mix	100-999
1N1353	INT	8.25		6.60
1N1353A	INT	6.30		5.65
1N1353A	MOT	7.85	6.80	5.90
1N1354	INT	8.25		6.60
1N1354	MOT	6.20	5.35	4.65
1N1354/10T13	SAR	4.00		3.20
1N1354A	MOT	7.85	6.80	5.90
1N1355	INT	8.25		6.60
1N1355	HOF	2.35	1.57	1.47
1N1355	MOT	6.20	5.35	4.65
1N1355/10T15	SAR	4.00		3.20
1N1355A	MOT	7.85	6.80	5.90
1N1356	INT	8.25		6.60
1N1356	MOT	6.20	5.35	4.65
1N1356A	MOT	7.85	6.80	5.90
1N1357	INT	8.25		6.60
1N1357	MOT	6.20	5.35	4.65
1N1357A	MOT	7.85	6.80	5.90
1N1358	INT	8.25		6.60
1N1358	MOT	6.20	5.35	4.65
1N1358/10T20	SAR	4.00		3.20
1N1358A	MOT	7.85	6.80	5.90
1N1359	INT	8.25		6.60
1N1359	MOT	6.20	5.35	4.65
1N1359/10T22	SAR	4.00		3.20
1N1360	INT	4.70		4.25
1N1360	MOT	6.20	5.35	4.65
1N1360A	INT	6.30		5.65
1N1360A	MOT	7.85	6.80	5.90
1N1361	INT	4.70		4.25
1N1361	MOT	6.20	5.35	4.65
1N1361A	INT	6.30		5.65
1N3161A	MOT	7.85	6.80	5.90
1N1362	INT	4.70		4.25
1N1362	MOT	6.20	5.35	4.65
1N1362/10T30	SAR	4.00		3.20
1N1362A	INT	6.30		5.65
1N1362A	MOT	7.85	6.80	5.90
1N1363	INT	4.70		4.25
1N1363	MOT	6.20	5.35	4.65
1N1363A	MOT	7.85	6.80	5.90
1N1364	INT	4.70		4.25
1N1364	MOT	6.20	5.35	4.65
1N1364A	MOT	6.20	5.35	4.65
1N1365	INT	4.70		4.25
1N1365	MOT	6.20	5.35	4.65
1N1365/10T39	SAR	4.00		3.20
1N1365A	MOT	7.85	6.80	5.90
1N1366	INT	4.70		4.25
1N1366	MOT	6.20	5.35	4.65
1N1366A	MOT	7.85	6.80	5.90
1N1367	INT	4.70		4.25
1N1367	MOT	6.20	5.35	4.65
1N1367A	MOT	7.85	6.80	5.90
1N1368	INT	4.70		4.25
1N1368	MOT	6.20	5.35	4.65
1N1368A	MOT	6.20	5.35	4.65
1N1369	INT	4.70		4.25
1N1369	MOT	6.20	5.35	4.65
1N1369A	MOT	7.85	6.80	5.90
1N1370	INT	4.70		4.25
1N1370	MOT	6.20	5.35	4.65
1N1370/10T62	SAR	4.00		3.20
1N1371	INT	4.70		4.25
1N1371	MOT	6.20	5.35	4.65
1N1371A	MOT	7.85	6.80	5.90
1N1372	INT	4.70		4.25
1N1372	MOT	6.20	5.35	4.65
1N1372A	MOT	7.85	6.80	5.90
1N1373	INT	4.70		4.25
1N1373	MOT	6.20	5.35	4.65
1N1373A	MOT	7.85	6.80	5.90
1N1374	INT	4.70		4.25
1N1374	MOT	6.20	5.35	4.65
1N1374A	MOT	7.85	6.80	5.90
1N1375	INT	4.70		4.25
1N1375	MOT	6.20	5.35	4.65
1N1375A	MOT	6.85	6.80	5.90

Type No.	Mfr.	1-24	25-99	100-Up
1N1396	WES	6.20	5.30	
1N1397	WES	7.65	6.50	
1N1399	WES	12.40	10.00	
1N1400	WES	14.10	11.60	
1N1401	WES	15.20	12.70	
1N1402	WES	16.90	14.10	

Type No.	Mfr.	1-99	100-999	1000-Up
1N1487	GE	.55	.39	.29
1N1487	TI	.49	.33	.21
1N1488	TI	.42	.35	.22
1N1489	GE	.67	.46	.36
1N1489	TI	.60	.40	.24
1N1490	GE	.76	.51	.42
1N1490	TI	.67	.45	.26
1N1491	GE	.86	.58	.46
1N1492	GE	1.08	.73	.58

Type No.	Mfr.	1-99	100-Mix	100-999
1N1507	MOT	2.95		2.20
1N1507A	MOT	3.65		2.75
1N1508	MOT	2.95		2.20
1N1508/MZ4.7T10	INT	2.75	2.45	2.10
1N1508A	MOT	3.65		2.75
1N1509	MOT	2.95		2.20
1N1509/MZ5.6T10	INT	2.75	2.45	2.10
1N1509A	MOT	3.65		2.75
1N1510	MOT	2.95		2.20
1N1510/MZ6.8T10	INT	2.75	2.45	2.10
1N1510A	MOT	3.65		2.75
1N1511	MOT	2.95		2.20
1N1511A	MOT	3.65		2.75
1N1512	MOT	2.95		2.20
1N1512/MZ10T10	INT	2.75	2.45	2.10
1N1512A	MOT	3.65		2.75
1N1512A/MZ10T5	INT	3.45	3.05	2.65
1N1513	MOT	2.95		2.20
1N1513/MZ12T10	INT	2.75	2.45	2.10
1N1513A	MOT	3.65		2.75
1N1513A/MZ12T5	INT	3.45	3.05	2.65
1N1514	MOT	2.95		2.20
1N1514/MZ15T10	INT	2.75	2.45	2.10
1N1514A	MOT	3.65		2.75
1N1514A/MZ15T5	INT	3.45	3.05	2.65
1N1515	MOT	2.95		2.20
1N1515A	MOT	3.65		2.75
1N1516	MOT	2.95		2.20
1N1516A	MOT	3.65		2.75
1N1517	MOT	2.95		2.20
1N1517/MZ22T10	INT	2.75	2.45	2.10
1N1517A	MOT	3.65		2.75
1N1517A/MZ27T5	INT	3.45	3.05	2.65
1N1518	MOT	2.95		2.20
1N1518/1Z3.9T10	INT	2.70		2.20
1N1518A	MOT	3.65		2.75
1N1518A/1Z3.9T5	INT	3.50	3.00	2.75
1N1519	MOT	2.95		2.20
1N1519/1Z4.7T10	INT	2.70		2.20
1N1519A	MOT	3.65		2.75
1N1519A/1Z4.7T5	INT	3.50	3.00	2.75
1N1520	MOT	2.95		2.20
1N1520/1Z5.6T10	INT	2.70	2.40	2.20
1N1520A	MOT	3.65		2.75
1N1520A/1Z5.6T5	INT	3.50		2.75
1N1521	MOT	2.95		2.20
1N1521/1Z6.8T10	INT	2.70	2.40	2.20
1N1521A	MOT	3.65		2.75
1N1521A/1Z6.8T5	INT	3.50	3.00	2.75
1N1522	MOT	2.95		2.20
1N1522A	MOT	3.65		2.75
1N1522A/1Z8.2T5	INT	3.50	3.00	2.75
1N1523	MOT	2.95		2.20
1N1523/1Z10T10	INT	2.70		2.20
1N1523A	MOT	3.65		2.75
1N1523A/1Z10T5	INT	3.50	3.00	2.75
1N1524	MOT	2.95		2.20
1N1524/1Z12T10	INT	2.70		2.40
1N1524A	MOT	3.65		2.75
1N1524A/1Z12T5	INT	3.50		2.75
1N1525	MOT	2.95		2.20
1N1525/1Z15T10	INT	2.70	2.40	2.20
1N1525A	MOT	3.65		2.75
1N1525/A1Z15T5	INT	3.50		2.75
1N1526	MOT	2.95		2.20
1N1526/1Z18T10	INT	2.70	2.40	2.20
1N1526A	MOT	3.65		2.75

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Type No.	Mfr.	1-99	100-Mix	100-999
1N1526A/1Z18T5	INT	3.50		2.75
1N1527	MOT	2.95		2.20
1N1527/1Z22T10	INT	2.70	2.40	2.20
1N1527A	MOT	3.65		2.75
1N1527A/1Z22T5	INT	3.50		2.75
1N1528	MOT	2.95		2.20
1N1528/1Z27T10	INT	2.70	2.40	2.20
1N1528A	MOT	3.65		2.75
1N1528A/1Z27T5	INT	3.50		2.75
1N1530/JAN	MOT	27.55	23.80	20.70

Type No.	Mfr.	1-99	100-999	1000-Up
1N1563	MOT	1.57	1.05	
1N1563A	MOT	1.80	1.20	
1N1564A	MOT	2.02	1.35	
1N1565	MOT	1.87	1.25	
1N1565A	MOT	2.02	1.55	
1N1567	MOT	2.30	1.55	
1N1567A	MOT	3.15	2.10	
1N1568	MOT	3.60	2.40	
1N1568A	MOT	4.65	3.10	
1N1581	TI	1.05	.70	.63
1N1582	TI	1.20	.80	.70
1N1583	TI	1.90	1.25	1.07
1N1588	MOT	4.10	3.10	
1N1588/3Z3.9T10	INT	3.80	3.05	
1N1588A	MOT	4.90	3.70	
1N1588A	MOT	4.90	3.70	
1N1588A/3Z3.9T5	INT	4.55	3.65	
1N1589	MOT	4.10	3.10	
1N1589A	MOT	4.90	3.70	
1N1590	MOT	4.10	3.10	
1N1590/3Z5.6T10	INT	3.80	3.05	
1N1590A	MOT	4.90	3.70	
1N1591	MOT	4.10	3.10	
1N1591A	MOT	4.90	3.70	
1N1591A/3Z6.8T5	INT	4.55	3.65	
1N1592	MOT	4.10	3.10	
1N1592/3Z8.2T10	INT	3.80	3.05	
1N1592A	MOT	4.90	3.70	
1N1593	MOT	4.10	3.10	
1N1593/3Z10T10	INT	3.80	3.05	

Type No.	Mfr.	1-99	100-Mix	100-999
1N1593A	MOT	4.90		3.70
1N1593A/3Z10T5	INT	4.55	4.05	3.65
1N1594	MOT	4.10		3.10
1N1594/3Z12T10	INT	3.80		3.05
1N1594A	MOT	4.90		3.70
1N1594A/3Z12T5	INT	4.55	4.05	3.65
1N1595	MOT	4.10		3.10
1N1595/3Z15T10	INT	3.80	3.40	3.05
1N1595A	MOT	4.90		3.70
1N1595A/3Z15T5	INT	4.55	4.05	3.65
1N1596	MOT	4.10		3.10
1N1596/3Z18T10	INT	3.80	3.40	3.05
1N1596A	MOT	4.90		3.70
1N1596A/3Z18T5	INT	4.55	4.05	3.65
1N1597	MOT	4.10		3.10
1N1597/3Z22T10	INT	3.80		3.05
1N1597A	MOT	4.90		3.70
1N1597A/3Z22T5	INT	4.55	4.05	3.65
1N1598	MOT	4.10		3.10
1N1598A	MOT	4.90		3.70
1N1599	MOT	6.50		4.90
1N1599/10Z3.9T10	INT	5.95		4.75
1N1599A	MOT	8.50		6.40
1N1599A/10Z3.9T5	INT	8.00	7.10	6.40
1N1600	MOT	6.50		4.90
1N1600/10Z4.7T10	INT	5.95	5.40	4.75
1N1600A	MOT	8.50		6.40
1N1600A/10Z4.7T5	INT	8.00	7.10	6.40

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Type No.	Mfr.	1-99	100-Mix	100-999
1N1601	MOT	6.50		4.90
1N1601/10Z4.6T10	INT	5.95	5.40	4.75
1N1601A	MOT	8.50		6.40
1N1601A/10Z4.6T5	INT	8.00	7.10	6.40
1N1602	MOT	6.50		4.90
1N1602/10Z6.8T10	INT	5.95		4.75
1N1602A	MOT	8.50		6.40
1N1603	MOT	6.50		4.90
1N1603A	MOT	8.50		6.40
1N1604	MOT	6.50		4.90
1N1604A	MOT	8.50		6.40
1N1604A/10Z10T5	INT	8.00	7.10	6.40
1N1605	MOT	6.50		4.90
1N1605/10Z12T10	INT	5.95		4.75
1N1605A	MOT	8.50		6.40
1N1605A/10Z12T5	INT	8.00	7.10	6.40
1N1606	MOT	6.50		4.90
1N1606/10Z15T10	INT	5.95		4.75
1N1606A	MOT	8.50		6.40
1N1607	MOT	6.50		4.90
1N1607/10Z18T10	INT	5.95		4.75
1N1607A	MOT	8.50		6.40
1N1608	MOT	6.50		4.90
1N1608A	INT	8.00		6.40
1N1608A	MOT	8.50		6.40
1N1609	MOT	6.50		4.90
1N1609A	MOT	8.50		6.40
1N1609A/10Z27T5	INT	8.00	7.10	6.48

Type No.	Mfr.	1-99	100-999	1000-Up
1N1612	GE	1.08	.72	
1N1612	RCA	1.08	.78	.65
1N1612	TI	1.07	.72	.66
1N1612R	RCA	1.08	.78	.65
1N1612R	WES	1.07	.72	
1N1613	GE	1.24	.83	
1N1613	RCA	1.24	.90	.75
1N1613R	TI	1.20	.80	.72
1N1613R	RCA	1.24	.90	.75
1N1613R	WES	1.24	.83	
1N1614	GE	1.90	1.27	
1N1614	RCA	1.90	1.38	1.15
1N1614	TI	1.87	1.25	1.06
1N1614R	RCA	1.90	1.38	1.15
1N1614R	MOT	1.90	1.27	
1N1614R/JAN	GE	1.90	1.27	
1N1615	GE	3.75	2.50	
1N1615	RCA	3.71	2.70	2.25
1N1615	TI	3.71	2.48	2.09
1N1615	WES	2.78	2.18	
1N1615R	WES	3.71	2.48	
1N1615R/JAN	GE	5.25	3.50	
1N1616	RCA	5.36	3.90	3.25
1N1616	TI	5.36	3.58	3.04
1N1616R	WES	5.36	3.58	
1N1616R/JAN	GE	7.16	4.77	
1N1621/10J2	SAR	2.30	1.85	

Type No.	Mfr.	1-24	25-99	100-999
1N1622/20J2	SAR	2.80	2.40	2.24
1N1623/30J2	SAR	3.50	2.67	
1N1624/40J2	SAR	4.24	3.62	3.40
1N1670	WES	24.95	20.45	
1N1671	WES	29.85	24.40	
1N1672	WES	34.30	28.10	
1N1673	WES	42.15	34.30	
1N1675	WES	81.50	66.50	
1N1675	WES	106.30	86.75	
1N1676	WES	106.30	86.75	

Type No.	Mfr.	1-99	100-999	1000-Up
1N1692	GE	.51	.33	.27
1N1692	TI	.49	.33	.21
1N1693	GE	.54	.36	.29
1N1693	INT	.48	.32	
1N1693	TI	.52	.35	.22
1N1694	GE	.63	.43	.32
1N1694	TI	.60	.40	.235
1N1695	GE	.72	.48	.39
1N1695	INT	.66	.44	
1N1695	TI	.67	.45	.25
1N1696	GE	.81	.54	.44
1N1696	TI	.76	.51	.28
1N1697	GE	1.05	.70	.57
1N1697	TI	.97	.64	.33
1N1730	MOT	4.85	3.25	
1N1731	MOT	6.00	4.00	
1N1732	GE	6.75	4.50	
1N1732	MOT	6.75	4.50	
1N1733	MOT	7.80	5.20	
1N1734	MOT	11.60	7.75	

Type No.	Mfr.	1-99	100-Mix	100-999
1N1736	MOT	8.75	7.60	6.60
1N1742A/JAN	MOT	45.50	40.00	35.00

Type No.	Mfr.	1-99	100-999	1000-Up
1N1763A	RCA	.42	.30	
1N1764A	RCA	.52	.38	
1N1765	INT	2.55	2.05	
1N1765	GE	2.40	1.60	1.44
1N1765	MOT	2.80	2.10	
1N1765A	GE	3.00	2.00	1.80
1N1765A	MOT	3.20	2.40	
1N1766	INT	2.55	2.05	
1N1766	MOT	2.80	2.10	
1N1766A	GE	3.00	2.00	1.80
1N1766A	MOT	3.20	2.40	

Type No.	Mfr.	1-9	10-99	100-249
1N1767	INT	2.55	2.05	1.75

Type No.	Mfr.	1-9	10-99	100-999
1N1767	MOT	2.80		2.10

Type No.	Mfr.	1-9	10-99	100-249
1N1768	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1768	MOT	2.80		2.10

Type No.	Mfr.	1-9	10-99	100-249
1N1768	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1768A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1769	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1769	GE	3.00		2.00
1N1769	MOT	2.80		2.10

Type No.	Mfr.	1-9	10-99	100-249
1N1769A	INT	2.85	2.29	1.95

Type No.	Mfr.	1-99	100-Mix	100-999
1N1769A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1770	INT	2.55	2.05	1.75
1N1770	GE	3.00		2.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N1770	MOT	2.80		2.10
1N1770A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1770A	INT	2.85	2.29	1.95
1N1771	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1771	MOT	2.80		2.10
1N1771/4JZ4X10B	GE	3.00		2.00

Type No.	Mfr.	1-9	10-99	100-249
1N1771A	INT	2.85	2.29	1.95

Type No.	Mfr.	1-99	100-Mix	100-999
1N1771A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1772	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1772	MOT	2.80		2.10

Type No.	Mfr.	1-9	10-99	100-249
1N1772A	INT	2.85	2.29	1.95

Type No.	Mfr.	1-99	100-Mix	100-999
1N1772A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1773	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1773/4JZ4X12B	GE	3.00		2.00
1N1774	INT	2.55	2.05	1.75
1N1774	MOT	2.80		2.10

Type No.	Mfr.	1-9	10-99	100-249
1N1774A	INT	2.85	2.29	1.95

Type No.	Mfr.	1-99	100-Mix	100-999
1N1774A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1775	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N1775	GE	3.00		
1N1775	MOT	2.80		2.10
1N1775A	MOT	3.20		2.40

Type No.	Mfr.	1-9	10-99	100-249
1N1776	INT	2.55	2.05	1.75

Type No.	Mfr.	1-99	100-999	1000-Up
1N1776	GE	3.00	2.00	1.75
1N1776	MOT	2.80	2.10	

Type No.	Mfr.	1-99	100-Mix	100-999
1N1776A	GE	3.60		2.40
1N1776A	MOT	3.20		2.40
1N1777	INT	2.55	2.05	1.75
1N1777	MOT	2.80		2.10
1N1777A	INT	2.85	2.29	1.95
1N1777A	MOT	3.20		2.40
1N1778	INT	2.55	2.05	1.75
1N1778	MOT	2.80		2.10
1N1778A	INT	2.85	2.29	1.95
1N1778A	MOT	3.20		2.40
1N1779	INT	2.55	2.05	1.75
1N1779	MOT	2.80		2.10
1N1779A	MOT	3.20		2.40
1N1780	INT	2.55	2.05	1.75
1N1780	MOT	2.80		2.10
1N1780A	INT	2.85	2.29	1.95
1N1780A	MOT	3.20		2.40
1N1781	INT	2.55	2.05	1.75
1N1781	MOT	2.80		2.10
1N1781A	MOT	3.20		2.40
1N1782	INT	2.55	2.05	1.75
1N1782	MOT	2.80		2.10
1N1782A	INT	2.85	2.29	1.95
1N1782A	MOT	4.00		2.00
1N1783	INT	2.55	2.05	1.75
1N1783	MOT	2.80		2.10
1N1783A	INT	2.85	2.29	1.95
1N1783A	MOT	4.00		3.00
1N1784	INT	2.55	2.05	1.75
1N1784	MOT	2.80		2.10
1N1784A	INT	2.85	2.29	1.95
1N1784A	MOT	4.00		3.00
1N1785	INT	2.55	2.05	1.75
1N1785	MOT	2.80		2.10
1N1785A	INT	2.85	2.29	1.95
1N1785A	MOT	4.00		3.00
1N1786	INT	2.55	2.05	1.75
1N1786	MOT	2.80		2.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N1786A	MOT	4.00		3.00
1N1787	INT	2.55	2.05	1.75
1N1787	MOT	2.80		2.10
1N1787A	INT	2.85	2.29	1.95
1N1787A	MOT	4.00		3.00
1N1788	INT	2.55	2.05	1.75
1N1788	MOT	2.80		2.10
1N1788A	INT	2.85	2.29	1.95
1N1788A	MOT	4.00		3.00
1N1789	INT	2.55	2.05	1.75
1N1789	MOT	2.80		1.95
1N1789A	INT	2.85	2.29	1.95
1N1789A	MOT	4.00		3.00
1N1790	MOT	2.80		2.10
1N1790A	INT	2.85	2.29	1.95
1N1790A	MOT	4.00		3.00
1N1791	INT	2.55	2.05	1.75
1N1791	MOT	3.80		2.10
1N1791A	MOT	4.00		3.00
1N1792	INT	2.55	2.05	1.75
1N1792	MOT	2.80		2.10
1N1792A	INT	2.85	2.29	1.95
1N1792A	MOT	4.00		3.00
1N1793	INT	2.55	2.05	1.75
1N1793	MOT	2.80		2.10
1N1793A	INT	2.85	2.29	1.95
1N1793A	MOT	4.00		3.00
1N1794	MOT	2.80		2.10
1N1794	INT	2.55	2.05	1.75
1N1794A	MOT	4.00		3.00
1N1795	INT	2.55	2.05	1.75
1N1795	MOT	2.75	1.95	
1N1795A	INT	2.85	2.29	1.95
1N1795A	MOT	4.00		3.00
1N1796	INT	2.55	2.05	1.75
1N1796	MOT	5.10		3.85
1N1796A	MOT	7.80		5.85
1N1797	INT	2.55	2.05	1.75
1N1797	MOT	5.10		3.85
1N1797A	INT	2.85	2.29	1.95
1N1797A	MOT	7.80		5.85
1N1798	INT	2.55	2.05	1.75
1N1798	MOT	5.10		3.85
1N1798A	MOT	7.80		5.85
1N1799	INT	2.55	2.05	1.75
1N1799	MOT	5.10		3.85
1N1799A	MOT	7.80		5.85
1N1800	INT	2.55	2.05	1.75
1N1800	MOT	5.10		3.85
1N1800A	MOT	7.80		5.85
1N1801	INT	2.55	2.05	1.75
1N1801	MOT	5.10		3.85
1N1801A	MOT	7.80		5.85
1N1802	INT	2.55	2.05	1.75
1N1802	MOT	5.10		3.85
1N1802A	INT	2.85	2.29	1.95
1N1802A	MOT	7.80		5.85
1N1803	MOT	6.30	5.35	4.65
1N1804	MOT	6.20	5.35	4.65

Type No.	Mfr.	1-24	25-99	100-Up
1N1804/10T6.2	SAR	3.39	2.90	4.65

Type No.	Mfr.	1-99	100-Mix	100-999
1N1805	INT	5.45		4.35
1N1805	MOT	6.20	5.35	4.65
1N1806	INT	5.45		4.35
1N1806	MOT	6.20	5.35	4.65
1N1807	INT	5.45		4.35
1N1807	MOT	6.20	5.35	4.65
1N1808	INT	5,45		4.35
1N1808	MOT	6.20	5.35	4.65
1N1809	MOT	6.20	5.35	4.65
1N1809	INT	5.45		4.35
1N1809A	MOT	7.85	6.80	5.90
1N1810	INT	5.45		4.35
1N1810	MOT	6.20	5.35	4.65
1N1810A	MOT	7.85	6.80	5.90
1N1811	INT	5.45		4.35
1N1811	MOT	6.20	5.35	4.65
1N1811A	MOT	7.85	5.35	4.65
1N1812	INT	5.45		4.35
1N1812	MOT	6.20	5.35	4.65
1N1812A	MOT	7.85	6.80	5.90
1N1813	INT	8.25		6.60
1N1813	MOT	9.10	7.90	6.85
1N1813A	MOT	14.90	12.20	10.60
1N1814	MOT	9.10	7.90	6.85
1N1814	INT	8.25		6.60
1N1814A	MOT	14.10	12.20	10.60
1N1815	INT	8.25		6.60

Type No.	Mfr.	1-99	100-Mix	100-999
1N1815	MOT	9.10	7.90	6.85
1N1815A	MOT	14.10	12.20	10.60
1N1816	MOT	6.20	5.35	4.65
1N1816	TI	5.10		4.50
1N1816A	MOT	7.85	6.80	5.90
1N1816A	TI	5.80		5.05
1N1816A/USN	TI	8.05		6.70
1N1817	MOT	6.20	5.35	4.65
1N1817	TI	5.10		4.50
1N1817A	MOT	7.85	6.80	5.90
1N1817A	TI	5.80		5.05
1N1817A/USN	TI	8.05		6.70
1N1818	MOT	6.20	5.35	4.65
1N1818	TI	5.10		4.50
1N1818A	MOT	7.85	6.80	5.90
1N1818A	TI	5.80		5.05
1N181A/USN	TI	8.05		6.75
1N1819	MOT	6.20	5.35	4.60
1N1819	TI	5.10		4.50
1N1819A	MOT	7.85	6.80	5.90
1N1819A	TI	5.80		5.05
1N1819A/USN	TI	8.05		6.70
1N1820	MOT	6.20	5.35	4.65
1N1820	TI	5.10		4.50
1N1820A	MOT	7.85	6.80	5.90
1N1820A	TI	5.80		5.05
1N1820A/USN	TI	8.05		6.70
1N1821	MOT	6.20	5.35	4.65
1N1821	TI	5.10		4.50
1N1821A	MOT	7.85	6.80	5.90
1N1821A	TI	5.80		5.05
1N1821A/USN	TI	8.05		6.70
1N1821C	MOT	7.50	6.50	5.65
1N1822	MOT	6.20	5.35	4.65
1N1822	TI	5.10		4.50
1N1822A	MOT	7.85	6.80	5.90
1N1822A	TI	5.80		5.05
1N1822A/USN	TI	8.05		6.70
1N1822C	MOT	7.50	6.50	5.65
1N1823	MOT	6.20	5.35	4.65
1N1823	TI	5.10		4.50
1N1823A	MOT	7.85	6.80	.90
1N1823A	TI	5.80		5.05
1N1823C	MOT	7.50	6.50	5.65
1N1824	MOT	6.20	5.35	4.65
1N1824	TI	5.10		4.50
1N1824A	MOT	7.85	6.80	5.90
1N1824A	TI	5.80		5.05
1N1824A/USN	TI	8.05		6.70
1N1824C	MOT	7.50	6.50	5.65
1N1825	MOT	6.20	5.35	4.65
1N1825	TI	5.10		4.50
1N1825A	MOT	7.85	6.80	5.90
1N1825A	TI	5.80		5.05
1N1825A/USN	TI	8.05		6.70
1N1825C	MOT	7.50	6.50	5.65
1N1826	MOT	6.20	5.35	4.65
1N1826	TI	5.10		4.50
1N1826A	MOT	7.85	6.80	5.90
1N1826A	TI	5.80		5.05
1N1826A/USN	TI	8.05		6.70
1N1826C	MOT	7.50	6.50	5.65
1N1827	MOT	6.20	5.35	4.65
1N1827	TI	5.10		4.50
1N1827A	MOT	7.85	6.80	5.90
1N1827A	TI	5.80		5.05
1N1827A/USN	TI	8.05		6.70
1N1827C	MOT	7.50	6.50	5.65
1N1828	MOT	6.20	5.35	4.65
1N1828	TI	5.10		4.50
1N1828A	MOT	7.85	6.80	5.90
1N1828A	TI	5.80		5.05
1N1828C	MOT	7.50	6.50	5.65
1N1829	MOT	6.20	5.35	4.65
1N1829	TI	5.10		4.50
1N1829A	MOT	6.20	5.35	4.65
1N1829A	TI	5.80		5.05
1N1829A/USN	TI	8.05		6.70
1N1829C	MOT	7.50	6.50	5.65
1N1830	MOT	6.20	5.35	4.64
1N1830	TI	5.10		4.50
1N1830A	MOT	7.85	6.80	5.90
1N1830A	TI	5.80		5.05
1N1830A/USN	TI	8.05		6.70
1N1830C	MOT	7.50	6.50	5.65
1N1831	MOT	6.20	5.35	4.65
1N1831	TI	5.10		4.50
1N1831A	MOT	7.85	6.80	5.90
1N1831A	TI	5.80		5.05
1N1831A/USN	TI	8.05		6.70
1N1831C	MOT	7.50	6.50	5.65
1N1832	TI	5.10		4.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N1832A	MOT	7.85	6.80	5.90
1N1832A	TI	5.80		5.05
1N1832C	TI	6.50		5.65
1N1833	MOT	6.20	5,35	4.65
1N1833	TI	5.10		4.50
1N1833A	MOT	7.85	6.80	5.90
1N1833A	TI	5.80		5.05
1N1833A/USN	TI	8.05		6.70
1N1833C	MOT	7.50	6.50	5.65
1N1834	MOT	6.20	5.35	4.65
1N1834	TI	5,10		4.50
1N1834A	MOT	7.85	6.80	5.90
1N1834A	TI	5.80		5.05
1N1834A/USN	TI	8.05		6.70
1N1834C	MOT	7.50	6.50	5.65
1N1835	MOT	6.20	5.35	4.65
1N1835	TI	5.10		4.50
1N1835A	MOT	7.85	6.80	5.90
1N1835A	TI	5.80		5.05
1N1835A/USN	TI	8.05		6.70
1N1835C	MOT	7.50	6.50	5.65
1N1836	TI	5.10		4.50
1N1836	MOT	6.20	5.35	4.65
1N1836A	MOT	7.85	6.80	5.90
1N1836A	TI	5.80		5.05
1N1836A/USN	TI	8.05		6.70
1N1836C	MOT	7.50	6.50	5.65

Type No.	Mfr.	1-24	25-99	100-999
1N1964	INT	2.08	1.68	

Type No.	Mfr.	1-99	100-Mix	100-999
1N2008	MOT	6.00		4.50
1N2008A	MOT	7.50		5.65
1N2009	MOT	6.00		4.50
1N2009A	MOT	7.50		5.65
1N2010	MOT	6.00		4.50
1N2010A	MOT	7.50		5.65
1N2011	MOT	6.00		4.50
1N2011A	MOT	7.50		5.65
1N2012	MOT	6.00		4.50
1N2012A	MOT	7.50		5.65
1N2032-1	MOT	4.00		3.00
1N2032-2	MOT	4.00		3.00
1N2033-1	MOT	4.00		3.00
1N2033-2	MOT	4.00		3.00
1N2034-1	MOT	4.00		3.00
1N2034-2	MOT	4.00		3.00
1N2034-3	MOT	4.00		3.00
1N2035-1	MOT	4.00		3.00
1N2035-2	MOT	4.00		3.00
1N2035-3	MOT	4.00		3.00
1N2036-1	MOT	4.00		3.00
1N2036-2	MOT	4.00		3.00
1N2037-1	MOT	4.00		3.00
1N2037-2	MOT	4.00		3.00
1N2037-3	MOT	4.00		3.00
1N2038-1	MOT	4.00		3.00
1N2038-2	MOT	4.00		3.00
1N2039-1	MOT	4.00		3.00
1N2039-2	MOT	4.00		3.00
1N2039-3	MOT	4.00		3.00
1N2040-1	MOT	4.00		3.00
1N2040-2	MOT	4.00		3.00
1N2040-3	MOT	4.00		3.00
1N2041-1	MOT	4.00		3.00
1N2041-2	MOT	7.60		5.70
1N2042-1	MOT	7.60		5.70
1N2042-2	MOT	7.60		5.70
1N2043-1	MOT	7.60		5.70
1N2043-2	MOT	7.60		5.70
1N2043-3	MOT	7.60		5.70
1N2044-1	MOT	7.60		5.70
1N2044-2	MOT	7.60		5.70
1N2044-3	MOT	7.60		5.70
1N2044-4	MOT	7.60		5.70
1N2045	HOF			
1N2045-1	MOT	7.60		5.70
1N2045-2	MOT	7.60		5.70
1N2046-1	MOT	7.60		5.70
1N2046-2	MOT	7.60		5.70
1N2046-3	MOT	7.60		5.70
1N2047-1	MOT	7.60		5.70
1N2047-2	MOT	7.60		5.70

Type No.	Mfr.	1-99	100-999	1000-Up
1N2047-3	MOT	7.60	5.70	
1N2048-1	MOT	7.60	5.70	
1N2048-2	MOT	7.60	5.70	

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Type No.	Mfr.	1-99	100-999	1000-Up
1N2048-3	MOT	7.60	5.70	.....
1N2049-1	MOT	7.60	5.70	.....
1N2049-2	MOT	7.60	5.70	.....
1N2049-3	MOT	7.60	5.70	.....
1N2049-4	MOT	7.60	5.70	.....
1N2055/70U10	INT	13.90	.....	.....
1N2066/70U80	INT	49.50	.....	.....
1N2068	INT	61.00	.....	.....
1N2069	TI	.45	.29	.19
1N2069/10D2	INT	.32	.28	.25
1N2069A	INT	.32	.28	.....
1N2069A	TI	.50	.31	.20
1N2070	TI	.55	.33	.22
1N2070/10D4	INT	.41	.35	.31
1N2070A	INT	.41	.35	.....
1N2070A	TI	.57	.35	.24
1N2071	TI	.62	.42	.26
1N2071/10D6	INT	.50	.44	.40
1N2071A	INT	.50	.44	.....
1N2071A	TI	.70	.46	.27
1N2130/25HB15	INT	2.05	1.45	.....
1N2130A/25H15	INT	3.10	2.30	.....
1N2131/25HB20	INT	2.40	1.65	.....
1N2135/25HB40	INT	3.70	2.60	.....
1N2135A/JAN	WES	7.10	4.80	.....
1N2135AR/JAN	GE	8.89	5.73	.....
1N2137A/25H50	INT	5.95	3.95	.....
1N2154	GE	2.38	3.95	.....
1N2155	GE	3.00	2.00	.....
1N2155R	GE	3.00	2.00	.....
1N2156	GE	4.38	2.92	.....
1N2157	GE	5.25	3.50	.....
1N2158	GE	5.92	3.95	.....
1N2158R	GE	5.92	3.95	.....
1N2159	GE	6.15	4.10	.....
1N2159R	GE	6.15	4.10	.....
1N2160	GE	6.30	4.20	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N2163	MOT	3.30	2.85	2.50
1N2164	MOT	4.50	3.90	3.40
1N2165A	MOT	7.30	6.30	5.50
1N2166	MOT	6.80	5.85	5.10
1N2166A	MOT	8.10	7.00	6.10
1N2167	MOT	8.65	7.45	6.50
1N2167A	MOT	11.05	9.55	8.30
1N2171A	MOT	44.50	38.50	33.50

Type No.	Mfr.	1-99	100-Mix	1000-Up
1N2175	TI	6.00	4.00	3.60

Type No.	Mfr.	1-99	100-999	1000-Up
1N2326	RCA	.55	.40	.33
1N2382	MOT	9.75	6.50	.....
1N2383	MOT	14.25	9.50	.....
1N2384	MOT	17.25	11.50	.....
1N2385	MOT	21.00	14.00	.....

Type No.	Mfr.	1-24	25-99	100-Up
1N2389/S5251	SAR	5.25	4.69	.....
1N2483/F-4	SAR	.35	.30	.20
1N2484/F-6	SAR	.37	.32	.29
1N2487/40-H	SAR	.43	.37	.35
1N2489/60-H	SAR	.47	.40	.31

Type No.	Mfr.	1-99	100-999	1000-Up
1N2498	MOT	6.00	4.50	.....
1N2498A	MOT	7.60	5.70	.....
1N2499	MOT	6.00	4.50	.....
1N2500	MOT	6.00	4.50	.....
1N2500A	MOT	7.60	5.70	.....
1N2610	INT	.55	.68	.....
1N2610/10C	SAR	.60	.39	.....
1N2611	INT	.62	.45	.....

Type No.	Mfr.	1-24	25-99	100-Up
1N2611/20C	SAR	.37	.32	.29

Type No.	Mfr.	1-99	100-999	1000-Up
1N2612	INT	.70	.50	.....
1N2613	INT	.79	.56	.....
1N2613/40C	SAR	.88	.56	.....
1N2614	INT	.89	.63	.....
1N2615	INT	1.00	.70	.....
1N2616	INT	1.30	1.00	.....
1N2617	INT	3.75	2.85	.....
1N2620	MOT	4.10	3.55	3.05
1N2620A	MOT	4.35	3.75	3.25

Type No.	Mfr.	1-99	100-Mix	100-999
1N2620B	MOT	4.90	4.20	3.65
1N2621	MOT	4.60	3.95	3.45
1N2622	MOT	7.60	6.55	5.70
1N2622A	MOT	8.15	7.05	6.10
1N2623	MOT	8.80	7.60	6.60

Type No.	Mfr.	1-24	25-99	100-999
1N2630/ST-1	INT	6.25	5.55	.....

Type No.	Mfr.	1-9	10-99	100-999
1N2631/ST-2	INT	5.50	4.95	.....
1N2632/ST-2A	INT	7.95	7.10	.....

Type No.	Mfr.	1-24	25-99	100-249
1N2633/ST-3	INT	5.50	4.95	.....
1N2634/ST4	INT	6.65	5.95	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N2725	INT	6.01	.....	.....
1N2728	INT	6.01	.....	.....
1N2731	INT	7.31	.....	.....
1N2767/1N7601	MOT	8.95	7.75	6.75
1N2804	MOT	5.65	4.90	4.25
1N2804A	MOT	7.65	6.60	5.75
1N2804B	MOT	10.65	9.20	8.00
1N2804B/JAN	MOT	14.65	12.65	11.00
1N2805B	MOT	10.65	9.20	8.00
1N2805B/JAN	MOT	14.65	12.65	11.00
1N2806	MOT	5.65	4.90	4.25
1N2806B/JAN	MOT	14.65	12.65	11.00
1N2807B/JAN	MOT	14.65	12.65	11.00
1N2808	MOT	5.65	4.90	4.25
1N2808A	MOT	7.65	6.60	5.75
1N2808B	MOT	10.65	9.20	8.00
1N2808B/JAN	MOT	14.65	12.65	11.00
1N2809	MOT	5.65	4.90	4.25
1N2809B/JAN	MOT	14.65	12.65	11.00
1N2810	MOT	5.65	4.90	4.25
1N2810A	MOT	7.65	6.60	5.75
1N2810B	MOT	10.65	9.20	8.00
1N2810B/JAN	MOT	14.65	12.65	11.00
1N2811	MOT	5.65	4.90	4.25
1N2811A	MOT	7.65	6.60	5.75
1N2811B	MOT	10.65	9.20	8.00
1N2811B/JAN	MOT	14.65	12.65	11.00
1N2812	MOT	5.65	4.90	4.25
1N2812B	MOT	10.65	9.20	8.00
1N2813	MOT	5.65	4.90	4.25
1N2813B	MOT	10.65	9.20	8.00
1N2813B/JAN	MOT	14.65	12.65	11.00
1N2814	MOT	5.65	4.90	4.25
1N2814A	MOT	7.65	6.60	5.75
1N2814B	MOT	10.65	9.20	8.00
1N2814B/JAN	MOT	14.65	12.65	11.00
1N2815	MOT	5.65	4.90	4.25
1N2816	MOT	5.65	4.90	4.25
1N2816B/JAN	MOT	14.65	12.65	11.00
1N2817	MOT	5.65	4.90	4.25
1N2817B/JAN	MOT	14.65	12.65	11.00
1N2818	MOT	5.75	4.90	4.25
1N2818A	MOT	7.65	6.60	5.75
1N2818B	MOT	10.65	9.20	8.00
1N2818B/JAN	MOT	14.65	12.65	11.00
1N2819	MOT	5.65	4.90	4.25
1N2819A	MOT	7.65	6.60	5.75

Type No.	Mfr.	1-99	100-Mix	100-999
1N2819B	MOT	10.65	9.20	8.00
1N2819B/JAN	MOT	14.65	12.65	11.00
1N2820	MOT	5.65	4.90	4.25
1N2820A	MOT	7.65	6.60	5.75
1N2820B	MOT	10.65	9.20	8.00
1N2820B/JAN	MOT	14.65	12.65	11.00
1N2821	MOT	5.65	4.90	4.25
1N2822	MOT	5.65	4.90	4.25
1N2822B	MOT	10.65	9.20	8.00
1N2822B/JAN	MOT	14.65	12.65	11.00
1N2823	MOT	5.65	4.90	4.25
1N2823A	MOT	7.65	6.60	5.75
1N2823B/JAN	MOT	14.65	12.65	11.00
1N2823B	MOR	10.65	9.20	8.00
1N2824	MOT	5.65	4.90	4.25
1N2824A	MOT	7.65	6.60	5.75
1N2824B	MOT	10.65	9.20	8.00
1N2824B/JAN	MOT	14.65	12.65	11.00
1N2825	MOT	5.65	4.90	4.25
1N2825B	MOT	10.65	9.20	8.00
1N2826	MOT	5.65	4.90	4.25
1N2826A	MOT	7.65	6.60	5.75
1N2826B	MOT	10.65	9.20	8.00
1N2826B/JAN	MOT	14.65	12.65	11.00
1N2827	MOT	5.65	4.90	4.25
1N2827A	MOT	7.65	6.60	5.75
1N2827B	MOT	10.65	9.20	8.00
1N2827B/JAN	MOT	14.65	12.65	11.00
1N2828	MOT	5.65	4.90	4.25
1N2828A	MOT	7.65	6.60	5.75
1N2828B	MOT	10.65	9.20	8.00
1N2829	MOT	5.65	4.90	4.25
1N2829A	MOT	7.65	6.60	5.75
1N2829B	MOT	10.65	9.20	8.00
1N2829B/JAN	MOT	14.65	12.65	11.00
1N2829B	MOT	17.30	.....	13.00
1N2830	MOT	5.65	4.90	4.25
1N2830A	MOT	7.65	6.60	5.75
1N2830B	MOT	10.65	9.20	8.00
1N2831B	MOT	10.65	9.20	8.00
1N2831B/JAN	MOT	14.65	12.65	11.00
1N2832	MOT	5.65	4.90	4.25
1N2832A	MOT	7.65	6.60	5.75
1N2832B	MOT	10.65	9.20	8.00
1N2832B/JAN	MOT	14.65	12.65	11.00
1N2833	MOT	5.65	4.90	4.25
1N2833A	MOT	7.65	6.60	5.75
1N2833B	MOT	10.65	9.20	8.00
1N2833B/JAN	MOT	14.65	12.65	11.00
1N2834	MOT	5.65	4.90	4.25
1N2834A	MOT	7.65	6.60	5.75
1N2834B	MOT	10.65	9.20	8.00
1N2834B/JAN	MOT	14.65	12.65	11.00
1N2835	MOT	5.65	4.90	4.25
1N2836A	MOT	7.65	6.60	5.75
1N2836B	MOT	10.65	9.20	8.00
1N2836B/JAN	MOT	14.65	12.65	11.00
1N2837A	MOT	7.65	6.60	5.75
1N2838	MOT	5.65	4.90	4.25
1N2838	MOT	7.65	6.60	5.75
1N2838B	MOT	10.65	9.20	8.00
1N2838B/JAN	MOT	14.65	12.65	11.00
1N2839	MOT	6.80	5.85	5.10
1N2839A	MOT	11.30	9.75	8.50
1N2839B	MOT	17.95	15.50	13.50
1N2840	MOT	6.80	5.85	5.10
1N2840A	MOT	11.30	9.75	8.50
1N2840B/JAN	MOT	25.65	22.25	19.35
1N2841	MOT	6.80	5.85	5.10
1N2841A	MOT	11.30	9.75	8.50
1N2841B	MOT	17.95	15.50	13.50
1N2841B/JAN	MOT	25.75	22.25	19.35
1N2842	MOT	6.80	5.85	5.10
1N2842A	MOT	11.30	9.75	8.50
1N2842B	MOT	17.95	15.50	13.50
1N2842B/JAN	MOT	25.75	22.25	19.35
1N2843	MOT	6.80	5.85	5.10
1N2843A	MOT	11.30	9.75	8.50
1N2843B	MOT	17.95	15.50	13.50
1N2843B/JAN	MOT	25.75	22.25	19.35
1N2844	MOT	6.80	5.85	5.10
1N2844A	MOT	11.30	9.75	8.50
1N2844B	MOT	17.95	15.50	13.50
1N2844B/JAN	MOT	25.75	22.25	19.35
1N2845	MOT	6.80	5.85	5.10
1N2845A	MOT	11.30	9.75	8.50
1N2845B	MOT	17.95	15.50	13.50
1N2845B/JAN	MOT	25.75	22.25	19.35
1N2846	MOT	6.80	5.85	5.10
1N2846A	MOT	11.30	9.75	8.50
1N2846B	MOT	17.95	15.50	13.50

Type No.	Mfr.	1-99	100-999	1000-Up
1N2858A	RCA	.33	.24	.20
1N2859A	RCA	.37	.27	.22
1N2860A	RCA	.40	.29	.24
1N2863A	RCA	.58	.42	.35

Type No.	Mfr.	1-99	100-Mix	100-499
1N2970	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2970	TI	3.60	.....	2.40
1N2970A	INT	3.30	2.65	2.10
1N2970A	MOT	5.85	5.05	4.40
1N2970A	TI	3.98	.....	2.65
1N2970B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2970B	MOT	7.80	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2970B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2970B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-999	1000-Up
1N2971	TI	3.60	2.40	.....
1N2971A	INT	3.30	2.65	2.10
1N2971A	TI	3.98	2.65	.....
1N2971B	INT	4.00	3.10	2.40
1N2971B	TI	4.95	3.30	.....

Type No.	Mfr.	1-99	100-Mix	100-499
1N2971B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2972	HOF	2.35	1.57	1.47
1N2972	MOT	5.45	4.70	4.10
1N2972	TI	3.60	.....	2.40
1N2972A	INT	3.30	2.65	2.10
1N2972A	MOT	5.85	5.05	4.40
1N2972A	TI	3.98	.....	2.65
1N2972B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2972B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2972B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2972B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2973	MOT	5.45	4.70	4.10
1N2973A	INT	3.30	2.65	2.10
1N2973A	MOT	5.85	5.05	4.40
1N2973A	TI	3.98	.....	2.65
1N2973B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2973B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2973B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2973B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2974	MOT	5.45	4.70	4.10
1N2974	TI	3.60	.....	2.40
1N2974A	MOT	5.85	5.05	4.40
1N2974A	TI	3.98	.....	2.65
1N2974B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2974B	MOT	7.30	6.70	5.85

Type No.	Mfr.	1-99	100-999	1000-Up
1N2974B	TI	4.95	3.30	.....

Type No.	Mfr.	1-99	100-Mix	100-499
1N2974B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2974RB/JAN	MOT	7.80	6.70	5.85
1N2975	INT	3.00	2.40	1.95

Type No.	Mfr.	1-99	100-Mix	100-499
1N2975	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2975A	INT	3.30	2.65	2.10
1N2975A	MOT	5.85	5.05	4.40
1N2975A	TI	3.98	.....	2.65
1N2975B	INT	4.00	3.10	2.40
1N2975B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2975B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2976	MOT	5.45	4.70	4.10
1N2976	TI	3.60	.....	2.40
1N2976A	INT	3.30	2.65	2.10
1N2976A	MOT	5.85	5.05	4.40
1N2976A	TI	3.98	.....	2.64
1N2976B	INT	4.00	.....	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2976B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2976B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2976B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100 999
1N2977	MOT	5.45	4.70	4.10
1N2977	TI	3.60	.....	2.40
1N2977A	INT	3.30	2.65	2.10
1N2977A	MOT	5.85	5.05	4.40
1N2977A	TI	3.98	.....	2.65
1N2977B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2977B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2977B	TI	4.95	.....	3.30
1N2977B/JAN	INT	4.30	3.25	2.55

Type No.	Mfr.	1-99	100-Mix	100-499
1N2977B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-999	1000-Up
1N2977B/USA	MOT	7.30	6.30	3.30
1N2978	INT	3.00	2.40	1.95

Type No.	Mfr.	1-99	100-Mix	100-499
1N2978	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2978	TI	3.60	.....	2.40
1N2978A	INT	3.30	2.65	2.10
1N2978A	MOT	5.85	5.05	4.40
1N2978A	TI	3.98	.....	2.65
1N2978B	INT	4.00	3.10	2.40
1N2978B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2978B/JAN	MOT	7.80	6.70	5.85
1N2779	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2979A	MOT	5.85	5.05	4.40
1N2979A	TI	3.98	.....	2.65
1N2979B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2979B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-999	1000-Up
1N2979B	TI	4.95	3.30	.....

Type No.	Mfr.	1-99	100-Mix	100-499
1N2979B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2979BML1	MOT	7.65	.....	5.75
1N2979BML2	MOT	9.95	.....	7.50
1N2979BML3	MOT	10.45	.....	7.85
1N2980	MOT	5.45	4.70	4.10
1N2980A	TI	3.98	.....	2.65
1N2980B	INT	4.00	3.10	2.40
1N2980B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2970B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-999	1000-Up
1N2980BML1	MOT	7.65	5.75	.....
1N2980BML2	MOT	9.95	7.50	.....
1N2980BML3	MOT	10.45	7.85	.....

Type No.	Mfr.	1-99	100-Mix	100-499
1N2981	MOT	5.45	4.70	4.10
1N2981A	MOT	5.85	5.05	4.40
1N2981B	INT	4.00	3.10	2.40
1N2981B	TI	4.95	.....	3.30
1N2981B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2981BML1	MOT	7.65	.....	5.75
1N2981BML2	MOT	9.95	.....	7.50
1N2981BML3	MOT	10.45	.....	7.85
1N2982	MOT	5.45	4.70	4.10
1N2982	TI	3.60	.....	2.40
1N2982	HOF	2.35	1.57	1.47

Type No.	Mfr.	1-99	100-Mix	100-499
1N2982A	MOT	5.85	5.05	4.40

Type No.	Mfr.	1-99	100-Mix	100-999
1N2982A	TI	3.98	.....	2.65
1N2982A	INT	3.30	2.65	2.10
1N2982B	INT	4.00	3.10	2.40
1N2982B/JAN	MOT	7.80	6.70	3.50

Type No.	Mfr.	1-99	100-Mix	100-499
1N2983	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2983	TI	3.60	.....	2.40
1N2983	MOT	5.85	5.05	4.40
1N2983A	TI	3.98	.....	2.65
1N2983A	TI	4.95	.....	3.30
1N2983B	TI	4.95	.....	3.30
1N2983BML1	MOT	7.65	.....	5.75
1N2983BML2	MOT	9.95	.....	7.50
1N2983BML3	MOT	10.45	.....	7.85

Type No.	Mfr.	1-99	100-Mix	100-499
1N2984	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2984	MOT	3.60	.....	2.40
1N2984A	INT	3.30	2.65	2.10
1N2984A	MOT	5.85	5.05	4.40
1N2984B	TI	3.98	.....	2.65
1N2984B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N2984B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2984B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N2984B/JAN	MOT	7.80	6.70	5.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N2984BML1	MOT	7.65	.....	5.75
1N2984BML2	MOT	9.95	.....	7.50
1N2984BML3	MOT	10.45	.....	7.85
1N2985	INT	3.00	2.40	1.95

Type No.	Mfr.	1-99	100-Mix	100-499
1N2985	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2985	TI	3.60	.....	2.40
1N2985A	MOT	5.85	5.05	4.40
1N2985A	TI	3.98	.....	2.65

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SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-Mix	100-999
1N2985B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2985B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2985B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2985BML1	MOT	7.65		5.75
1N2985BML2	MOT	9.95		7.50
1N2985BML3	MOT	10.45		7.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2986	MOT	5.45	4.70	4.10
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2986	TI	3.60		2.40
1N2986	INT	3.00	2.40	1.95
1N2986A	INT	3.30	2.65	2.10
1N2986A	MOT	5.85	5.05	4.40
1N2986A	TI	3.98		2.65
1N2986B	INT	4.00	3.10	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2986B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2986B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2986/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2986BML1	MOT	7.65		5.75
1N2986BML2	MOT	9.95		7.50
1N2986BML3	MOT	10.45		4.10
1N2987	MOT	5.45	4.70	4.10
1N2987A	MOT	5.85	5.05	4.40
1N2987A	TI	3.98		2.65
1N2987B	INT	4.00	3.10	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2987B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-999**	**1000-Up**
1N2987B	TI	4.95	3.30	
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2987B/JAN	MOT	7.80	6.70	5.85
1N2988B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2988B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2989	MOT	5.45	4.70	4.10
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2989B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2989B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2989B/USA	MOT	7.30	6.30	3.30
1N2990A	TI	3.98		2.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2990B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N2990B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2990B/JAN	MOT	7.80	6.70	5.85
1N2991	MOT	5.45	4.70	4.10
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2991	TI	3.60		2.40
1N2991A	INT	3.30	2.65	2.10
1N2991A	MOT	5.85	5.05	4.40
1N2991A	TI	3.98		2.65
Type No.	**Mfr.**	**1-9**	**10-99**	**100-249**
1N2991B	INT	4.00	3.10	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2991B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2991B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2991B/JAN	MOT	7.80	6.70	5.85
1N2992	MOT	5.45	4.70	4.10
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2992A	INT	3.30	2.65	2.10
1N2992A	MOT	5.85	5.05	4.40
1N2992B	INT	4.00	3.10	2.40
1N2992B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2992B/JAN	MOT	7.80	6.70	5.85
1N2993	MOT	5.45	4.70	4.10
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2993	TI	3.60		2.40
1N2993A	MOT	5.85	5.05	4.40
1N2993B	INT	4.00	3.10	2.40
1N2993B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2993B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2994	MOT	5.45	4.70	4.10
1N2994A	INT	3.30	2.65	2.10
1N2994A	MOT	5.85	5.05	4.40
1N2994B	INT	4.00	3.10	2.40
1N2994B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2995	MOT	5.45	4.70	4.10
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2995A	INT	3.30	2.65	2.10
1N2995A	MOT	5.85	5.50	4.40
1N2995A	TI	3.98		2.65
1N2998B	INT	4.00	3.10	2.40
1N2995B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2995B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2996	MOT	5.45	4.70	4.10
1N2996	TI	3.60		2.40
1N2996A	INT	3.30	2.65	2.10
1N2996A	MOT	5.85	5.05	4.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2996B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N2996B	TI	4.95		3.30
1N2997	TI	3.60		2.40
1N2997A	TI	3.98		2.65
1N2997B	TI	4.95		3.30
1N2997B/JAN	INT	4.30	3.25	2.55
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2997B/JAN	MOT	7.80	6.70	5.85
1N2998	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N2998	TI	3.60		2.40
1N2998A	MOT	5.85	5.50	4.40
1N2998A	TI			
1N2998B	TI	4.95		3.30
1N2999	TI	3.60		2.40
1N2998A	TI	3.98		2.65
1N2998B	INT	4.00	3.10	2.40
1N2999B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N2999B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3000	TI	3.60		2.40
1N3000A	TI	3.98		2.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3000B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3000B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3000B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3001	MOT	5.45	4.70	4.10
1N3001	TI	3.60		2.40
1N3001A	TI	3.98		2.65
1N3001B	INT	4.00	3.10	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3001B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3001B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3001B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3002	MOT	5.45	4.70	4.10
1N3002	TI	3.60		2.40
1N3002A	TI	3.98		2.65
1N3002B	INT	4.00	3.10	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3002B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3002B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3002B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3003	MOT	5.45	4.70	4.10
1N3003A	INT	3.30	2.65	2.10
1N3003A	MOT	5.85	5.05	4.40
1N3003A	TI	3.98		2.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3003B	MOT	7.30	6.30	5.50
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3003B	TI	4.95		3.30
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3003B/JAN	MOT	7.80	6.70	5.85
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3004	MOT	5.45	4.70	4.10
1N3004	TI	3.60		2.40
1N3004A	MOT	4.85	5.05	4.40
1N3004B	INT	4.00	3.10	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-499**
1N3004B/JAN	MOT	7.80	6.70	5.85
1N3005	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N3005	TI	3.60	.....	2.40
1N3005A	INT	3.30	2.65	2.10
1N3005A	MOT	5.85	5.05	4.40
1N3005A	TI	3.98	.....	2.65
1N3005B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N3005B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3005B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N3005B/JAN	MOT	9.95	8.60	7.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3006	MOT	5.45	4.70	4.10
1N3006	TI	3.60	.....	2.40
1N3006A	INT	3.30	2.65	2.10
1N3006A	MOT	5.85	5.05	4.40
1N3006A	TI	3.98	.....	2.65

Type No.	Mfr.	1-99	100-Mix	100-499
1N3006B	MOT	7.30	6.30	5.50
1N3006B	TI	4.95	.....	3.30
1N3007	MOT	5.45	4.70	4.10
1N3007	TI	3.60	.....	2.40
1N3007A	MOT	5.85	5.05	4.40
1N3007A	TI	3.98	.....	2.65
1N3007B	INT	4.00	3.10	2.40
1N3007B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3007B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N3007B/JAN	MOT	9.95	8.60	7.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3008	MOT	5.45	4.70	4.10
1N3008	TI	3.60	.....	2.40
1N3008A	MOT	5.85	5.05	4.40
1N3008A	TI	3.98	.....	2.65

Type No.	Mfr.	1-99	100-Mix	100-499
1N3008B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3008B	TI	4.95	.....	3.30
1N3009	TI	3.60	.....	2.40
1N3009A	INT	3.30	2.65	2.10
1N3009A	TI	3.98	.....	2.65
1N3009B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N3009B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3009B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N3009B/JAN	MOT	9.95	8.60	7.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3010	MOT	5.45	4.70	4.10
1N3010	TI	3.60	.....	2.40
1N3010A	INT	3.30	2.65	2.10
1N3010A	MOT	5.85	5.05	4.40
1N3010A	TI	3.98	.....	2.65
1N3010B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N3010B	MOT	7.30	6.30	5.50
1N3011	MOT	5.45	4.70	4.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N3011	TI	3.60	.....	2.40
1N3011A	INT	3.30	2.65	2.10
1N3011A	MOT	5.85	5.05	4.40
1N3011A	TI	3.98	.....	2.65
1N3011B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N3011B	MOT	7.30	6.30	5.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3011B	TI	4.95	.....	3.30

Type No.	Mfr.	1-99	100-Mix	100-499
1N3011B/JAN	MOT	9.95	8.60	7.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3012	INT	3.00	2.40	1.95
1N3012	MOT	6.00	5.15	4.50
1N3012A	INT	3.30	2.65	2.10
1N3012B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N3012B/JAN	MOT	17.40	15.00	13.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N3013	INT	3.00	2.40	1.95

Type No.	Mfr.	1-99	100-Mix	100-499
1N3013	MOT	6.00	5.15	4.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3013A	INT	3.30	2.65	2.10
1N3013B	INT	4.00	3.10	2.40
1N3014	INT	3.00	2.40	1.95

Type No.	Mfr.	1-99	100-Mix	100-499
1N3014	MOT	6.00	5.15	4.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3014B	INT	4.00	3.10	2.40

Type No.	Mfr.	1-99	100-Mix	100-499
1N3014B/JAN	MOT	17.40	15.00	13.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N3015	INT	3.00	2.40	1.95

Type No.	Mfr.	1-99	100-Mix	100-499
1N3015A	INT	3.30	2.65	2.10
1N3015B	INT	4.00	3.10	2.40
1N3015B	MOT	13.75	11.90	10.35
1N3015B/JAN	MOT	17.40	15.00	13.10

Type No.	Mfr.	1-99	100-Mix	100-999
1N3016	INT	3.00	2.40	1.95
1N3016	MOT	2.85	2.45	2.15
1N3016A	INT	3.30	2.65	2.10
1N3016B	INT	4.00	3.10	2.40
1N3016B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3016B/JAN	MOT	4.00	3.00	3.45

Type No.	Mfr.	1-99	100-Mix	100-999
1N3016B/JAN	TI	3.45	.....	3.00
1N3016B/USN	MOT	3.70	3.20	2.80
1N3017	INT	2.45	1.95	1.65
1N3017	MOT	2.85	2.45	2.15
1N3017	HOF	1.15	.88	.83
1N3017B	INT	2.80	2.20	1.85
1N3017B	MOT	3.70	3.20	2.80
1N3017B/JAN	INT	3.00	2.45	2.00

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3017B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3018	MOT	2.85	2.45	2.15
1N3018A	INT	2.60	2.05	1.75
1N3018A	MOT	3.20	.....	2.75
1N3018B	INT	2.80	2.20	1.85
1N3018B	MOT	3.70	3.20	2.80
1N3018B/JAN	INT	3.00	2.45	2.00

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3018B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3018B/JAN	TI	3.45	.....	3.00
1N3019	INT	2.45	1.95	1.65
1N3019	MOT	2.85	2.45	2.15
1N3019A	INT	2.60	2.05	1.75
1N3019B	INT	2.80	2.20	1.85
1N3019B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3019B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3019B/JAN	TI	3.45	.....	3.00
1N3020	INT	2.45	1.95	1.65

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3020	MOT	2.85	.....	2.15

Type No.	Mfr.	1-99	100-Mix	100-999
1N3020A	MOT	3.20	2.75	2.40
1N3020B	INT	2.80	2.20	1.85
1N3020B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3020B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3020B/JAN	TI	3.45	.....	3.00
1N3021	INT	2.45	1.95	1.65
1N3021	MOT	2.85	2.45	2.15
1N3021B	INT	2.80	2.20	1.85
1N3021B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3021B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3021B/JAN	TI	3.45	.....	3.00
1N3022	INT	2.45	1.95	1.65
1N3022	MOT	2.85	2.45	2.15
1N3022A	INT	2.60	2.05	1.75
1N3022B	INT	2.80	2.20	1.85
1N3022B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3022B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3023A	INT	2.60	2.05	1.75
1N3023B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3023B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3023B/JAN	TI	3.45	.....	3.00
1N3024	INT	2.45	1.95	1.65
1N3024A	INT	2.60	2.05	1.75
1N3024A	MOT	3.20	2.75	2.40
1N3024B	INT	2.80	2.20	1.85
1N3024B	MOT	3.70	2.30	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3024B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3024B/JAN	TI	3.45	.....	3.00
1N3025	MOT	2.85	2.45	2.15
1N3025B	INT	2.80	2.20	1.85
1N3025B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3025B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3025B/JAN	TI	3.45	.....	3.00
1N3026	INT	2.45	1.95	1.65
1N3026	MOT	3.85	2.45	2.15
1N3026A	INT	2.60	2.05	1.75
1N3026B	INT	2.80	2.20	1.85
1N3026B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3026B/JAN	MOT	4.00	3.45	3.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3026B/JAN	TI	3.45	.....	3.00
1N3027	INT	2.45	1.95	1.65
1N3027	MOT	2.85	2.45	2.15
1N3027A	INT	2.60	2.05	1.75
1N3027B	INT	2.80	2.20	1.85
1N3027B	MOT	3.70	3.20	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3027B/JAN	MOT	4.00	3.45	3.00

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Type No.	Mfr.	1-99	100-Mix	100-999
1N3028	INT	2.45	1.95	1.65
1N3028	MOT	2.85	2.45	2.15
1N3028A	INT	2.60	2.05	1.75
1N3028B	INT	2.80	2.20	1.85
1N3028B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3028B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3029	INT	2.45	1.95	1.65
1N3029	MOT	2.85	2.45	2.15
1N3029A	INT	2.60	2.05	1.75
1N3029B	INT	2.80	2.20	1.85
1N3029B	MOT	3.70	3.20	2.80
1N3029B/JAN	INT	3.00	2.45	2.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3029B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3029B/JAN	TI	3.45	.....	3.00
1N3030	MOT	2.85	2.45	2.15
1N3030	INT	2.45	1.95	1.65
1N3030A	INT	2.60	2.05	1.75
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3030B	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3030B	INT	2.80	2.20	1.85
1N3030B	MOT	3.70	3.20	2.80
1N3030B/JAN	MOT	4.00	3.45	3.00
1N3030B/JAN	TI	3.45	.....	3.00
1N3031	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3031	MOT	2.85	2.45	2.15
1N3031A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3031A	INT	2.60	2.05	1.75
1N3031B	INT	1.80	2.20	1.85
1N3031B	MOT	3.70	3.20	2.80
Type No	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3031B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3031B/JAN	TI	3.45	.....	3.00
1N3032	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3032	MOT	2.85	2.45	2.15
1N3032A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3032A	INT	2.60	2.05	1.75
1N3032B	INT	2.80	2.20	1.85
1N3032B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3032B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3032B/JAN	TI	3.45	.....	3.00
1N3033	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3033	MOT	2.85	2.45	2.15
1N3033A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3033B	INT	2.80	2.20	1.85
1N3033B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3033B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3033B/JAN	TI	3.45	.....	3.00
1N3034	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3034	MOT	2.85	2.45	2.15
1N3034A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3034B	INT	2.80	2.20	1.85
1N3034B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3034B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3034B/JAN	TI	3.45	.....	3.00
1N3035	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-M;x**	**100-Up**
1N3035	MOT	2.85	2.45	2.15
1N3035A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3035A	INT	2.60	2.05	1.75
1N3035B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3035B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3035B/JAN	TI	3.45	.....	3.00
1N3036	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3036	MOT	2.85	1.45	2.15
1N3036A	MOT	3.20	2.75	2.40
1N3036B	MOT	3.70	3.20	2.80
1N3036B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3036B/JAN	TI	3.45	.....	3.00
1N3037	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3037	MOT	2.85	2.45	2.15
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3037B	INT	2.80	2.20	1.85
1N3037B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3037B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3037B/JAN	TI	3.45	.....	3.00
1N3038	INT	2.45	1.95	1.65
1N3038	TI	2.36	.....	2.05
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3038	MOT	2.85	2.45	2.15
1N3038A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3038B	INT	2.80	2.20	1.85
1N3038B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3038B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3038B/JAN	TI	3.45	.....	3.00
1N3039	MOT	2.85	2.45	2.15
1N3039A	MOT	3.20	2.75	2.40
1N3039A	INT	2.60	2.05	1.75
1N3039B	INT	2.80	2.20	1.85
1N3039B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3039B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3039B/JAN	TI	3.45	.....	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3040	MOT	2.85	.....	2.15
1N3040A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3040B	INT	2.80	2.20	1.85
1N3040B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3040B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3041	INT	2.45	1.95	1.65
1N3041	MOT	2.85	2.45	2.15
1N3041A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3041A	INT	2.60	2.05	1.75
1N3041B	INT	2.80	2.20	1.85
1N3041B	MOT	3.70	3.20	2.80
1N3041B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3041B/JAN	TI	3.45	.....	3.00
1N3042	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3042	MOT	2.85	2.45	2.15
1N3042A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3042B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3042B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3042B/JAN	TI	3.45	.....	3.00
1N3043	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3043	MOT	2.85	2.45	2.15
1N3043A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3043B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3043B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3043B/JAN	TI	3.45	.....	3.00
1N3044	INT	2.45	1.95	1.65
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3044	MOT	2.85	2.45	2.15
1N3044A	MOT	3.20	2.75	2.40
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3044B	INT	2.80	2.20	1.85
1N3044B	MOT	3.70	3.20	2.80
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-Up**
1N3044B/JAN	MOT	4.00	3.45	3.00
Type No.	**Mfr.**	**1-99**	**100-Mix**	**100-999**
1N3045	INT	2.45	1.95	1.65
1N3045	MOT	2.95	2.55	2.20
1N3045A	MOT	3.25	.....	2.80

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3045B/JAN	MOT	6.90	6.00	5.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N3046	INT	2.45	1.95	1.65

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3046	MOT	2.95	2.55	2.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N3046A	INT	2.60	2.05	1.75
1N3046B	INT	2.80	2.20	1.85
1N3046B	MOT	4.65	4.05	3.50

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3046B/JAN	MOT	6.90	6.00	5.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N3047	INT	2.45	1.95	1.65

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3047	MOT	2.95	2.55	2.20
1N3047A	MOT	3.25	2.80	2.45

Type No.	Mfr.	1-99	100-Mix	100-999
1N3047B	INT	2.80	2.20	1.85
1N3047B	MOT	4.65	4.05	3.50
1N3047B/USN	MOT	6.90	6.00	5.20
1N3048	INT	2.45	1.95	1.65

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3048	MOT	2.95	2.55	2.20
1N3048A	MOT	3.24	2.80	2.45

Type No.	Mfr.	1-99	100-Mix	100-999
1N3048A	INT	2.60	2.05	1.75
1N3048B	MOT	4.65	4.05	3.40

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3048B/JAN	MOT	6.90	6.00	5.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N3049	MOT	2.95	2.55	2.20
1N3049B	INT	2.80	2.20	1.85

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3049B/JAN	MOT	6.90	6.00	5.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N3050	INT	2.45	1.95	1.65
1N3050	MOT	2.95	2.55	2.20
1N3050B	INT	2.80	2.20	1.85

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3050B/JAN	MOT	6.90	6.00	5.20

Type No.	Mfr.	1-99	100-Mix	100-999
1N3051	INT	2.45	1.95	1.65

Type No.	Mfr.	1-99	100-Mix	100-Up
1N3051	MOT	2.95	2.55	2.20
1N3051A	MOT	3.24	2.80	2.45

Type No.	Mfr.	1-99	100-Mix	100-999
1N3051A	INT	2.60	2.05	1.75
1N3051B	INT	2.80	2.20	1.85
1N3051B	MOT	4.65	4.05	3.50
1N3064	TI	.24	.14	.13
1N3064/1N4454	GE	.39	.26	.16

Type No.	Mfr.	1-999	100-999	1000-Up
1N3065/JAN	TI	.40	.26	.....
1N3070	TI	1.22	.98	.....
1N3070/JAN	TI	2.25	1.50	.....
1N3086/45L20	INT	14.00 NET		
1N3089	INT	22.50 NET		
1N3091	INT	30.10 NET		.....
1N3092	INT	42.00 NET		.....
1N3118/TD554	GE	9.15	6.10	.....

Type No.	Mfr.	1-24	25-99	100-999
1N3154	INT	.....	.....	.....
1N3154/JAN	MOT	3.50	3.00	2.40
1N3155	MOT	3.55	3.05	2.45
1N3155/JAN	MOT	4.95	4.25	3.40
1N3155A	MOT	4.35	3.75	3.00

Type No.	Mfr.	1-24	25-99	100-999
1N3156	MOT	6.15	5.30	4.25
1N3156/JAN	MOT	9.55	8.25	6.60
1N3157/JAN	MOT	12.75	11.00	8.80

Type No.	Mfr.	1-24	25-99	100-Up
1N3161/439A	WES	19.25	16.20	.....
1N3162/439B	WES	22.95	19.35	.....
1N3163/439C	WES	26.95	23.05	.....
1N3164/439D	WES	31.80	26.85	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N3164/USA	WES	35.70	.....	30.20

Type No.	Mfr.	1-24	25-99	100-499
1N3165/439E	WES	36.15	30.50	.....
1N3166/439F	WES	41.20	34.75	.....
1N3167/439G	WES	52.55	44.30	.....
1N3168/439H	WES	60.20	50.65	.....
1N3168/USA	WES	66.15	55.65	.....
1N3169/439K	WES	72.70	61.20	.....
1N3170/439M	WES	89.05	74.70	.....
1N3170/USA	WES	97.90	82.10	.....
1N3171A	WES	103.45	87.90	.....
1N3172A	WES	122.40	102.85	.....
1N3173A	WES	145.40	122.40	.....
1N3174A	WES	176.85	143.10	.....
1N3182	AMP	.47	.31	.....

Type No.	Mfr.	1-99	100-999	1000-Up
1N3189/JAN	GE	2.70	1.08	.....
1N3190/JAN	GE	3.60	1.44	.....
1N3193	RCA	.35	.21	.....
1N3194	RCA	.38	.28	.13
1N3195	RCA	.53	.39	.32
1N3196	RCA	.74	.54	.45
1N3208	GE	1.73	1.15	.....
1N3208	INT	1.05	.75	.....
1N3208/MR312	MOT	1.29	.86	.....
1N3208R	MOT	1.29	.86	.....
1N3209	GE	1.77	1.18	.....
1N3209	INT	1.25	.85	.....
1N3209/MR313	MOT	1.42	.95	.....
1N3209R	MOT	1.42	.95	.....
1N3210	GE	2.40	1.60	.....
1N3210	INT	1.70	1.20	.....
1N3210/MR314	MOT	1.87	1.25	.....
1N3210R	MOT	1.87	1.25	.....
1N3211	GE	2.64	1.76	.....
1N3211	INT	2.05	1.55	.....
1N3211/MR315	MOT	2.30	1.55	.....
1N3211R	MOT	2.30	1.55	.....
1N3212	GE	2.90	1.93	.....
1N3212	INT	2.85	1.90	.....
1N3212/MR316	MOT	2.55	1.70	.....
1N3212R	MOT	2.55	1.70	.....
1N3213	INT	6.65	4.40	.....
1N3213	GE	3.75	2.50	.....
1N3213	MOT	3.45	2.30	.....
1N3214	INT	7.30	4.80	.....
1N3214	MOT	3.90	2.60	.....
1N3253	RCA	.38	.28	.23
1N3254	RCA	.42	.30	.25
1N3255	RCA	.56	.41	.34
1N3256	RCA	.78	.57	.47

Type No.	Mfr.	1-24	25-99	100-999
1N3260	WES	8.00	6.85	.....
1N3260R	WES	8.00	6.85	.....
1N3261	WES	9.05	7.75	.....
1N3261R	WES	9.05	7.75	.....
1N3262	WES	11.80	10.33	.....
1N3262R	WES	11.80	10.33	.....
1N3263	WES	15.35	13.10	.....
1N3263R	WES	15.35	13.10	.....
1N3263/USA	WES	21.40	18.15	.....
1N3264	WES	17.60	14.60	.....
1N3264R	WES	17.60	14.60	.....
1N3265	WES	18.45	15.20	.....
1N3265R	WES	18.45	15.20	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N3266	WES	19.25	.....	15.95
1N3266R	WES	19.25	.....	15.95
1N3267	WES	20.05	.....	16.70
1N3267R	WES	20.05	.....	16.70
1N3267/USA	WES	36.95	.....	31.05
1N3268	WES	22.25	.....	18.45
1N3268R	WES	22.25	.....	18.45
1N3269	WES	26.10	.....	21.50
1N3269R	WES	26.10	.....	21.50

Type No.	Mfr.	1-99	100-Mix	100-999
1N3269/USA	WES	62.65	.....	53.00
1N3270	WES	29.40	.....	24.30
1N3270R	WES	29.40	.....	24.30
1N3271	WES	32.55	.....	26.95
1N3271R	WES	32.55	.....	26.95
1N3272	WES	35.80	.....	29.40
1N3272R	WES	35.80	.....	29.40
1N3273	WES	39.05	.....	32.50
1N3273R	WES	39.05	.....	32.50
1N3274	WES	42.50	.....	35.70
1N3274R	WES	42.50	.....	35.70
1N3275	WES	46.70	.....	39.35
1N3275R	WES	46.70	.....	39.35
1N3276	WES	51.45	.....	43.55
1N3276R	WES	51.45	.....	43.55
1N3282	MOT	2.45	.....	1.65
1N3283	MOT	3.05	.....	2.05
1N3284	MOT	7.95	.....	5.30
1N3285	MOT	10.05	.....	6.70
1N3286	MOT	17.25	.....	11.50

Type No.	Mfr.	1-9	10-99	100-999
1N3289	GE	14.50	8.75	.....

Type No.	Mfr.	1-99	100-499	500-999
1N3289R/JAN	GE	17.90	14.50	.....
1N3293/JAN	GE	26.45	20.90	.....
1N3294R/JAN	GE	35.20	28.10	.....
1N3295/JAN	GE	40.90	32.50	.....

Type No.	Mfr.	1-9	10-99	100-999
1N3296	GE	32.50	19.50	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N3305	MOT	5.65	4.90	4.25
1N3306	MOT	5.65	4.90	4.25
1N3307	MOT	5.65	4.90	4.25
1N3308	MOT	5.65	4.90	4.25
1N3309	MOT	5.65	4.90	4.25
1N3310	MOT	5.65	4.90	4.25
1N3311	MOT	5.65	4.90	4.25
1N3312	MOT	5.65	4.90	4.25
1N3313	MOT	5.65	4.90	4.25
1N3314	MOT	5.65	4.90	4.25
1N3315	MOT	5.65	4.90	4.25
1N3316	MOT	5.65	4.90	4.25
1N3317	MOT	5.65	4.90	4.25
1N3318	MOT	5.65	4.90	4.25
1N3319	MOT	5.65	4.90	4.25
1N3320	MOT	5.65	4.90	4.25
1N3321	MOT	5.65	4.90	4.25
1N3322	MOT	5.65	4.90	4.25
1N3323	MOT	5.65	4.90	4.25
1N3324	MOT	5.65	4.90	4.25
1N3325	MOT	5.65	4.90	4.25
1N3326	MOT	5.65	4.90	4.25
1N3327	MOT	5.65	4.90	4.25
1N3328	MOT	5.65	4.90	4.25
1N3329	MOT	5.65	4.90	4.25
1N3330	MOT	5.65	4.90	4.25
1N3331	MOT	5.65	4.90	4.25
1N3332	MOT	5.65	4.90	4.25
1N3333	MOT	5.65	4.90	4.25
1N3334	MOT	5.65	4.90	4.25
1N3335	MOT	5.65	4.90	4.25
1N3336	MOT	5.65	4.90	4.25
1N3337	MOT	5.65	4.90	4.25
1N3338	MOT	5.65	4.90	4.25
1N3339	MOT	5.65	4.90	4.25
1N3340	MOT	5.65	4.90	4.25
1N3341	MOT	6.80	5.85	5.10
1N3342	MOT	6.80	5.85	5.10
1N3343	MOT	6.80	5.85	5.10
1N3344	MOT	6.80	5.85	5.10
1N3345	MOT	6.80	5.85	5.10
1N3346	MOT	6.80	5.85	5.10
1N3347	MOT	6.80	5.85	5.10
1N3348	MOT	6.80	5.85	5.10
1N3349	MOT	6.80	5.85	5.10
1N3350	MOT	6.80	5.85	5.10

Type No.	Mfr.	1-99	100-Up	1000-Up
1N3491/MR322	MOT	.67	.45	.40
1N3491R/MR322R	MOT	.67	.45	.40
1N3492/MR323	MOT	.76	.51	.46
1N3492R/MR323R	MOT	.76	.51	.46
1N3493/MR324	MOT	1.11	.74	.67
1N3493R/MR324R	MOT	1.11	.74	.67

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SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-Up	1000-Up
1N3494/MR325	MOT	1.27	.85	.76
1N3494R/MR325R	MOT	1.27	.85	.76
1N3495/MR326	MOT	1.48	.99	.89
1N3495R/MR326R	MOT	1.48	.99	.89
1N3498	TI	9.00	7.00	.....
1N3499	TI	19.00	15.50	.....
1N3506	TI	1.10	.90	.23

Type No.	Mfr.	1-99	100-Mix	100-999
1N3511	TI	1.10	.90	.23
1N3512	TI	1.10	.90	.23
1N3514	TI	1.10	.90	.....
1N3518	TI	1.10	.90	.....
1N3519	TI	1.10	.90	.....
1N3563	RCA	.94	.69	.57
1N3583	MOT	10.90	9.40	8.20
1N3583A	MOT	11.80	10.20	8.85
1N3583B	MOT	15.65	13.55	11.75
1N3584A	MOT	32.80	28.35	24.65
1N3584B	MOT	36.80	31.80	27.65
1N3604/SD150	GE	.75	.....	.50

Type No.	Mfr.	1-99	100-999	1000-Up
1N3605/1N4152	GE	.60	.40	.30
1N3606	GE	.75	.50	.19
1N3616/16F10	INT	1.50	1.00	.....
1N3618/16F20	INT	3.00	2.00	.....
1N3620/16F40	INT	4.75	3.05	.....
1N3623	INT	9.00	4.40	.....
1N3659	MOT	.90	.60	.....
1N3659R	MOT	.90	.60	.....
1N3660	MOT	.99	.66	.....
1N3660R	MOT	.99	.66	.....
1N3661	MOT	1.33	.89	.....
1N3661R	MOT	1.33	.89	.....
1N3662	MOT	1.48	.99	.....
1N3662R	MOT	1.48	.99	.....
1N3663	MOT	1.70	1.14	.....
1N3663R	MOT	1.70	1.14	.....
1N3670	WES	7.88	5.25	.....
1N3670A	WES	7.88	5.25	.....
1N3671	WES	8.78	5.85	.....
1N3671A	WES	8.78	5.85	.....
1N3673A	GE	9.90	6.60	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N3675	MOT	3.45	3.00	2.60
1N3675B	MOT	4.90	4.25	3.70
1N3676	MOT	3.45	3.00	2.60
1N3677	MOT	3.45	3.00	2.60
1N3677B	MOT	4.90	4.25	3.70
1N3678	MOT	3.45	3.00	2.60
1N3679	MOT	3.45	3.00	2.60
1N3679B	MOT	4.90	4.25	3.70
1N3680	MOT	3.45	3.00	2.60
1N3680B	MOT	4.90	4.25	3.70
1N3681	MOT	3.45	3.00	2.60
1N3681B	MOT	4.90	4.25	3.70
1N3682	MOT	3.45	3.00	2.60
1N3682B	MOT	4.90	4.25	3.70
1N3683	MOT	3.45	3.00	2.60
1N3683	MOT	4.90	4.25	3.70
1N3684	MOT	3.45	3.00	2.60
1N3685	MOT	3.45	3.00	2.60
1N3685B	MOT	4.90	4.25	3.70
1N3686	MOT	3.45	3.00	2.60
1N3686B	MOT	4.90	4.25	3.70
1N3687	MOT	3.45	3.00	2.60
1N3687	MOT	4.90	4.25	3.70
1N3688	MOT	3.45	3.00	2.60
1N3688B	MOT	4.90	4.25	3.70
1N3689	MOT	3.45	3.00	2.60
1N3689B	MOT	4.90	4.25	3.70
1N3690	MOT	3.45	3.00	2.60
1N3690B	MOT	4.90	4.25	3.70
1N3691	MOT	3.45	3.00	2.60
1N3692	MOT	3.45	3.00	2.60

Type No.	Mfr.	1-99	100-Mix	100-999
1N3693	MOT	3.45	3.00	2.60
1N3693B	MOT	4.90	4.25	3.70
1N3694	MOT	3.45	3.00	2.60
1N3695	MOT	3.45	3.00	2.60
1N3696	MOT	3.45	3.00	2.60
1N3697	MOT	3.45	3.00	2.60
1N3697B	MOT	4.90	4.25	3.70
1N3698	MOT	3.45	3.00	2.60
1N3699	MOT	3.45	3.00	2.60
1N3700	MOT	3.45	3.00	2.60
1N3701	MOT	3.45	3.00	2.60
1N3702	MOT	3.45	3.00	2.60
1N3703	MOT	3.45	3.00	2.60
1N3703B	MOT	4.90	5.25	3.70
1N3712/TD-1	GE	3.60	2.40	2.18
1N3713/JAN	GE	5.78	3.87	3.49
1N3713/TD-1A	GE	5.45	3.60	3.27
1N3714/TD-2	GE	3.16	2.12	1.91
1N3715/JAN	GE	4.90	2.97	.....
1N3716/TD-3	GE	2.25	1.50	1.35
1N3717/JAN	GE	4.30	2.57	.....
1N3717/TD-3A	GE	4.25	2.83	2.56
1N3718/TD-4	GE	2.74	1.83	1.65
1N3719/JAN	GE	4.30	2.57	.....
1N3719/TD-4A	GE	4.25	2.83	2.56
1N3720/TD-5	GE	3.64	2.42	2.18
1N3721/JAN	GE	4.30	2.57	.....

Type No.	Mfr.	1-24	25-99	100-499
1N3742	GE	83.90	66.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
1N3754	RCA	.32	.23	.19
1N3755	RCA	.33	.24	.20
1N3756	RCA	.35	.26	.21
1N3765	WES	8.55	5.70	.....
1N3765R	WES	8.55	5.70	.....
1N3766	WES	9.75	6.50	.....
1N3766A	WES	9.75	6.50	.....
1N3767	WES	10.72	7.15	.....
1N3767R	WES	10.72	7.15	.....
1N3768	WES	11.62	7.75	.....
1N3768R	WES	11.62	7.75	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N3785	MOT	3.75	3.20	2.80
1N3785B/1.5M6.8Z5	MOT	6.95	6.00	5.25
1N3786	MOT	3.75	3.20	2.80
1N3787	MOT	3.75	3.20	2.80
1N3788	MOT	3.75	3.20	2.80
1N3789	MOT	3.75	3.20	2.80
1N3789/1.5M10Z5	MOT	6.95	6.00	5.25
1N3790	MOT	3.75	3.20	2.80
1N3791	MOT	3.75	3.20	2.80
1N3791B/1.5M12Z5	MOT	6.95	6.00	5.25
1N3792	MOT	3.75	3.20	2.80
1N3793	MOT	3.75	3.20	2.80
1N3793B/1.5M15Z5	MOT	6.95	6.00	5.25
1N3794	MOT	3.75	3.20	2.80
1N3795	MOT	3.75	3.20	2.80
1N3795B/1.5M18Z5	MOT	6.95	6.00	5.25
1N3796	MOT	3.75	3.20	2.80
1N3796B/1.5M20Z5	MOT	6.95	6.00	5.25
1N3797	MOT	3.75	3.20	2.80
1N3798	MOT	3.75	3.20	2.80
1N3798B/1.5M24Z5	MOT	6.95	6.00	5.25
1N3799	MOT	3.75	3.20	2.80
1N3800	MOT	3.75	3.20	2.80
1N3800B/1.5M30Z5	MOT	6.95	6.00	5.25
1N3801	MOT	3.75	3.20	2.80
1N3801A	MOT	5.30	4.60	4.00
1N3801B/1.5M33Z5	MOT	6.95	6.00	5.25
1N3803	MOT	3.75	3.20	2.80
1N3803A	MOT	5.30	4.60	4.00
1N3084	MOT	3.75	3.20	2.80
1N3808B/1.5M62Z5	MOT	6.95	6.00	5.25
1N3810	MOT	3.75	3.20	2.80
1N3810B/1.5M75Z5	MOT	6.95	6.00	5.25
1N3813	MOT	3.75	3.20	2.80
1N3813A	MOT	5.30	4.60	4.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N3813B/1.5M100Z5	MOT	6.95	6.00	5.25
1N3818	MOT	4.75	4.10	3.55
1N3821	INT	2.00	.....	1.60

Type No.	Mfr.	1-99	100-999	100-Up
1N3821	MOT	2.10	.....	1.60

Type No.	Mfr.	1-99	100-Mix	100-999
1N3821A	INT	2.50	.....	2.00
1N3821A	MOT	2.65	2.30	2.00
1N3821A/JAN	MOT	5.05	4.35	3.80
1N3822	MOT	2.10	.....	1.60
1N3822	INT	2.00	.....	1.60
1N3822A	INT	2.60	.....	2.00
1N3822A	MOT	2.65	2.30	2.00
1N3822A/JAN	MOT	5.05	4.35	3.80
1N3823	MOT	2.10	.....	1.60
1N3823	INT	2.00	.....	1.60
1N3823A	INT	2.50	.....	2.00
1N3823A	MOT	2.65	2.30	2.00
1N3823A/JAN	MOT	5.05	4.35	3.80
1N3824	MOT	2.10	.....	1.60
1N3824	INT	2.00	.....	1.60
1N3824A	INT	3.50	.....	2.00
1N3824A	MOT	2.65	2.30	2.00
1N3824A/JAN	MOT	5.05	4.35	3.80
1N3825	MOT	2.10	.....	1.60
1N3825	INT	2.00	.....	1.60
1N3825A	INT	2.50	.....	2.00
1N3825A	MOT	2.65	2.30	2.00
1N3825A/JAN	MOT	5.05	4.35	3.80
1N3826	MOT	2.10	.....	1.60
1N3826	INT	2.00	.....	1.60
1N3826A	INT	2.50	.....	2.00
1N3826A	MOT	2.65	2.30	2.00
1N3826A/JAN	MOT	5.05	4.35	3.80
1N3826A/USN	MOT	5.05	4.35	3.80
1N3827	INT	2.00	.....	1.60
1N3827	MOT	2.10	.....	1.60
1N3827A	INT	2.50	.....	2.00
1N3827A	MOT	2.65	2.30	2.00
1N3827A/JAN	MOT	5.05	4.35	3.80
1N3827A/USN	MOT	5.05	4.35	3.80
1N3828	INT	2.00	.....	1.60
1N3828	MOT	2.10	.....	1.60
1N3828A	INT	2.50	.....	2.00
1N3828A	MOT	2.65	2.30	2.00
1N3828A/JAN	MOT	5.05	4.35	3.80
1N3828A/USN	MOT	5.05	4.35	3.80
1N3829	INT	2.00	.....	1.60
1N3829	MOT	2.10	.....	1.60
1N3829A	INT	2.50	.....	2.00
1N3829A	MOT	2.65	2.30	2.00
1N3830	MOT	2.10	.....	1.60
1N3830A	MOT	2.65	2.30	2.00
1N3879	MOT	3.60	.....	2.40
1N3880	MOT	3.90	.....	2.60
1N3881	MOT	5.70	.....	3.80
1N3882	MOT	8.10	.....	5.40
1N3883	MOT	10.20	.....	6.80
1N3889	GE	3.15	.....	2.10
1N3889	MOT	4.20	.....	2.80
1N3889	WES	5.03	.....	3.35
1N3890	MOT	4.50	.....	3.00
1N3890	WES	5.40	.....	3.60
1N3891	GE	5.93	.....	3.95
1N3891	MOT	6.30	.....	4.20
1N3891	WES	7.80	.....	5.20
1N3892	MOT	9.00	.....	6.00
1N3892	WES	11.70	.....	7.80
1N3893	MOT	11.70	.....	7.80
1N3893	WES	17.25	.....	11.50
1N3899	WES	6.38	.....	4.25
1N3899	MOT	5.85	.....	3.90
1N3989	WES	9.30	.....	6.20
1N3900	WES	7.05	.....	4.70
1N3900	MOT	6.60	.....	4.40
1N3900R	WES	6.75	.....	4.50
1N3901	MOT	8.85	.....	5.90
1N3901	MOT	9.70	.....	6.50
1N3901R	WES	9.00	.....	6.00
1N3902	WES	15.00	.....	10.00
1N3902	MOT	11.25	.....	7.50
1N3902R	WES	11.40	.....	7.60
1N3903	MOT	14.70	.....	9.80
1N3903	WES	22.50	.....	15.00
1N3903R	WES	15.45	.....	10.30
1N3909	WES	6.75	.....	4.50
1N3909	MOT	7.50	.....	5.00
1N3910	MOT	9.60	.....	6.45

Type No.	Mfr.	1-99	100-Mix	100-999
1N3910	WES	9.75	.....	6.50
1N3911	MOT	10.50	.....	7.00
1N3911	WES	12.75	.....	8.50
1N3912	MOT	13.80	.....	9.20
1N3912	WES	18.60	.....	12.40
1N3913	MOT	18.00	.....	12.00
1N3913	WES	27.75	.....	18.50
1N3987	INT	7.25	.....	5.00
1N3987	WES	7.65	.....	5.15
1N3987R	WES	7.65	.....	5.15
1N3988	INT	8.25	.....	5.60
1N3989	INT	9.00	.....	6.00
1N3989	WES	8.60	.....	5.75
1N3989R	WES	9.30	.....	6.20
1N3990	INT	9.50	.....	6.25
1N3990	WES	9.30	.....	6.20
1N3993	INT	4.80	.....	4.05
1N3993	MOT	5.65	4.90	4.20
1N3993A	INT	6.50	.....	5.65
1N3993A	MOT	7.70	6.65	5.80
1N3993A/JAN	MOT	11.95	10.35	9.00
1N3995	INT	6.50	.....	5.40
1N3995	MOT	5.65	4.90	4.20
1N3995A	MOT	7.70	6.65	5.80
1N3995A/JAN	MOT	11.95	10.35	9.00
1N3995A/USN	MOT	11.95	10.35	9.00
1N3996	INT	4.80	.....	4.05
1N3996	MOT	5.65	4.90	4.25
1N3996A	INT	6.50	.....	5.65
1N3996A	MOT	7.70	6.65	5.80
1N3996A/JAN	MOT	11.95	10.35	9.00
1N3996A/USN	MOT	11.95	10.35	9.00
1N3997	INT	4.80	.....	4.05
1N3997	MOT	5.65	4.90	4.25
1N3997A	INT	6.50	.....	5.65
1N3997A	MOT	7.70	6.65	5.80
1N3997A/JAN	MOT	11.95	10.35	9.00
1N3997A/USN	MOT	11.95	10.35	9.00
1N3998	INT	4.80	.....	4.05
1N3998	MOT	5.65	4.90	4.20
1N3998A	INT	6.50	.....	5.65
1N3998A	MOT	7.70	6.65	5.80
1N3998A/JAN	MOT	11.95	10.35	9.00
1N3998A/USN	MOT	11.95	10.35	9.00
1N3999	MOT	5.65	4.90	4.20
1N3999A	MOT	7.70	6.65	5.80
1N3999A/JAN	MOT	11.95	10.35	9.00
1N3999A/USN	MOT	11.95	10.35	9.00
1N4000	MOT	5.65	4.90	4.25
1N4000A/JAN	MOT	11.95	10.35	9.00
1N4000A/USN	MOT	11.95	10.35	9.00

Type No.	Mfr.	1-99	100-999	1000-Up
1N4001	MOT	.38	.25	.20
1N4001	TI	.39	.26	.16
1N4002	MOT	.41	.27	.22
1N4002	TI	.49	.33	.18

Type No.	Mfr.	1-24	25-99	100-999
1N4002/E1	SAR	.33	.29	.27

Type No.	Mfr.	1-99	100-999	1000-Up
1N4003	MOT	.45	.30	.24
1N4003	TI	.50	.33	.19

Type No.	Mfr.	1-24	25-99	100-999
1N4003/E2	SAR	.33	.29	.27

Type No.	Mfr.	1-99	100-999	1000-Up
1N4004	MOT	.53	.35	.28
1N4004	TI	.56	.37	.22

Type No.	Mfr.	1-24	25-99	100-999
1N4004/E4	SAR	.35	.30	.28

Type No.	Mfr.	1-99	100-999	1000-Up
1N4005	MOT	.60	.40	.32
1N4005	TI	.66	.45	.26

Type No.	Mfr.	1-24	25-99	100-999
1N4005/E6	SAR	.37	.32	.29

Type No.	Mfr.	1-99	100-999	1000-Up
1N4006	MOT	.75	.50	.40
1N4006	TI	.99	.65	.36

Type No.	Mfr.	1-24	25-99	100-999
1N4006/E8	SAR	.52	.44	.41

Type No.	Mfr.	1-99	100-999	1000 Up
1N4007	TI	1.49	.99	.....
1N4007	MOT	.83	.55	.44

Type No.	Mfr.	1-24	25-99	100-999
1N4007/E10	SAR	.79	.67	.63

Type No.	Mfr.	1-99	100-999	1000-Up
1N4009/1N4154	GE	.36	.24	.18

Type No.	Mfr.	1-24	25-99	100-Up
1N4044	INT	12.90	12.90	.....
1N4044	WES	13.50	11.75	.....
1N4044R	WES	13.50	11.75	.....
1N4045	WES	20.50	16.25	.....
1N4045	INT	19.90	.....	.....
1N4046	INT	23.45	23.45	.....
1N4046	WES	23.90	19.00	.....
1N4046R	WES	23.90	19.00	.....
1N4047	INT	28.00	28.00	.....
1N4047	WES	29.50	21.90	.....
1N4047R	WES	28.50	21.90	.....
1N4048	INT	29.90	29.90	.....
1N4048	WES	30.50	23.50	.....
1N4048R	WES	30.50	23.50	.....
1N4049	INT	32.35	32.35	.....
1N4049	WES	32.90	25.25	.....
1N4049R	WES	32.90	25.25	.....
1N4050	INT	35.55	35.55	.....
1N4050	WES	36.00	27.50	.....
1N4050R	WES	36.00	27.50	.....
1N4051	INT	44.00	44.00	.....
1N4051	WES	44.50	34.50	.....
1N4051R	WES	44.50	34.50	.....
1N4052	INT	52.15	52.15	.....
1N4052	WES	52.75	40.75	.....
1N4052R	WES	52.75	40.75	.....
1N4053	INT	58.25	58.25	.....
1N4053	WES	59.00	45.50	.....
1N4053R	WES	59.00	45.50	.....
1N4054	INT	66.85	66.85	.....
1N4054	WES	67.50	52.75	.....
1N4054R	WES	67.50	52.75	.....
1N4054R	WES	72.50	58.00	.....
1N4055	INT	19.90	19.90	.....
1N4056	INT	79.50	79.50	.....
1N4056	WES	80.00	63.50	.....
1N4056R	WES	80.00	63.50	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N4057	MOT	5,90	5.10	4.45
1N4057A	MOT	7.10	6.15	5.35
1N4058	MOT	6.40	5.50	4.80
1N4058A	MOT	10.75	9.30	8.10
1N4959	MOT	7.20	6.20	5.40
1N4059A	MOT	8.55	7.40	6.45
1N4060	MOT	7.70	6.65	5.80
1N4060A	MOT	9.25	8.00	6.95
1N4061/1N2767	MOT	8.95	7.75	6.75
1N4061A	MOT	10.75	9.30	8.10
1N4062	MOT	9.70	8.40	7.30
1N4062A	MOT	11.70	10.10	8.80
1N4063	MOT	10.75	9.30	8.10
1N4063A	MOT	12.90	11.15	9.70
1N4064	MOT	12.05	10.40	9.05
1N4064A	MOT	14.45	12.45	10.85
1N4065	MOT	12.75	11.05	9.60
1N4065A	MOT	15.35	13.30	11.55
1N4066	MOT	13.55	11.75	10.20
1N4066A	MOT	16.30	14.10	12.25
1N4067	MOT	14.80	12.80	11.15
1N4067A	MOT	17.80	15.40	13.40
1N4068	MOT	15.90	13.75	11.95
1N4068A	MOT	19.00	16.45	14.30
1N4069	MOT	17.95	15.50	13.50
1N4069A	MOT	21.55	18.65	16.20
1N4070	MOT	19.70	17.00	14.80
1N4070A	MOT	23.60	20.40	17.75
1N4071	MOT	22.35	19.30	16.80
1N4071A	MOT	26.80	23.15	20.15
1N4072	MOT	23.15	20.00	17.40
1N4072A	MOT	26.75	23.90	20.80
1N4073	MOT	25.25	21.85	19.00
1N4073A	MOT	30.30	26.20	22.80
1N4074	MOT	27.25	23.55	20.50
1N4074A	MOT	32.70	28.30	24.60
1N4075	MOT	28.85	24.95	21.70
1N4075A	MOT	34.60	29.90	26.00
1N4076	MOT	30.30	26.20	22.80
1N4076A	MOT	36.35	31.45	27.35
1N4077	MOT	33.25	28.75	25.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N4077A	MOT	39.90	34.50	30.00
1N4078	MOT	34.90	30.20	26.25
1N4078A	MOT	41.90	36.20	31.50
1N4079	MOT	36.85	31.85	27.70
1N4079A	MOT	44.15	38.20	33.20
1N4080	MOT	39.90	34.50	30.00
1N4080A	MOT	47.90	41.40	36.00
1N4081	MOT	42.40	36.70	31.90
1N4081A	MOT	50.85	44.00	38.25
1N4082	MOT	45.75	39.55	34.40
1N4082A	MOT	54.85	47.45	41.25
1N4083	MOT	49.85	43.10	37.50
1N4083A	MOT	59.85	51.75	45.00
1N4084	MOT	57.05	49.35	42.90
1N4084A	MOT	68.40	59.15	51.45
1N4085	MOT	63.95	55.30	48.10
1N4085A	MOT	76.75	66.35	57.70
1N4090	GE	3.35	.....	2.20
1N4099	MOT	3.85	3.35	2.90
1N4100	MOT	3.85	3.35	2.90
1N4101	MOT	3.85	3.35	2.90
1N4102	MOT	3.85	3.35	2.90
1N4103	MOT	3.85	3.35	2.90
1N4104	MOT	3.85	3.35	2.90
1N4105	MOT	3.85	3.35	2.90
1N4106	MOT	3.85	3.35	2.90
1N4107	MOT	3.85	3.35	2.90
1N4108	MOT	3.85	3.35	2.90
1N4109	MOT	3.85	3.35	2.90
1N4110	MOT	3.85	3.35	2.90
1N4111	MOT	3.85	3.35	2.90
1N4112	MOT	3.85	3.35	2.90
1N4113	MOT	3.85	3.35	2.90
1N4114	MOT	3.84	3.35	2.90
1N4115	MOT	3.85	3.35	2.90
1N4116	MOT	3.85	3.35	2.90
1N4117	MOT	5.05	4.35	3.80
1N4118	MOT	3.85	3.35	2.90
1N4119	MOT	3.85	3.35	2.90
1N4120	MOT	3.85	3.35	2.90
1N4121	MOT	3.85	3.35	2.90
1N4122	MOT	5.05	4.35	3.80
1N4123	MOT	5.05	4.35	3.80
1N4124	MOT	5.05	4.35	3.80
1N4125	MOT	5.05	4.35	3.80
1N4126	MOT	5.05	4.35	3.80
1N4127	MOT	5.05	4.35	3.80
1N4128	MOT	5.05	4.35	3.80
1N4129	MOT	5.05	4.35	3.80
1N4130	MOT	5.05	4.35	3.80
1N4131	MOT	5.05	4.35	3.80
1N4132	MOT	5.05	4.35	3.80
1N4133	MOT	5.05	4.35	3.80
1N4134	MOT	5.05	4.35	3.80
1N4135	MOT	5.05	4.35	3.80
1N4137	WES	7.55	.....	5.21
1N4138	WES	9.15	.....	6.17

Type No.	Mfr.	1-99	100-999	1000-Up
1N4148	GE	.30	.20	.14
1N4148	TI	.33	.22	.12
1N4148/JAN	GE	.30	.20	.14
1N4148/JAN	TI	.33	.22	.12
1N4149	TI	.50	.32	.15
1N4150	GE	2.10	1.40	.39
1N4151	GE	.75	.50	.19
1N4151	TI	.73	.48	.....
1N4152/1N3605	GE	.60	.40	.30
1N4152	TI	.65	.41	.....
1N4153	GE	.75	.50	.19
1N4153	TI	.90	.60	.....
1N4154	GE	.33	.22	.15
1N4154	TI	.35	.21	.....
1N4156	GE	.75	.50	.33
1N4157	GE	1.04	.69	.39
1N4305	GE	.60	.40	.....
1N4305	TI	.58	.38	.....
1N4306	GE	7.00	4.66	4.20
1N4307	GE	15.00	10.00	9.00

Type No.	Mfr.	1-99	100-Mix	100-999
1N4370/.4M2.4AZ10	MOT	2.00	1.70	1.50
1N4370	TI	.90	.....	.60
1N4370A	INT	1.00	.....	.85
1N4370A/USN	MOT	2.95	2.55	2.20
1N4370A/JAN	TI	1.10	.80	.22
1N4370A/.4M2.4AZ5	MOT	2.75	2.35	2.05

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Type No.	Mfr.	1-99	100-Mix	100-999
1N4370AML3	MOT	4.65	.....	3.50
1N4371/.4M2.7AZ10	MOT	2.00	1.70	1.50
1N4371	TI	.90	.....	.60
1N4371A	INT	1.00	.....	.85
1N4371A/.4M2.7AZ5	MOT	2.75	2.35	2.05
1N4371A/JAN	TI	1.10	.80	.22
1N4371A/USN	MOT	2.95	.....	2.20
1N4372/.4M3.0AZ10	MOT	2.00	1.70	1.50
1N4372	TI	.90	.....	.60
1N4372A	INT	1.00	.....	.85
1N4372A/.4M3.0AZ5	MOT	2.75	2.35	2.05
1N4372A/JAN	TI	1.10	.80	.22
1N4372A/USN	MOT	2.95	2.55	2.20
1N4387/MV1804	MOT	42.00	.....	28.00
1N4388/MV1806	MOT	42.00	.....	28.00

Type No.	Mfr.	1-99	100-999	1000-Up
1N4444	GE	1.51	.99	.89
1N4444	TI	1.49	.97	.....
1N4446	GE	.36	.24	.....
1N4446	TI	.38	.24	.....
1N4447	TI	.56	.36	.....
1N4448	GE	.75	.50	.....
1N4448	TI	.78	.52	.....
1N4449	TI	.78	.52	.....
1N4451	GE	1.28	.85	.75
1N4453	GE	.54	.36	.26
1N4454/1N3064	GE	.39	.20	.....
1N4454	TI	.33	.19	.....
1N4454/JAN	GE	.35	.24	.....
1N4529/A38P	GE	13.50	9.00	.....
1N4530/A38PB	GE	17.25	11.50	.....
1N4531	GE	.45	.30	.....
1N4531	TI	.45	.30	.....
1N4532	GE	.65	.43	.14
1N4532	TI	.83	.57	.....
1N4533	GE	.69	.46	.....
1N4533	TI	.72	.48	.....
1N4534	TI	1.00	.67	.....
1N4536	GE	.42	.28	.18
1N4536	TI	.42	.28	.....

Type No.	Mfr.	1-99	100-Mix	100-999
1N4549	MOT	6.05	5.25	4.55
1N4549B	MOT	8.00	6.90	6.00
1N4549B	MOT	11.50	9.95	8.65
1N4550	MOT	6.05	5.25	4.55
1N4550A	MOT	8.00	6.90	6.00
1N4550B	MOT	11.50	9.95	8.65
1N4551	MOT	6.05	5.25	4.55
1N4551A	MOT	8.00	6.90	6.00
1N4551B	MOT	11.50	9.95	8.65
1N4552	MOT	6.05	5.25	4.55
1N4552A	MOT	8.00	6.90	6.00
1N4552B	MOT	11.50	9.95	8.65
1N4553	MOT	6.05	5.25	4.55
1N4553A	MOT	8.00	6.90	6.00
1N4553B	MOT	11.50	9.95	8.65
1N4554	MOT	6.05	5.25	4.55
1N4554A	MOT	8.00	6.90	6.00
1N4554B	MOT	11.50	9.95	8.65
1N4555	MOT	6.05	5.25	4.55

Type No.	Mfr.	1-99	100-Mix	100-999
1N4555A	MOT	8.00	6.90	6.00
1N4555B	MOT	11.50	9.95	8.65
1N4556	MOT	6.05	5.25	4.55
1N4556A	MOT	8.00	6.90	6.00
1N4556B	MOT	11.50	9.95	8.65
1N4557	MOT	6.05	5.25	4.55
1N4557A	MOT	8.00	6.90	6.00
1N4557B	MOT	11.50	9.95	8.65
1N4558	MOT	6.05	5.25	4.55
1N4558A	MOT	8.00	6.90	6.00
1N4558B	MOT	11.50	9.95	8.65
1N4559	MOT	6.05	5.25	4.55
1N4559A	MOT	8.00	6.90	6.00
1N4559B	MOT	11.50	9.95	8.65
1N4560	MOT	6.05	5.25	4.55
1N4560A	MOT	8.00	6.90	6.00
1N4560B	MOT	11.50	9.95	8.65
1N4561	MOT	6.05	5.25	4.55
1N4561A	MOT	8.00	6.90	6.00
1N4561B	MOT	11.50	9.95	8.65
1N4562	MOT	6.05	5.25	4.55
1N4562A	MOT	8.00	6.90	6.00
1N4562B	MOT	11.50	9.95	8.65
1N4563	MOT	6.05	5.25	4.55
1N4563A	MOT	8.00	6.90	6.00
1N4563B	MOT	11.50	9.95	8.65
1N4564	MOT	6.05	5.25	4.55
1N4564A	MOT	8.00	6.90	6.00
1N4564B	MOT	11.50	9.95	8.65
1N4565	MOT	8.65	7.45	6.50
1N3565A	MOT	9.70	8.40	7.30
1N4566	MOT	11.70	10.10	8.80
1N4566A	MOT	13.05	11.25	9.80
1N4567	MOT	23.80	20.60	17.80
1N4567A	MOT	26.45	22.90	19.90
1N4568	MOT	41.10	35.55	30.90
1N3568A	MOT	45.75	39.55	34.40
1N4569	MOT	89.50	77.40	67.30
1N4569A	MOT	99.50	86.00	74.80
1N4570	MOT	5.85	5.05	4.40
1N4570A	MOT	6.50	5.65	4.90
1N4571	MOT	7.30	6.30	5.50
1N4571A	MOT	8.10	7.00	6.10
1N4572	MOT	13.25	11.45	9.95
1N4572A	MOT	14.75	12.75	11.10
1N4573	MOT	24.25	21.00	18.25
1N4573A	MOT	27.00	23.35	20.30
1N4574	MOT	56.50	48.85	42.50
1N4574A	MOT	63.15	54.60	47.50

Type No.	Mfr.	1-99	100-Mix	100-Up
1N4575	MOT	3.00	2.60	2.25
1N4575A	MOT	3.30	2.85	2.50
1N4576	MOT	3.65	3.15	2.75
1N4576A	MOT	4.05	3.50	3.05
1N4577	MOT	6.60	5.70	4.95
1N4577A	MOT	7.30	6.30	5.50
1N4580	MOT	3.00	2.60	2.25
1N4580A	MOT	3.30	2.85	2.50
1N4581	MOT	3.65	3.15	2.75
1N4581A	MOT	4.05	3.50	3.05
1N4582	MOT	6.60	5.70	4.95
1N4582A	MOT	7.60	6.30	5.50
1N4583A	MOT	13.50	11.65	10.15
1N4584A	MOT	31.40	27.15	23.60

Type No.	Mfr.	1-99	100-999	1000-Up
1N4606	GE	1.20	.80	.30
1N4606	TI	1.23	.81	.....
1N4608	GE	1.44	.94	.89
1N4719/MR1030A	MOT	.66	.44	.42
1N4720/MR1031A	MOT	.73	.49	.46
1N4721/MR1032A	MOT	.82	.55	.52
1N4722/MR1034A	MOT	1.12	.75	.71
1N4723/MR1036A	MOT	1.50	1.00	.95
1N4724/MR1038A	MOT	2.25	1.50	1.40
1N4725/MR1040A	MOT	3.35	2.25	2.15
1N4727	TI	.37	.23	.....

Type No.	Mfr.	1-99	100-Mix	100-Up
1N4728	MOT	1.26	1.09	.95
1N4728A	MOT	1.93	1.66	1.45
1N4728/G3.0T10	INT	1.25	.....	.93
1N4728A/G3.0T5	INT	1.90	.....	1.40

Type No.	Mfr.	1-99	100-Mix	100-Up
1N4729	MOT	1.26	1.09	.95
1N4729A	MOT	1.93	1.66	1.45
1N4729/G3.3T10	INT	1.25	.....	.93
1N4729A/G3.3T5	INT	1.90	.....	1.40
1N4730	MOT	1.26	1.09	.95
1N4730A	MOT	1.93	1.66	1.45
1N4730/G3.6T10	INT	1.25	.....	.93
1N4730A/G3.6T5	INT	1.90	.....	1.40
1N4731	MOT	1.26	1.09	.95
1N4731A	MOT	1.93	1.66	1.45
1N4731/G3.9T10	INT	1.25	.....	.93
1N4731A/G3.9T5	INT	1.90	.....	1.40
1N4732	MOT	1.26	1.09	.95
1N4732A	MOT	1.93	1.66	1.40
1N4732/G4.3T10	INT	1.25	.....	.93
1N4732A/G4.3T5	INT	1.90	.....	1.40
1N4733	MOT	1.26	1.09	.95
1N4733A	MOT	1.93	1.66	1.40
1N4733/G4.7T10	INT	1.25	.....	.93
1N4733A/G4.7T5	INT	1.90	.....	1.40
1N4734	MOT	1.26	1.09	.95
1N4734A	MOT	1.93	1.66	1.40
1N4734/G5.1T10	INT	1.25	.....	.93
1N4734A/G5.1T5	INT	1.90	.....	1.40
1N4735	MOT	1.26	1.09	.95
1N4735A	MOT	1.93	1.66	1.45
1N4735/G5.6T10	INT	1.25	.....	.93
1N4735A/G5.6T5	INT	1.90	.....	1.40
1N4736	MOT	1.26	1.09	.95
1N4736A	MOT	1.93	1.66	1.45
1N4736/G6.2T10	INT	1.25	.....	.93
1N4736A/G6.2T5	INT	1.90	.....	1.40
1N4737	MOT	1.26	1.09	.95
1N4737A	MOT	1.93	1.66	1.45
1N4737/G6.8T10	INT	1.25	.....	.93
1N4737A/G6.8T5	INT	1.90	.....	1.40
1N4738	MOT	1.26	1.09	.95
1N4738A	MOT	1.93	1.66	1.45
1N4738/G7.5T10	INT	1.25	.....	.93
1N4738A/G7.5T5	INT	1.90	.....	1.40
1N4739	MOT	1.26	1.09	.95
1N4739A	MOT	1.93	1.66	1.45
1N4739/G8.2T10	INT	1.25	.....	.93
1N4739A/G8.2T5	INT	1.90	.....	1.40
1N4740	MOT	1.26	1.09	.95
1N4740A	MOT	1.93	1.66	1.45
1N4740/G9.1T10	INT	1.25	.....	.93
1N4740A/G9.1T5	INT	1.90	.....	1.40
1N4741	MOT	1.26	1.09	.95
1N4741A	MOT	1.93	1.66	1.45
1N4741/G10T10	INT	1.25	.....	.93
1N4741A/G10T5	INT	1.90	.....	1.40
1N4742	MOT	1.26	1.09	.95
1N4742A	MOT	1.93	1.66	1.45
1N4742/G11T10	INT	1.25	.....	.93
1N4742A/G11T5	INT	1.90	.....	1.40
1N4743	MOT	1.26	1.09	.95
1N4743A	MOT	1.93	1.66	1.45
1N4743/G12T10	INT	1.25	.....	.93
1N4743A/G12T5	INT	1.90	.....	1.40
1N4744	MOT	1.26	1.09	.95
1N4744A	MOT	1.93	1.66	1.45
1N4744/G13T10	INT	1.25	.....	.93
1N4744A/G13T5	INT	1.90	.....	1.40
1N4745	MOT	1.26	1.09	.95
1N4745A	MOT	1.93	1.66	1.45
1N4745/G15T10	INT	1.25	.....	.93
1N4745A/G15T5	INT	1.90	.....	1.40
1N4746	MOT	1.26	1.09	.95
1N4746A	MOT	1.93	1.66	1.45
1N4746/G16T10	INT	1.25	.....	.93
1N4746A/G16T5	INT	1.90	.....	1.40
1N4747	MOT	1.26	1.09	.95
1N4747A	MOT	1.93	1.66	1.45
1N4747/G18T10	INT	1.25	.....	.93
1N4747A/G18T5	INT	1.90	.....	1.40
1N4748	MOT	1.26	1.09	.95
1N4748A	MOT	1.93	1.66	1.45
1N4748/G20T10	INT	1.25	.....	.93
1N4748A/G20T5	INT	1.90	.....	1.40
1N4749	MOT	1.26	1.09	.95
1N4749A	MOT	1.93	1.66	1.45
1N4749/G22T10	INT	1.25	.....	.93
1N4749A/G22T5	INT	1.90	.....	1.40
1N4750	MOT	1.26	1.09	.95
1N4750A	MOT	1.93	1.66	1.45
1N4750/G24T10	INT	1.25	.....	.93
1N4750A/G24T5	INT	1.90	.....	1.40
1N4751	MOT	1.26	1.09	.95
1N4751A	MOT	1.93	1.66	1.45
1N4751/G27T10	INT	1.25	.....	.93
1N4751A/G27T5	INT	1.90	.....	1.40

Type No.	Mfr.	1-99	100-Mix	100-Up
1N4752	MOT	1.26	1.09	.95
1N4752A	MOT	1.93	1.66	1.45
1N4752/G30T10	INT	1.25	.....	.93
1N4752A/G30T5	INT	1.90	.....	1.40
1N4753	MOT	1.26	1.09	.95
1N4753A	MOT	1.93	1.66	1.45
1N4753/1N4764	INT	1.25	.....	.93
1N4753A/1N4764A	INT	1.90	.....	1.40
1N4754	MOT	1.26	1.09	.95
1N4754A	MOT	1.93	1.66	1.45
1N4754	INT	1.25	1.05	.93
1N4754A	INT	1.90	1.60	1.40
1N4755	MOT	1.26	1.09	.95
1N4755A	MOT	1.93	1.66	1.45
1N4755	INT	1.25	.....	.93
1N4755A	INT	1.90	1.60	1.40
1N4756	MOT	1.26	1.09	.95
1N4756A	MOT	1.93	1.66	1.45
1N4756	INT	1.25	.....	.93
1N4756A	INT	1.90	1.60	1.40
1N4757	MOT	1.26	1.09	.95
1N4757A	MOT	1.93	1.66	1.45
1N4757	INT	1.25	.....	.93
1N4757A	INT	1.90	1.60	1.40
1N4758	MOT	1.26	1.09	.95
1N4758A	MOT	1.93	1.66	1.45
1N4758	INT	1.25	.....	.93
1N4758A	INT	1.90	1.60	1.40
1N4759	MOT	1.26	1.09	.95
1N4759A	MOT	1.93	1.66	1.45
1N4759	INT	1.25	.....	.93
1N4759A	INT	1.90	1.60	1.40
1N4760	MOT	1.26	1.09	.95
1N4760A	MOT	1.93	1.66	1.45
1N4760	INT	1.25	.....	.93
1N4760A	INT	1.90	1.60	1.40
1N4761	MOT	1.26	1.09	.95
1N4761A	MOT	1.93	1.66	1.45
1N4761	INT	1.25	.....	.93
1N4761A	INT	1.90	1.60	1.40
1N4762	MOT	1.26	1.09	.95
1N4762A	MOT	1.93	1.66	1.45
1N4762	INT	1.25	.....	.93
1N4762A	INT	1.90	1.60	1.40
1N4763	MOT	1.26	1.09	.95
1N4763A	MOT	1.93	1.66	1.45
1N4763	INT	1.25	.....	.93
1N4763A	INT	1.90	1.60	1.40
1N4764	MOT	1.26	1.09	.95
1N4764A	MOT	1.93	1.66	1.45
1N4764	INT	1.25	.....	.93
1N4764A	INT	1.90	1.60	1.40

Type No.	Mfr.	1-99	100-Mix	100-999
1N4785	RCA	1.08	.....	.78
1N4816	INT	.24	.20	.18
1N4816	WES	.24	.....	.20
1N4817	INT	.28	.24	.21
1N4817	WES	.29	.....	.24
1N4818	INT	.32	.28	.25
1N4818	WES	.33	.....	.28
1N4819	INT	.37	.32	.29
1N4819	WES	.38	.....	.32
1N4820	INT	.41	.35	.31
1N4820	WES	.42	.....	.35
1N4821	INT	.45	.38	.34
1N4821	WES	.46	.....	.38
1N4822	INT	.50	.44	.40
1N4822	WES	.52	.....	.44
1N4830	GE	.93	.....	.62

Type No.	Mfr.	1-99	100-Mix	100-Up
1N4896	MOT	18.20	15.75	13.70
1N4896A	MOT	20.10	17.35	15.10
1N4897	MOT	20.90	18.05	15.70
1N4897A	MOT	23.40	20.25	17.60
1N4898	MOT	42.80	37.05	32.20
1N4898A	MOT	47.60	41.15	35.80
1N4899	MOT	74.10	64.05	55.70
1N4899A	MOT	82.45	76.30	62.00
1N4900	MOT	10.50	9.10	7.90
1N4900A	MOT	11.70	10.10	8.80
1N4901	MOT	13.15	11.40	9.90
1N4901A	MOT	14.65	12.65	11.00
1N4902	MOT	23.80	20.60	17.90
1N4902A	MOT	26.60	23.00	20.00
1N4903	MOT	43.75	37.87	32.90
1N4903A	MOT	48.65	42.10	36.60
1N4904	MOT	5.40	4.65	4.05
1N4904A	MOT	6.00	5.15	4.50

Type No.	Mfr.	1-99	100-Mix	100-Up
1N4905	MOT	6.60	5.70	4.95
1N4905A	MOT	7.20	6.20	5.41
1N4906	MOT	11.85	10.25	8.92
1N4906A	MOT	13.15	11.40	9.90
1N4907	MOT	21.85	18.90	16.45
1N4907A	MOT	24.35	21.05	18.30
1N4908	MOT	5.40	4.65	4.05
1N4908A	MOT	6.00	5.15	4.50
1N4909	MOT	6.60	5.70	4.95
1N4909A	MOT	7.20	6.20	5.40
1N4910	MOT	11.85	10.25	8.90
1N4910A	MOT	13.15	11.40	9.90
1N4911	MOT	19.75	17.05	14.85
1N4911A	MOT	22.00	19.05	16.55
1N4912	MOT	6.00	5.15	4.50
1N4912A	MOT	10.15	8.80	7.65
1N4913	MOT	7.20	6.20	5.40
1N4913A	MOT	13.15	11.40	9.90
1N4914	MOT	13.15	11.40	9.90
1N4914A	MOT	20.20	17.50	15.20
1N4915	MOT	21.95	18.95	16.50
1N4915A	MOT	29.40	25.40	22.10
1N4916	MOT	20.75	17.95	15.60
1N4916A	MOT	23.25	20.10	17.50
1N4917	MOT	28.05	24.25	21.10
1N4917A	MOT	31.25	27.00	23.50
1N4918	MOT	57.20	49.45	43.00
1N4918A	MOT	63.45	54.85	47.70
1N4919	MOT	14.05	12.15	10.55
1N4919A	MOT	15.60	13.50	11.75
1N4920	MOT	17.55	15.20	13.20
1N4920A	MOT	19.40	16.80	14.60
1N4921	MOT	31.80	27.50	23.90
1N4921A	MOT	35.35	30.60	26.60
1N4922	MOT	7.20	6.20	5.40
1N4922A	MOT	8.00	6.90	6.00
1N4923	MOT	8.75	7.60	6.60
1N4923A	MOT	9.55	8.30	7.20
1N4924	MOT	15.80	13.70	11.90
1N4924A	MOT	17.55	15.20	13.20
1N4925	MOT	7.20	6.20	5.40
1N4925A	MOT	8.00	6.90	6.00
1N4926	MOT	8.75	7.60	6.60
1N4926A	MOT	9.55	8.30	7.20
1N4927	MOT	15.80	13.70	11.90
1N4927A	MOT	17.55	15.20	13.20
1N4928	MOT	26.36	22.75	19.80
1N4928A	MOT	29.40	25.40	22.10
1N4929	MOT	8.10	7.00	6.10
1N4929A	MOT	13.75	11.90	10.35
1N4930	MOT	9.70	8.40	7.30
1N4930A	MOT	17.80	15.40	13.40
1N4931	MOT	17.80	15.40	13.40
1N4931A	MOT	26.85	23.25	20.20
1N4932	MOT	29.40	25.40	22.10
1N4932A	MOT	39.10	33.80	29.40

Type No.	Mfr.	1-99	100-Mix	100-999
1N4933	MOT	1.12	.....	.75
1N4934	MOT	1.42	.....	.95
1N4935	MOT	1.65	.....	1.10
1N4936	MOT	2.45	.....	1.65
1N4937	MOT	3.90	.....	2.60
1N4938	TI	1.22	.....	.98
1N4954	HOF	4.65	4.15	3.50
1N4955	HOF	4.65	4.15	3.50
1N4956	HOF	4.65	4.15	3.50
1N4957	HOF	4.65	4.15	3.50
1N4958	HOF	4.65	4.15	3.50
1N4959	HOF	4.65	4.15	3.50
1N4960	HOF	4.65	4.15	3.50
1N4961	HOF	4.65	4.15	3.50
1N4962	HOF	4.65	4.15	3.50
1N4963	HOF	4.65	4.15	3.50
1N4964	HOF	4.65	4.15	3.50
1N4965	HOF	4.65	4.15	3.50
1N4966	HOF	4.65	4.15	3.50
1N4967	HOF	4.65	4.15	3.50
1N4968	HOF	4.65	4.15	3.50
1N4969	HOF	4.65	4.15	3.50
1N4970	HOF	4.65	4.15	3.50
1N4971	HOF	4.65	4.15	3.50
1N4997	MOT	.66	.....	.44

Type No.	Mfr.	1-99	100-999	1000-Up
1N4997/MR1030B	MOT	.66	.44	.42
1N4998/MR1031B	MOT	.73	.49	.46
1N4999/MR1032B	MOT	.82	.55	.52
1N5000/MR1034B	MOT	1.12	.75	.71
1N5001/MR1036B	MOT	1.50	1.00	.95
1N5002/MR1038B	MOT	2.25	1.50	1.40
1N5003	MOT	3.35	2.25	2.15

Type No.	Mfr.	1-99	100-Mix	100-999
1N5052	INT	.70	.62	.56
1N5052	WES	.74	.....	.62
1N5053	INT	.85	.75	.68
1N5053	WES	.89	.....	.75
1N5054	INT	1.20	1.02	.92
1N5054/1N561	WES	1.22	.....	1.02

Type No.	Mfr.	1-99	100-999	1000-Up
1N5059/A14B	GE	.36	.26	.20
1N5060/A14D	GE	.43	.33	.22
1N5061/A14M	GE	.57	.45	.32
1N5062/A14N	GE	.95	.63	.44

Type No.	Mfr.	1-99	100-Mix	100-999
1N5139	MOT	4.65	.....	3.10
1N5139A	MOT	6.45	.....	4.30
1N5140	MOT	4.65	.....	3.10
1N5140A	MOT	6.45	.....	4.30
1N5141	MOT	4.65	.....	3.10
1N5141A	MOT	6.45	.....	4.30
1N5142	MOT	4.65	.....	3.10
1N5142A	MOT	6.45	.....	4.30
1N5143	MOT	4.65	.....	3.10
1N5143A	MOT	6.45	.....	4.30
1N5144	MOT	4.65	.....	3.10
1N5144A	MOT	6.45	.....	4.30
1N5145	MOT	4.65	.....	3.10
1N5145A	MOT	6.45	.....	4.30
1N5146	MOT	4.65	.....	3.10
1N5146A	MOT	6.45	.....	4.30
1N5147	MOT	4.65	.....	3.10
1N5147A	MOT	6.45	.....	4.30
1N5148	MOT	4.65	.....	3.10
1N5148A	MOT	6.45	.....	4.30
1N5150A	MOT	47.00	.....	31.00
1N5152A	MOT	47.00	.....	31.00
1N5153A	MOT	47.00	.....	31.00
1N5155A	MOT	47.00	.....	31.00
1N5156	MOT	47.00	.....	31.00
1N5157	MOT	47.00	.....	31.00
1N5162	INT	55.00	.....	55.00
1N5185	HOF	3.15	2.95	2.50
1N5186	HOF	3.75	3.55	3.00
1N5187	HOF	4.40	4.15	3.50
1N5188	HOF	5.95	5.60	4.75
1N5149/MV1806C	MOT	27.00	.....	18.00
1N5150/MV1807C	MOT	42.00	.....	28.00
1N5151/MV1808A	MOT	42.00	.....	28.00
1N5152/MV1808B	MOT	42.00	.....	28.00
1N5153/MV1808C	MOT	42.00	.....	28.00
1N5154/MV1810A	MOT	42.00	.....	28.00
1N5155/MV1810B	MOT	42.00	.....	28.00

Type No.	Mfr.	1-24	25-99	100-Up
1N5158/M4L3052	MOT	3.75	3.25	2.50
1N5159/M4L3053	MOT	3.38	2.90	2.25
1N5160/M4L3054	MOT	3.75	3.25	2.50

Type No.	Mfr.	1-99	100-999	1000-Up
1N5212	RCA	.42	.30	.25
1N5214	RCA	.81	.59	.49
1N5215	RCA	.42	.30	.25
1N5216	RCA	.45	.33	.27
1N5217	RCA	.60	.40	.36
1N5218	RCA	.85	.62	.51

Type No.	Mfr.	1-24	25-99	100-249
1N5221	MOT	.67	.60	.45
1N5221A	MOT	.90	.80	.60
1N5221B	MOT	1.05	.93	.70
1N5222	MOT	.67	.60	.45
1N5222A	MOT	.90	.80	.60
1N5222B	MOT	1.05	.93	.70
1N5223	MOT	.67	.60	.45
1N5223A	MOT	.90	.80	.60
1N5223B	MOT	1.05	.93	.70
1N5224	MOT	.67	.60	.45
1N5224A	MOT	.90	.80	.60
1N5224B	MOT	1.05	.93	.70

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-24	25-99	100-249
1N5225	MOT	.67	.60	.45
1N5225A	MOT	.90	.80	.60
1N5225B	MOT	1.05	.93	.70
1N5226	MOT	.67	.60	.45
1N5226A	MOT	.90	.80	.60
1N5226B	MOT	1.05	.93	.70
1N5227	MOT	.67	.60	.45
1N5227A	MOT	.90	.80	.60
1N5227B	MOT	1.05	.93	.70
1N5228	MOT	.67	.60	.45
1N5228A	MOT	.90	.80	.60
1N5228B	MOT	1.05	.93	.70
1N5229	MOT	.67	.60	.45
1N5229A	MOT	.90	.80	.60
1N5229B	MOT	1.05	.93	.70
1N5230	MOT	.67	.60	.45
1N5230A	MOT	.90	.80	.60
1N5230B	MOT	1.05	.93	.70
1N5231	MOT	.67	.60	.45
1N5231A	MOT	.90	.80	.60
1N5231B	MOT	1.05	.93	.70
1N5232	MOT	.67	.60	.45
1N5232A	MOT	.90	.80	.60
1N5232B	MOT	1.05	.93	.70
1N5233	MOT	.67	.60	.45
1N5233A	MOT	.90	.80	.60
1N5233B	MOT	1.05	.93	.70
1N5234	MOT	.67	.60	.45
1N5234A	MOT	.90	.80	.60
1N5234B	MOT	1.05	.93	.70
1N5235	MOT	.67	.60	.45
1N5235A	MOT	.90	.80	.60
1N5235B	MOT	1.05	.93	.70
1N5236	MOT	.67	.60	.45
1N5236A	MOT	.90	.80	.60
1N5236B	MOT	1.05	.93	.70
1N5237	MOT	.67	.60	.45
1N5237A	MOT	.90	.80	.50
1N5237B	MOT	1.05	.93	.70
1N5238	MOT	.67	.60	.45
1N5238A	MOT	.90	.80	.50
1N5238B	MOT	1.05	.93	.70
1N5239	MOT	.67	.60	.45
1N5239A	MOT	.90	.80	.50
1N5239B	MOT	1.05	.93	.70
1N5240	MOT	.67	.60	.45
1N5240A	MOT	.90	.80	.50
1N5240B	MOT	1.05	.93	.70
1N5241	MOT	.67	.60	.45
1N5241A	MOT	.90	.80	.50
1N5241B	MOT	1.05	.93	.70
1N5242	MOT	.67	.60	.45
1N5242A	MOT	.90	.80	.50
1N5242B	MOT	1.05	.93	.70
1N5243	MOT	.67	.60	.45
1N5243A	MOT	.90	.80	.50
1N5243B	MOT	1.05	.93	.70
1N5244	MOT	.67	.60	.45
1N5244A	MOT	.80	.90	.50
1N5244B	MOT	1.05	.93	.70
1N5245	MOT	.67	.60	.45
1N5245A	MOT	.90	.80	.50
1N5245B	MOT	1.05	.93	.70
1N5246	MOT	.67	.60	.45
1N5246A	MOT	.90	.80	.50
1N5246B	MOT	1.05	.93	.70
1N5247	MOT	.67	.60	.45
1N5247A	MOT	.90	.80	.50
1N5247B	MOT	1.05	.93	.70
1N5248	MOT	.67	.60	.45
1N5248A	MOT	.90	.80	.60
1N5248B	MOT	1.05	.93	.70
1N5249	MOT	.67	.60	.45
1N5249A	MOT	.90	.80	.60
1N5249B	MOT	1.05	.93	.70
1N5250	MOT	.67	.60	.45
1N5250A	MOT	.90	.80	.60
1N5250B	MOT	1.05	.93	.70
1N5251	MOT	.67	.60	.45
1N5251A	MOT	.90	.80	.60
1N5251B	MOT	1.05	.93	.70
1N5252	MOT	.67	.60	.45
1N5252A	MOT	.90	.80	.60
1N5252B	MOT	1.05	.93	.70
1N5253	MOT	.67	.60	.45
1N5253A	MOT	.90	.80	.60
1N5253B	MOT	1.05	.93	.70
1N5254	MOT	.67	.60	.45
1N5254A	MOT	.90	.80	.60
1N5254B	MOT	1.05	.93	.70
1N5255	MOT	.67	.60	.45
1N5255A	MOT	.90	.80	.60
1N5255B	MOT	1.05	.93	.70
1N5256	MOT	.67	.60	.45
1N5256A	MOT	.90	.80	.60
1N5256B	MOT	1.05	.93	.70
1N5257	MOT	.67	.60	.45
1N5257A	MOT	.90	.80	.60
1N5257B	MOT	1.05	.93	.70
1N5258	MOT	.90	.80	.60
1N5258A	MOT	1.12	1.00	.75
1N5258B	MOT	1.27	1.13	.85
1N5259	MOT	.90	.80	.60
1N5259A	MOT	1.12	1.00	.75
1N5259B	MOT	1.27	1.13	.85
1N5260	MOT	.90	.80	.60
1N5260A	MOT	1.12	1.00	.75
1N5260B	MOT	1.27	1.13	.85
1N5261	MOT	.90	.80	.60
1N5261A	MOT	1.12	1.00	.75
1N5261B	MOT	1.27	1.13	.85
1N5262	MOT	.90	.80	.60
1N5262A	MOT	1.12	1.00	.75
1N5262B	MOT	1.27	1.13	.85
1N5263	MOT	.90	.80	.60
1N5263A	MOT	1.12	1.00	.75
1N5263B	MOT	1.27	1.13	.85
1N5264	MOT	.90	.80	.60
1N5264A	MOT	1.12	1.00	.75
1N5264B	MOT	1.27	1.13	.85
1N5265	MOT	.90	.80	.60
1N5265A	MOT	1.12	1.00	.75
1N5265B	MOT	1.27	1.13	.85
1N5266	MOT	.90	.80	.60
1N5266A	MOT	1.12	1.00	.75
1N5266B	MOT	1.27	1.13	.85
1N5267	MOT	.90	.80	.60
1N5267A	MOT	1.12	1.00	.75
1N5267B	MOT	1.27	1.13	.85
1N5268	MOT	.90	.80	.60
1N5268A	MOT	1.12	1.00	.75
1N5268B	MOT	1.27	1.13	.85
1N5269	MOT	.90	.80	.60
1N5269A	MOT	1.12	1.00	.75
1N5269B	MOT	1.27	1.13	.85
1N5270	MOT	.90	.80	.60
1N5270A	MOT	1.12	1.00	.75
1N5270B	MOT	1.27	1.13	.85
1N5271	MOT	1.27	1.13	.85
1N5271A	MOT	1.50	1.33	1.00
1N5271B	MOT	1.65	1.46	1.10
1N5272	MOT	1.27	1.13	.85
1N5272A	MOT	1.50	1.33	1.00
1N5272B	MOT	1.65	1.46	1.10
1N5273	MOT	1.27	1.13	.85
1N5273A	MOT	1.50	1.33	1.00
1N5273B	MOT	1.65	1.46	1.10
1N5274	MOT	1.27	1.13	.85
1N5274A	MOT	1.50	1.33	1.00
1N5274B	MOT	1.65	1.46	1.10
1N5275	MOT	1.27	1.13	.85
1N5275A	MOT	1.50	1.33	1.00
1N5275B	MOT	1.65	1.46	1.10
1N5276	MOT	1.27	1.13	.85
1N5276A	MOT	1.50	1.33	1.00
1N5276B	MOT	1.65	1.46	1.10
1N5277	MOT	1.27	1.13	.85
1N5277A	MOT	1.50	1.33	1.00
1N5277B	MOT	1.65	1.46	1.10
1N5278	MOT	1.27	1.13	.85
1N5278A	MOT	1.50	1.33	1.00
1N5278B	MOT	1.65	1.46	1.10
1N5279	MOT	1.27	1.13	.85
1N5279A	MOT	1.50	1.33	1.00
1N5279B	MOT	1.65	1.46	1.10
1N5280	MOT	1.27	1.13	.85
1N5280A	MOT	1.50	1.33	1.00
1N5280B	MOT	1.65	1.46	1.10
1N5281	MOT	1.27	1.13	.85
1N5281A	MOT	1.50	1.33	1.00
1N5281B	MOT	1.65	1.46	1.10

Type No.	Mfr.	1-24	25-99	100-999
1N5283	MOT	4.45	3.90	2.95
1N5284	MOT	4.45	3.90	2.95
1N5285	MOT	4.45	3.90	2.95
1N5286	MOT	4.45	3.90	2.95
1N5287	MOT	4.45	3.90	2.95
1N5288	MOT	4.45	3.90	2.95
1N5289	MOT	4.45	3.90	2.95
1N5290	MOT	4.45	3.90	2.95
1N5291	MOT	4.45	3.90	2.95
1N5292	MOT	4.45	3.90	2.95
1N5293	MOT	4.45	3.90	2.95
1N5294	MOT	4.45	3.90	2.95
1N5295	MOT	4.45	3.90	2.95
1N5296	MOT	4.45	3.90	2.95
1N5297	MOT	4.45	3.90	2.95
1N5298	MOT	4.45	3.90	2.95
1N5299	MOT	4.45	3.90	2.95
1N5300	MOT	4.45	3.90	2.95
1N5301	MOT	4.45	3.90	2.95
1N5302	MOT	4.45	3.90	2.95
1N5303	MOT	4.45	3.90	2.95
1N5304	MOT	4.45	3.90	2.95
1N5305	MOT	4.45	3.90	2.95
1N5306	MOT	4.45	3.90	2.95
1N5307	MOT	4.45	3.90	2.95
1N5308	MOT	4.45	3.90	2.95
1N5309	MOT	4.45	3.90	2.95
1N5310	MOT	4.45	3.90	2.95
1N5311	MOT	4.45	3.90	2.95
1N5312	MOT	3.45	3.90	2.95
1N5313	MOT	4.45	3.90	2.95
1N5314	MOT	4.45	3.90	2.95

Type No.	Mfr.	1-99	100-Mix	100-Up
1N5333	MOT	2.20	1.90	1.65
1N5333A	MOT	2.20	1.90	1.65
1N5333B	MOT	2.45	2.10	1.85
1N5334	MOT	2.20	1.90	1.65
1N5334A	MOT	2.20	1.90	1.65
1N5334B	MOT	2.45	2.10	1.85
1N5335	MOT	2.20	1.90	1.65
1N5335A	MOT	2.20	1.90	1.65
1N5335B	MOT	2.45	2.10	1.85
1N5336A	MOT	2.20	1.90	1.65
1N5336B	MOT	2.45	2.10	1.85
1N5337	MOT	2.20	1.90	1.65
1N5337A	MOT	2.20	1.90	1.65
1N5337B	MOT	2.45	2.10	1.85
1N5338	MOT	2.20	1.90	1.65
1N5338A	MOT	2.20	1.90	1.65
1N5338B	MOT	2.45	2.10	1.85
1N5339	MOT	2.20	1.90	1.65
1N5339A	MOT	2.20	1.90	1.65
1N5339B	MOT	2.45	2.10	1.85
1N5340	MOT	2.20	1.90	1.65
1N5340A	MOT	2.20	1.90	1.65
1N5340B	MOT	2.45	2.10	1.85
1N5341	MOT	2.20	1.90	1.65
1N5341A	MOT	2.20	1.90	1.65
1N5341B	MOT	2.45	2.10	1.85
1N5342	MOT	2.20	1.90	1.65
1N5342A	MOT	2.20	1.90	1.65
1N5342B	MOT	2.45	2.10	1.85
1N5343	MOT	2.20	1.90	1.65
1N5343A	MOT	2.20	1.90	1.65
1N5343B	MOT	2.45	2.10	1.85
1N5344	MOT	2.20	1.90	1.65
1N5344A	MOT	2.20	1.90	1.65
1N5344B	MOT	2.45	2.10	1.85
1N5345	MOT	2.20	1.90	1.65
1N5345A	MOT	2.20	1.90	1.65
1N5345B	MOT	2.45	2.10	1.85
1N5346	MOT	2.20	1.90	1.65
1N5346A	MOT	2.20	1.90	1.65
1N5346B	MOT	2.45	2.10	1.85
1N5347	MOT	2.20	1.90	1.65
1N5347A	MOT	2.20	1.90	1.65
1N5347B	MOT	2.45	2.10	1.85
1N5348	MOT	2.20	1.90	1.65
1N5348A	MOT	2.20	1.90	1.65
1N5348B	MOT	2.45	2.10	1.85
1N5349	MOT	2.20	1.90	1.65
1N5349A	MOT	2.20	1.90	1.65
1N5349B	MOT	2.45	2.10	1.85
1N5350	MOT	2.20	1.90	1.65
1N5350A	MOT	2.20	1.90	1.65
1N5350B	MOT	2.45	2.10	1.85

Type No.	Mfr.	1-99	100-Mix	100-Up
1N5351	MOT	2.20	1.90	1.65
1N5351A	MOT	2.20	1.90	1.65
1N5351B	MOT	2.45	2.10	1.85
1N5252	MOT	2.20	1.90	1.65
1N5252A	MOT	2.20	1.90	1.65
1N5252B	MOT	2.45	2.10	1.85
1N5253	MOT	2.20	1.90	1.65
1N5253A	MOT	2.20	1.90	1.65
1N5253B	MOT	2.45	2.10	1.85
1N5254	MOT	2.20	1.90	1.65
1N5254A	MOT	2.20	1.90	1.65
1N5254B	MOT	2.45	2.10	1.85
1N5255	MOT	2.20	1.90	1.65
1N5255A	MOT	2.20	1.90	1.65
1N5255B	MOT	2.45	2.10	1.85
1N5256	MOT	2.20	1.90	1.65
1N5256A	MOT	2.20	1.90	1.65
1N5256B	MOT	2.45	2.10	1.85
1N5257	MOT	2.20	1.90	1.65
1N5257A	MOT	2.20	1.90	1.65
1N5257B	MOT	2.45	2.10	1.85
1N5258	MOT	2.20	1.90	1.65
1N5258A	MOT	2.20	1.90	1.65
1N5258B	MOT	2.45	2.10	1.85
1N5259	MOT	2.20	1.90	1.65
1N5259A	MOT	2.20	1.90	1.65
1N5259B	MOT	2.45	2.10	1.85
1N5260	MOT	2.20	1.90	1.65
1N5260A	MOT	2.20	1.90	1.65
1N5260B	MOT	2.45	2.10	1.85
1N5261	MOT	2.20	1.90	1.65
1N5261A	MOT	2.20	1.90	1.65
1N5261B	MOT	2.45	2.10	1.85
1N5262	MOT	2.20	1.90	1.65
1N5262A	MOT	2.20	1.90	1.65
1N5262B	MOT	2.45	2.10	1.85
1N5263	MOT	2.20	1.90	1.65
1N5263A	MOT	2.20	1.90	1.65
1N5263B	MOT	2.45	2.10	1.85
1N5264	MOT	2.20	1.90	1.65
1N5264A	MOT	2.20	1.90	1.65
1N5264B	MOT	2.45	2.10	1.85
1N5265	MOT	2.20	1.90	1.65
1N5265A	MOT	2.20	1.90	1.65
1N5265B	MOT	2.45	2.10	1.85
1N5266	MOT	2.20	1.90	1.65
1N5266A	MOT	2.20	1.90	1.65
1N5266B	MOT	2.45	2.10	1.85
1N5267	MOT	2.20	1.90	1.65
1N5267A	MOT	2.20	1.90	1.65
1N5267B	MOT	2.45	2.10	1.85

Type No.	Mfr.	1-99	100-Mix	100-999
1N5268	MOT	2.20	1.90	1.65
1N5268A	MOT	2.20	1.90	1.65
1N5268B	MOT	2.45	2.10	1.85
1N5269	MOT	2.20	1.90	1.65
1N5269A	MOT	2.20	1.90	1.65
1N5269B	MOT	2.45	2.10	1.85

Type No.	Mfr.	1-24	25-99	100-Up
1N5271	MOT	1.27	1.13	.85
1N5271A	MOT	1.50	1.33	1.00
1N5271B	MOT	1.65	1.46	1.10
1N5272	MOT	1.27	1.13	.85
1N5273	MOT	1.27	1.13	.85
1N5274B	MOT	1.65	1.46	1.10
1N5275A	MOT	1.50	1.33	1.00
1N5276A	MOT	1.50	1.33	1.00
1N5276B	MOT	1.65	1.46	1.10
1N5277	MOT	1.27	1.13	.85
1N5278	MOT	1.27	1.13	.85
1N5278B	MOT	1.65	1.46	1.10
1N5370	MOT	2.20	1.90	1.65
1N5370A	MOT	2.20	1.90	1.65
1N5370B	MOT	2.45	2.10	1.85
1N5371	MOT	2.20	1.90	1.65
1N5371A	MOT	2.20	1.90	1.65
1N5371B	MOT	2.45	2.10	1.85
1N5372A	MOT	2.20	1.90	1.65
1N5372B	MOT	2.45	2.10	1.85
1N5373	MOT	2.20	1.90	1.65
1N5373A	MOT	2.20	1.90	1.65
1N5374B	MOT	2.45	2.10	1.85
1N5375	MOT	2.20	1.90	1.65
1N5375A	MOT	2.20	1.90	1.65
1N5375B	MOT	2.45	2.10	1.85
1N5376	MOT	2.20	1.90	1.65
1N5376A	MOT	2.20	1.90	1.65
1N5376B	MOT	2.45	2.10	1.85
1N5377	MOT	2.20	1.90	1.65

Type No.	Mfr.	1-24	25-99	100-Up
1N5377A	MOT	2.20	1.90	1.65
1N5377B	MOT	2.45	2.10	1.85
1N5378	MOT	2.20	1.90	1.65
1N5378A	MOT	2.20	1.90	1.65
1N5378B	MOT	2.45	2.10	1.85
1N5379	MOT	2.60	2.25	1.95
1N5379A	MOT	2.60	2.25	1.95
1N5379B	MOT	2.85	2.50	2.15

Type No.	Mfr.	1-99	100-Mix	100-999
1N5380	MOT	2.60	2.25	1.95
1N5380A	MOT	2.60	2.25	1.95
1N5380B	MOT	2.85	2.50	2.15
1N5381	MOT	2.60	2.25	1.95
1N5381A	MOT	2.60	2.25	1.95
1N5381B	MOT	2.85	2.50	2.15
1N5382	MOT	2.60	2.25	1.95
1N5382A	MOT	2.60	2.25	1.95
1N5382B	MOT	2.85	2.50	2.15
1N5383	MOT	2.60	2.25	1.95
1N5383A	MOT	2.60	2.25	1.95
1N5383B	MOT	2.85	2.50	2.15
1N5384	MOT	2.60	2.25	1.95
1N5384A	MOT	2.60	2.25	1.95
1N5384B	MOT	2.85	2.50	2.15
1N5385	MOT	2.60	2.25	1.95
1N5385A	MOT	2.60	2.25	1.95
1N5385B	MOT	2.85	2.50	2.15
1N5386	MOT	2.60	2.25	1.95
1N5386A	MOT	2.60	2.25	1.95
1N5386B	MOT	2.85	2.50	2.15
1N5387	MOT	2.60	2.25	1.95
1N5387A	MOT	2.60	2.25	1.95
1N5387B	MOT	2.85	2.50	2.15
1N5388	MOT	2.60	2.25	1.95
1N5388A	MOT	2.60	2.25	1.95
1N5388B	MOT	2.85	2.50	2.15
1N5400/398A	WES	.46	.31	.....
1N5401	WES	.41	.....	.34
1N5402	WES	.47	.....	.40
1N5403	WES	.55	.....	.43
1N5404	WES	.61	.....	.51
1N5405	WES	.65	.....	.57
1N5406	WES	.73	.....	.65
1N5407	WES	1.14	.....	1.00
1N5408	WES	1.50	.....	1.25
1N5411/40583	RCA	.61	.44	.37
1N5441A	MOT	3.75	.....	2.50
1N5442A	MOT	3.75	.....	2.50
1N5443A	MOT	3.75	.....	2.50
1N5444A	MOT	3.75	.....	2.50
1N5445A	MOT	3.75	.....	2.50
1N5446A	MOT	3.75	.....	2.50
1N5447A	MOT	3.75	.....	2.50
1N5448A	MOT	3.75	.....	2.50
1N5449A	MOT	3.75	.....	2.50
1N5450A	MOT	3.75	.....	2.50
1N5451A	MOT	3.75	.....	2.50
1N5452A	MOT	3.75	.....	2.50
1N5453A	MOT	3.75	.....	2.50
1N5454A	MOT	3.75	.....	2.50
1N5455	MOT	3.75	.....	2.50
1N5456A	MOT	3.75	.....	2.50
1N5461A	MOT	6.75	.....	4.50
1N5462A	MOT	6.75	.....	4.50
1N5463A	MOT	6.75	.....	4.50
1N5464A	MOT	6.75	.....	4.50
1N5565A	MOT	6.75	.....	4.50
1N5466A	MOT	6.75	.....	4.50
1N5467A	MOT	6.75	.....	4.50
1N5568A	MOT	6.75	.....	4.50
1N5469A	MOT	6.75	.....	4.50
1N5470A	MOT	6.75	.....	4.50
1N5471A	MOT	6.75	.....	4.50
1N5472A	MOT	6.75	.....	4.50
1N5473A	MOT	6.75	.....	4.50
1N5474A	MOT	6.75	.....	4.50
1N5475A	MOT	6.75	.....	4.50
1N5476A	MOT	6.75	.....	4.50

Type No.	Mfr.	1-99	100-999	1000-Up
1N5624/A15B	GE	.75	.50	.38
1N5625/A15D	GE	1.00	.67	.51
1N5626/A15M	GE	1.40	.95	.73
1N5627/A15N	GE	3.75	2.50	1.90
2N43	GE	4.45	2.96	2.66
2N43A	GE	5.90	3.50	3.94
2N43A/JAN	GE	5.37	3.58	3.22
2N44	GE	3.15	2.10	1.88
2N44A/JAN	GE	5.00	3.34	3.00
2N78	GE	2.74	1.83	1.65

Type No.	Mfr.	1-99	100-999	1000-Up
2N78A/JAN	GE	2.47	2.32	2.09
2N107	GE	.75	.....	.....
2N109	RCA	.77	.56	.46
2N117	TI	8.15	5.45	1.35
2N117/JAN	TI	8.45	5.65	.....
2N117/USN	TI	8.45	5.65	.....
2N119/JAN	TI	11.45	7.55	.....
2N119/USN	TI	11.45	7.55	.....
2N123/USAF	GE	4.50	2.70	.....
2N128/JAN	SPR	6.95	5.10	.....
2N167	GE	5.67	3.78	3.42
2N167A	GE	5.67	3.78	.....
2N167A/JAN	GE	7.45	4.95	4.50
2N169	GE	1.75	1.17	1.05
2N169A	GE	2.68	1.77	1.60
2N173	MOT	3.40	2.50	.....
2N174	MOT	3.60	2.67	.....
2N174A	MOT	3.80	2.79	.....
2N174A/JAN	MOT	4.30	3.18	.....
2N176	MOT	1.20	.87	.....
2N176	RCA	1.31	.95	.79
2N178	MOT	1.10	.80	.....
2N188A	GE	1.77	1.18	1.07
2N191	GE	.97	.65	.54
2N217	RCA	.60	.44	.36
2N231	SPR	1.20	.90	.....
2N241A	GE	1.05	.70	.59
2N242	MOT	1.65	1.10	.....
2N250	TI	1.90	1.25	1.13
2N250A	TI	1.73	1.15	1.04
2N251	TI	2.25	1.50	1.35
2N251A	TI	1.88	1.25	1.13
2N274	RCA	1.24	.90	.75
2N277	MOT	2.25	1.66	.....
2N278	MOT	2.80	2.07	.....
2N279A/JAN	MOT	2.40	1.78	.....
2N297A	MOT	1.60	1.17	.....
2N297A/JAN	MOT	2.40	1.78	.....
2N301/2N2869	RCA	1.52	1.11	.92
2N301A/2N2970	RCA	3.15	2.29	1.91
2N307	MOT	1.12	.75	.....
2N307A	MOT	1.87	1.25	.....
2N319	GE	.44	.29	.26
2N319	MOT	.53	.35	.....
2N320	GE	.59	.39	.35
2N320	MOT	.75	.50	.....
2N321	GE	.65	.43	.39
2N321	MOT	.83	.55	.....
2N322	GE	.42	.28	.25
2N322	MOT	.53	.35	.....
2N323	GE	.50	.39	.35
2N323	MOT	.75	.50	.....
2N324	GE	.72	.48	.38
2N324	MOT	.75	.50	.....
2N331	MOT	1.88	1.25	.....
2N331/JAN	MOT	2.25	1.50	.....
2N332	GE	4.65	3.10	.88
2N332	TI	4.65	3.10	.59
2N332/USN	TI	4.95	3.30	.73
2N332A	TI	4.90	3.30	.74
2N333	GE	4.65	3.10	.88
2N333	TI	4.65	3.10	.56
2N333/JAN	GE	4.95	3.30	1.30
2N333A	TI	4.90	3.30	.78
2N334	TI	4.65	3.10	.56
2N334/JAN	TI	4.95	3.30	.63
2N335	GE	4.95	3.30	.99
2N335	TI	4.90	3.30	.89
2N335/JAN	GE	5.25	3.50	1.32
2N335/JAN	TI	5.25	3.50	1.09
2N335/JAN	TI	5.25	3.50	.....
2N335A	GE	5.25	3.50	1.32
2N335A	TI	5.20	3.50	1.09
2N335B	GE	8.90	5.95	4.85
2N336	GE	6.00	4.00	.99
2N336	TI	5.95	3.95	.97
2N336/JAN	GE	6.30	4.20	1.43
2N336/JAN	TI	6.30	4.20	.....
2N336A	GE	6.30	4.20	1.43
2N336A	TI	6.25	4.20	1.15
2N337	GE	6.30	4.20	1.43
2N337	TI	4.85	3.20	.61
2N337/JAN	GE	5.15	3.40	1.20
2N337/JAN	TI	5.15	3.40	.....
2N338	GE	5.50	3.65	1.15
2N338	TI	5.50	3.65	.94
2N338/JAN	GE	5.80	3.85	1.35
2N338/USN	TI	5.80	3.85	1.14
2N338/USN	TI	5.80	3.85	.....
2N338A	GE	5.80	3.85	.....

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Type No.	Mfr.	1-99	100-999	1000-Up
2N339	TI	8.12	6.08	.....
2N340	TI	8.64	6.48	1.34
2N341	TI	14.00	10.49	1.70
2N341/JAN	TI	14.00	10.49	.....
2N342/JAN	TI	11.64	8.69	.....
2N343	TI	14.72	11.03	2.05
2N343/JAN	TI	15.52	11.93	2.35
2N345	SPR	4.55	3.30	.....
2N346	SPR	6.15	4.45	.....
2N350A	MOT	1.65	1.10	.....
2N351A	MOT	1.70	1.15	.....
2N358A/JAN	TI	3.92	2.62	2.36
2N370	RCA	1.16	.84	.70
2N372	RCA	1.14	.83	.69
2N375/MN-75	MOT	2.20	1.65	.....
2N378	MOT	1.85	1.25	.....
2N379	MOT	1.80	1.20	.....
2N380	MOT	1.90	1.39	.....
2N381	MOT	1.70	1.26	.....
2N382	MOT	1.28	.85	.....
2N383	MOT	1.73	1.15	.....
2N384	MOT	2.18	1.45	.....
2N384	RCA	1.65	1.20	1.00
2N384/JAN	RCA	3.30	2.40	2.00
2N388	RCA	.50	.36	.30
2N388	TI	.47	.34	.28
2N388/JAN	RCA	.61	.42	.39
2N388/JAN	TI	.48	.35	.29
2N388A	RCA	.94	.68	.57
2N388A	TI	.88	.64	.53
2N389	TI	21.50	14.35	.....
2N393	SPR	4.75	3.45	.....
2N395	TI	.50	.33	.297
2N396	GE	.62	.41	.37
2N396	TI	.61	.41	.37
2N396A	GE	.63	.41	.37
2N396A/JAN	GE	.74	.49	.....
2N397	RCA	1.11	.81	.67
2N398	MOT	1.20	.80	.....
2N398	RCA	.83	.60	.....
2N398	TI	.90	.60	.54
2N398/JAN	MOT	1.35	1.90	.....
2N398/JAN	RCA	.89	.88	.....
2N398/USN	MOT	1.47	.98	.....
2N398A	MOT	1.28	.85	.....
2N398A	RCA	.97	.65	.54
2N398A	TI	.90	.60	.54
2N398A/JAN	MOT	1.35	1.90	.....
2N398B	RCA	1.24	.90	.75
2N398B	MOT	1.23	.82	.....
2N404	GE	.42	.28	.24
2N404	RCA	.45	.32	.27
2N404	TI	.42	.28	.....
2N404/JAN	TI	.43	.30	.26
2N404A	GE	.51	.39	.31
2N404	GE	.54	.40	.33
2N404	MOT	.87	.58	.....
2N404A	RCA	.58	.42	.35
2N404A	TI	.58	.54	.26
2N404A/JAN	RCA	.78	.45	.....
2N404A/JAN	TI	.62	.35	.33
2N405	RCA	.64	.44	.37
2N406	RCA	.45	.32	.27
2N407	RCA	.67	.49	.405
2N408	RCA	.50	.37	.305
2N410	RCA	.54	.40	.33
2N414	GE	.46	.34	.28
2N414	RCA	.42	.30	.25
2N416/USA	TI	1.09	.73	.....
2N417/USA	TI	1.25	.85	.....
2N427	TI	.92	.61	.43
2N427/JAN	TI	1.34	.89	.....
2N427/USA	TI	1.34	.89	.....
2N428	TI	1.23	.82	.55
2N428M/JAN	TI	1.48	.99	.....
2N441	MOT	1.26	.84	.....
2N442	MOT	1.66	1.11	.....
2N443	MOT	1.90	1.39	.....
2N456B	TI	1.80	1.20	1.08
2N457A	MOT	2.20	1.45	.....
2N457B	TI	2.18	1.45	1.31
2N458A	MOT	2.65	1.75	.....
2N458A	TI	2.63	1.75	1.58
2N458B	TI	2.63	1.75	1.58
2N459	MOT	4.35	2.90	.....
2N459A	MOT	4.65	3.10	.....
2N460	MOT	2.25	1.50	.....
2N461	MOT	2.25	1.50	.....
2N461/JAN	GE	1.92	1.28	.....
2N461/JAN	MOT	2.85	1.90	.....
2N464	MOT	1.88	1.25	.....
2N465	MOT	1.88	1.25	.....
2N465/JAN	MOT	2.25	1.50	.....
2N466	MOT	2.10	1.40	.....
2N466/JAN	MOT	2.40	1.60	.....
2N467	MOT	2.55	1.70	.....
2N467/JAN	MOT	2.70	1.80	.....
2N467/USA	MOT	2.70	1.80	.....
2N489	GE	7.10	4.75	4.30
2N489	TI	7.10	4.75	2.50
2N489A/JAN	GE	7.80	5.20	.....
2N489A/JAN	TI	7.80	5.20	.....
2N489B	GE	9.15	6.10	5.50
2N490	GE	7.80	5.20	4.70
2N490	TI	7.80	5.20	5.20
2N490/USAF	TI	8.55	5.70	.....
2N490A/JAN	GE	8.55	5.70	.....
2N490A/JAN	TI	8.55	5.70	.....
2N491	GE	8.40	5.60	5.05
2N491	TI	8.40	5.60	2.50
2N491/USAF	TI	9.15	6.10	.....
2N491A	GE	8.90	5.95	5.35
2N491A/JAN	GE	9.15	6.10	.....
2N491A/JAN	TI	9.15	6.10	3.95
2N491B	GE	10.40	6.95	6.25
2N492	GE	9.90	6.60	5.95
2N492	TI	9.80	6.55	2.99
2N492/USAF	TI	10.55	7.05	.....
2N492A/JAN	GE	10.55	7.05	6.35
2N492A/JAN	TI	9.95	7.05	.....
2N492B	GE	11.90	7.95	7.15
2N493A/JAN	GE	11.40	7.60	6.85
2N493A/JAN	TI	11.40	7.60	.....
2N494	GE	10.90	7.30	6.55
2N494/USAF	TI	11.60	7.70	.....
2N494A/JAN	GE	11.60	7.70	6.95
2N494A/JAN	TI	11.60	7.70	.....
2N494C	GE	14.95	9.95	.....
2N494C	TI	14.95	9.90	8.80
2N497/JAN	GE	2.15	1.44	1.22
2N498	TI	2.12	1.41	1.25
2N498/JAN	GE	2.18	1.56	1.24
2N499	MOT	3.60	2.40	.....
2N499	SPR	4.35	3.20	.....
2N499A	MOT	4.30	2.85	.....
2N501	SPR	6.95	5.10	.....
2N502	MOT	3.25	2.15	.....
2N502	SPR	3.30	2.45	.....
2N502A	MOT	3.75	2.50	.....
2N502A	SPR	3.95	2.85	.....
2N502A/JAN	MOT	4.10	2.75	.....
2N502B	MOT	4.20	2.80	.....
2N502B	SPR	4.30	3.20	.....
2N502B/JAN	MOT	4.55	3.05	.....

Type No.	Mfr.	1-99	100-999	1000-5000
2N508	GE	.69	.46	.39

Type No.	Mfr.	1-99	100-999	1000-Up
2N508	MOT	.75	.50	.....
2N508A	GE	.81	.54	.44
2N508A	MOT	.90	.60	.....
2N511	TI	4.05	2.70	2.43
2N511A	TI	4.73	3.15	2.84
2N512	TI	4.73	3.15	.....
2N513B	TI	8.70	5.80	.....
2N524	GE	.59	.39	.35
2N524	MOT	1.20	.80	.....
2N524A	MOT	1.95	1.30	.....
2N525	GE	.80	.53	.48
2N525	MOT	1.20	.80	.....
2N525A	MOT	1.95	1.30	.....

Type No.	Mfr.	1-99	100-999	4999-5000
2N526	GE	1.00	.67	.59

Type No.	Mfr.	1-99	100-999	1000-Up
2N526	MOT	1.20	.80	.....
2N526/JAN	MOT	1.26	.84	.....
2N526/JAN	MOT	1.10	.73	.....

Type No.	Mfr.	1-99	100-999	4999-5000
2N527	GE	1.00	.67	.60

Type No.	Mfr.	1-99	100-999	1000-Up
2N527	MOT	1.43	.93	.....
2N541	TI	6.00	4.00	1.20
2N542	TI	6.30	4.20	.....
2N555/MN/29	MOT	.75	.50	.....
2N559/JAN	MOT	5.75	3.85	.....
2N588	SPR	1.45	1.05	.....
2N591	RCA	.62	.45	.375
2N594	TI	2.75	1.83	1.65
2N595	TI	4.25	2.83	2.55
2N596	TI	5.65	3.77	3.39
2N618/MN-49	MOT	2.45	1.82	.....
2N627	MOT	2.85	1.90	.....
2N628	MOT	3.35	2.25	.....
2N629	MOT	5.30	3.55	.....
2N647	RCA	1.16	.84	.70
2N649	RCA	.92	.67	.56
2N650	MOT	2.03	1.35	.....
2N650A	TI	1.69	1.13	1.02
2N650A/JAN	MOT	4.35	2.90	.....
2N650A/USN	MOT	4.35	2.90	.....
2N651	MOT	2.13	1.35	.....
2N651A/JAN	MOT	3.50	2.35	.....
2N652	MOT	2.30	1.55	.....
2N652A	MOT	2.80	1.85	.....
2N652A/JAN	MOT	4.20	2.80	.....
2N652A/USN	MOT	4.20	2.80	.....
2N653	MOT	2.50	1.65	.....
2N654	MOT	2.60	1.75	.....
2N655	MOT	2.80	1.85	.....
2N656	GE	2.03	1.35	1.15
2N656	MOT	2.03	1.35	.....
2N656	TI	2.03	1.35	.72
2N656/JAN	GE	2.16	1.44	1.31
2N657	GE	2.02	1.47	1.25
2N657	MOT	2.20	1.57	.....
2N657/JAN	GE	2.35	1.56	1.42
2N657/JAN	MOT	8.65	5.75	.....
2N657A	GE	2.92	1.94	1.65
2N657A	TI	9.00	6.00	2.61
2N659	TI	1.30	.83	.78
2N665	MOT	4.40	2.95	.....
2N665/JAN	MOT	8.90	6.60	.....
2N669	MOT	1.42	.95	.....
2N681	GE	3.00	2.00	.....
2N681	WES	3.00	2.00	.....
2N682	GE	3.60	2.40	.....
2N682	MOT	4.10	2.75	.....
2N682	TI	4.13	2.75	2.50
2N682	WES	3.60	2.40	.....
2N682/16RC5A	INT	3.60	2.40	.....
2N682/JAN	GE	5.52	3.68	.....
2N683	MOT	5.60	3.75	.....
2N683	WES	4.73	3.15	.....
2N683/JAN	GE	6.70	4.97	.....
2N683/USN	GE	6.37	4.25	.....
2N684	GE	5.47	3.65	.....
2N684	WES	5.48	3.65	.....
2N685	INT	5.85	3.93	.....
2N685	GE	5.92	3.95	.....
2N685	MOT	6.60	4.40	.....
2N685	RCA	4.81	3.50	2.92
2N685	TI	6.60	4.40	4.00
2N685	WES	5.93	3.95	.....
2N685/16RC20A	INT	5.92	3.95	.....
2N685/JAN	GE	7.96	5.31	.....
2N685/USN	GE	7.57	5.05	.....
2N686	GE	6.30	4.20	.....
2N686	TI	7.01	4.68	4.25
2N686	WES	6.30	4.20	.....
2N687	GE	6.75	4.50	.....
2N687	MOT	14.60	9.75	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N687	RCA	5.77	4.20	3.50
2N687	TI	14.60	9.75	8.78
2N687	WES	6.75	4.50	
2N688	INT	8.55	7.00	
2N688	GE	8.25	5.50	
2N688	MOT	17.10	11.40	
2N688	TI	17.10	11.40	11.40
2N688/JAN	GE	10.72	7.15	
2N688	WES	8.25	5.50	
2N688/16RC40A	INT	8.25	5.45	
2N689	INT	8.70	6.70	
2N689	GE	10.12	6.75	
2N689	MOT	20.60	13.75	
2N689	RCA	8.05	5.85	4.87
2N689	WES	10.12	6.75	
2N689/16RC80A	INT	10.12	6.75	
2N689A	TI	22.60	15.10	13.60
2N690	RCA	8.67	6.30	5.25
2N690	WES	19.27	12.85	
2N691	INT	12.80	10.60	
2N691/16RC80A	INT	19.27	12.85	
2N691	WES	23.25	15.50	
2N692	INT	25.00	18.50	
2N692	GE	27.75	18.50	
2N692	WES	27.75	18.50	
2N692/16RC80A	INT	17.50	14.35	

Type No.	Mfr.	1-99	100-499	500-999
2N696	TI	.52	.46	.42

Type No.	Mfr.	1-99	100-999	4999-Up
2N697	MOT	.52	.46	.40

Type No.	Mfr.	1-99	100-999	1000 Up
2N697	RCA	.63	46	.38

Type No.	Mfr.	1 99	100-499	500-999
2N697	TI	.52	.46	.42
2N697/JAN	MOT	1.29		
2N698	TI	1.57	1.05	.90

Type No.	Mfr.	1-99	100-999	1000-Up
2N699	MOT	1.32	.88	
2N699	RCA	1.16	.84	

Type No.	Mfr.	1-99	100-499	500-999
2N699	TI	1.32	.88	

Type No.	Mfr.	1-99	100-999	1000-Up
2N700	MOT	7.35	4.90	
2N700A/JAN	MOT	14.25	9.50	
2N700A/USN	MOT	14.25	9.50	
2N702	MOT	6.57	4.50	

Type No.	Mfr.	1-99	100-499	500-999
2N702	TI	6.75	4.50	2.75

Type No.	Mfr.	1-99	100-999	1000-Up
2N702/JAN	TI	7.65	5.10	
2N703	MOT	6.75	4.50	
2N703/JAN	MOT	7.85	5.25	
2N703/JAN	TI	7.80	5.25	
2N705	MOT	1.03	.69	
2N705	TI	1.04	.69	.62
2N705/JAN	MOT	1.14	.76	
2N705/JAN	TI	1.14	.76	.68
2N705/USN	MOT	1.14	.76	

Type No.	Mfr.	1-99	100-999	500-999
2N706	MOT	.69	.46	.41
2N706	NSC	.46	.40	
2N706	RCA	.59	.43	.36

Type No.	Mfr.	1 99	100-499	500-999
2N706	TI	.59	.40	.31
2N706A	MOT	1.18	.79	
2N706A	RCA	1.07	.78	.65
2N706A	TI	.63	.42	.33
2N706B	MOT	1.48	.99	
2N706B	TI	.63	.42	.33
2N706/JAN	MOT	.96	.64	

Type No.	Mfr.	1-9	10-99	100-999
2N706/JAN	TI	.91	.91	.61

Type No.	Mfr.	1-99	100-499	500-999
2N706/JAN	TI	.65	.44	.35
2N707	MOT	6.30	4.20	
2N708	MOT	.80	.53	.45
2N708	NSC	.49	.43	
2N708	TI	.49	.43	.42
2N709	TI	1.29	.86	.57

Type No.	Mfr.	1-99	100-4999	5000-Up
2N711	MOT	.88	.59	.53
2N711	TI	.89	.59	.53
2N711A	MOT	.88	.59	
2N711A	TI	.89	.59	.53

Type No.	Mfr.	1-99	100-499	500-999
2N711B	MOT	.94	.63	
2N711B	TI	.94	.63	
2N716	TI	43.10	28.70	
2N717	TI	.99	.66	.55
2N718	MOT	.46	.40	
2N718	RCA	1.08	.78	
2N718	TI	.40	.38	.35
2N718A	MOT	.79	.68	
2N718A	TI	.75	.50	.47
2N718A/JAN	TI	.90	.60	.55
2N718A/USN	TI	4.68	3.12	
2N719	TI	2.35	1.56	1.10
2N719A	TI	2.50	1.67	1.25
2N720	TI	1.10	.70	.58
2N720A	RCA	1.32	.96	
2N720A	TI	1.15	.75	.62
2N720A	MOT	1.32	.88	
2N720A/JAN	TI	4.65	3.10	
2N721	MOT	1.64	1.27	
2N721	TI	1.46	1.27	1.05
2N722	MOT	1.46	1.27	
2N722	TI	1.46	1.27	1.05
2N726	TI	1.24	.83	.55
2N730	TI	.70	.47	.44
2N731	MOT	1.30	.86	
2N731	TI	1.10	.75	.47
2N735	MOT	2.50	1.65	
2N736	MOT	2.50	1.65	
2N739	MOT	2.70	1.80	
2N740	MOT	2.70	1.80	
2N741	MOT	2.18	1.45	
2N741A	MOT	3.30	2.20	
2N743	MOT	6.20	4.15	
2N743	TI	.94	.63	.42
2N744	MOT	2.90	1.95	
2N744	TI	.99	.66	.44

Type No.	Mfr.	1-99	100-999	1000-Up
2N744/JAN	TI	7.05	4.80	
2N753	TI	.72	.48	.34
2N759A	TI	1.83	1.22	1.10
2N759A/USA	TI	3.00	2.00	
2N760A/JAN	TI	3.00	2.00	
2N760A/USA	TI	3.00	2.00	
2N779A	MOT	3.75	2.50	
2N779A	SPR	3.50	2.55	
2N797	TI	4.27	2.85	
2N799A	SPR	3.50	2.55	
2N827	MOT	2.50	1.65	
2N828	MOT	3.30	2.20	
2N834	MOT	2.00	1.35	
2N838	MOT	5.40	3.60	
2N840	MOT	3.60	2.45	
2N841	SPR	4.40	2.95	
2N850	TI	9.75	6.50	
2N852/TI423	TI	9.43	6.30	
2N861	SPR	6.00	4.00	
2N861	SPR	6.00	4.40	
2N862	SPR	6.65	4.95	
2N863	SPR	4.50	3.30	
2N865	SPR	8.25	6.05	
2N869	MOT	5.85	3.90	
2N869A	MOT	4.50	3.00	
2N869A/JAN	MOT	7.50	5.00	
2N870	TI	2.48	1.65	
2N871	TI	2.73	1.82	
2N877	HOF	3.00	2.00	
2N885	GE	8.62	5.75	

Type No.	Mfr.	1-99	100-499	500-999
2N910	MOT	2.37	1.58	1.58
2N910	TI	1.78	1.18	.80
2N910/JAN	TI	4.50	3.00	1.29
2N911	TI	1.78	1.18	.80
2N911	MOT	5.55	3.70	3.70
2N911/JAN	TI	6.00	4.00	4.00
2N912	TI	2.20	1.48	1.00

Type No.	Mfr.	1-99	100-499	500-999
2N912/JAN	TI	6.00	4.00	4.00
2N914	MOT	.95	.63	
2N914	TI	.95	.63	.55
2N915	MOT	4.95	3.30	
2N916	MOT	3.65	2.45	
2N916	TI	3.65	2.90	2.55
2N916/JAN	MOT	4.87		
2N917	TI	2.48	1.65	1.10
2N918	MOT	2.90	1.92	1.73
2N918	RCA	2.97	2.16	
2N918/JAN	MOT	3.35	2.23	2.01
2N918/JAN	TI	6.00	4.00	
2N918/USA	TI	6.00	4.00	
2N929	MOT	2.25	1.50	
2N929	NSC	2.25	1.50	
2N929A	MOT	4.50	3.00	
2N929/TI-474	TI	1.49	.98	.67
2N929/JAN	MOT	2.60	1.75	
2N929/JAN	TI	4.35	2.90	
2N930	MOT	1.50	.99	.89
2N930	NSC	1.50	.99	
2N930	TI	1.36	.91	.61
2N930A	MOT	1.80	1.21	1.09
2N930A	TI	1.36	.91	.61
2N930/JAN	MOT	1.85	1.23	1.11
2N930/JAN	TI	1.50	1.00	.67

Type No.	Mfr.	1-99	100-999	4999-5000
2N956	MOT	.85	.74	.65

Type No.	Mfr.	1-99	100-499	500-999
2N956	TI	.85	.74	.68
2N960	MOT	.96	.64	
2N960	TI	.96	.64	.58
2N961	TI	.91	.61	.55
2N962	MOT	.85	.57	
2N962	MOT	.86	.57	
2N962/JAN	MOT	1.14	.76	
2N962/JAN	TI	1.14	.76	.51
2N962/USN	MOT	1.14	.76	
2N963	TI	.83	.55	.50
2N964	MOT	.99	.66	
2N964	TI	.99	.66	.59
2N964/JAN	MOT	.99	.66	
2N964/JAN	TI	1.27	.85	
2N965	TI	.94	.63	.57
2N966	MOT	.88	.59	
2N966	TI	.89	.59	.53
2N967	MOT	.87	.58	
2N967	TI	.87	.58	.52
2N968	MOT	.90	.60	
2N968	TI	.90	.60	.54
2N970	MOT	.81	.54	
2N971	TI	.80	.53	.48
2N972	MOT	.93	.82	
2N972	TI	.93	.62	.57
2N973	TI	.89	.59	.53
2N974	MOT	.83	.55	
2N974	TI	.83	.55	.50
2N975	TI	.81	.54	.49
2N984	SPR	1.00	.75	
2N985	MOT	2.88	1.92	
2N985/TI898	TI	2.83	1.89	1.70
2N995	MOT	5.85	3.90	
2N995	TI	1.17	.78	.52
2N997	GE	10.50	7.00	
2N997	SPR	10.50	7.00	5.25
2N998	MOT	13.50	9.00	
2N999	MOT	14.85	9.90	
2N1008	MOT	1.10	.75	

Type No.	Mfr.	1-99	100-999	1000-Up
2N1008A	MOT	1.20	.80	
2N1008B	MOT	1.20	.80	
2N1008B/JAN	MOT	9.00	6.00	
2N1008B/USA	MOT	9.00	6.00	
2N1011	MOT	1.95	1.45	
2N1011/JAN	MOT	2.65	1.94	
2N1011/USA	MOT	2.65	1.94	
2N1015	WES	15.00	11.50	
2N1015A	WES	19.00	14.25	
2N1015B	WES	24.00	18.00	
2N1015C	WES	32.00	24.00	
2N1015D	WES	45.00	33.75	
2N1015E	WES	77.00	57.30	
2N1015F	WES	102.50	77.00	
2N1016	WES	16.00	12.00	
2N1016A	WES	20.00	15.00	
2N1016B	WES	26.00	19.50	

Semiconductor Directory

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-24	25-99	100-999
2N1016BM/USN	WES	43.70	32.55	...
2N1016CM/USN	WES	52.70	43.25	...
2N1016DM/USN	WES	77.05	57.50	...

Type No.	Mfr.	1-99	100-999	1000-Up
2N1016C	WES	32.00	24.00	...
2N1016D	WES	50.00	37.50	...
2N1016E	WES	89.00	66.50	...
2N1021	MOT	3.08	2.05	...
2N1021	IT	3.08	2.05	1.85
2N1022	MOT	3.60	2.40	...
2N1022	TI	3.60	2.40	2.16
2N1022A	TI	3.60	2.40	2.16
2N1027	SPR	3.00	2.00	...
2N1035	SPR	4.05	2.70	...
2N1038	MOT	2.85	1.90	...
2N1038	TI	1.80	1.20	1.08
2N1038-1/2N2552	TI	3.00	2.00	...
2N1039	MOT	3.75	2.50	...
2N1039	TI	2.40	1.60	1.44
2N1039/JAN	TI	2.48	1.65	1.49
2N1039-1/2N2557	TI	3.90	2.60	...
2N1039-2/2N2557	TI	3.95	2.65	...
2N1040	MOT	5.70	3.80	...
2N1040	TI	3.60	2.40	2.16
2N1041	MOT	7.50	5.00	...
2N1041	TI	4.50	3.00	2.70
2N1041/JAN	TI	4.85	3.05	...
2N1042	TI	2.85	1.90	...
2N1042	MOT	3.60	2.40	...
2N1042/JAN	TI	3.00	2.00	...
2N1042-1/2N2560	TI	4.45	3.95	...
2N1042-2564	TI	4.30	2.80	...
2N1043	TI	4.20	2.80	2.52
2N1043	MOT	4.75	3.50	...
2N1044	MOT	6.00	4.00	...
2N1044/JAN	TI	4.95	3.30	...
2N1045	MOT	9.00	6.00	...
2N1045/JAN	TI	7.80	5.20	...
2N1046	TI	10.25	7.50	4.95
2N1046/JAN	TI	8.85	5.90	...
2N1046B	TI	25.00	16.67	15.00
2N1047	TI	14.30	9.55	6.90
2N1047A	TI	14.30	9.55	6.90
2N1048	TI	18.10	12.05	8.95
2N1049	TI	16.75	11.15	8.75
2N1049A/JAN	TI	17.50	11.65	9.15
2N1050	TI	22.10	14.20	10.25
2N1050A	TI	22.10	14.20	10.25
2N1050A/JAN	TI	22.85	24.70	10.65
2N1073	MOT	2.40	1.78	...
2N1073A	MOT	3.60	2.67	...
2N1073B	MOT	4.50	3.30	...
2N1099	MOT	3.90	2.87	...
2N1100	MOT	4.50	3.34	...
2N1120	MOT	8.25	5.50	...
2N1120/JAN	MOT	12.75	8.50	...
2N1120/USA	MOT	12.75	8.50	...
2N1131	MOT	5.60	3.75	...

Type No.	Mfr.	1-99	100-499	500-999
2N1131	TI	1.24	.82	...

Type No.	Mfr.	1-99	100-999	1000-Up
2N1131/JAN	MOT	2.30	1.55	...
2N1131/JAN	TI	6.00	4.00	...
2N1131/USN	MOT	6.00	4.00	...
2N1132	MOT	1.46	1.27	...
2N1132	NSC	1.46	1.27	...
2N1132	TI	1.46	1.27	...
2N1132/JAN	TI	2.30	1.55	...
2N1132/JAN	MOT	6.00	4.00	...
2N1132B	MOT	16.70	11.15	...
2N1141	MOT	4.83	3.22	...
2N1141	TI	4.73	3.15	...
2N1141A	TI	13.70	9.14	...

Type No.	Mfr.	1-99	100-999	1000-Up
2N1142	MOT	4.20	2.80	...
2N1142	TI	4.05	2.70	...
2N1142A	TI	6.29	4.18	...
2N1142/JAN	MOT	4.61	3.08	...
2N1142/USN	MOT	4.61	3.08	...
2N1143	MOT	3.50	2.33	...
2N1143	TI	3.34	2.22	...
2N1143A	TI	5.86	3.91	...
2N1149/903	TI	8.65	5.75	...
2N1155/952	TI	10.52	7.92	...
2N1156/953	TI	14.12	10.58	...
2N1162	MOT	4.45	3.30	...
2N1163	MOT	4.45	3.30	...
2N1163A	MOT	5.08	3.75	...
2N1165	MOT	6.35	4.70	...
2N1165/JAN	MOT	14.70	9.75	...
2N1165/UJN	MOT	14.60	9.75	...
2N1175	GE	.93	.62	.52
2N1175	MOT	1.12	.75	...
2N1175A	GE	1.35	.90	.80
2N1183	RCA	1.82	1.32	1.10
2N1183A	RCA	2.31	1.68	1.40
2N1183A/USA	RCA	3.30	2.40	2.00
2N1183B	RCA	2.89	2.10	1.75
2N1184	RCA	2.48	1.80	1.50
2N1184A	RCA	2.81	2.04	1.70
2N1184B	RCA	4.13	3.00	2.50
2N1184B/USA	RCA	5.36	3.90	3.25
2N1187	MOT	3.80	2.55	...
2N1188	MOT	4.70	3.15	...
2N1189	MOT	2.25	1.50	...
2N1190	MOT	2.40	1.60	...
2N1191	MOT	1.40	.95	...
2N1193	MOT	1.87	1.25	...
2N1194	MOT	2.03	1.35	...
2N1195	MOT	3.95	2.63	...
2N1195	TI	3.95	2.63	2.37
2N1195/JAN	MOT	4.43	2.95	...
2N1204	MOT	1.65	1.10	...
2N1204A	MOT	1.65	1.10	...
2N1224	RCA	1.24	.90	.75
2N1224/USA	RCA	1.41	.97	.85
2N1225	RCA	1.41	1.02	.85
2N1226	RCA	1.49	1.08	.90
2N1247	TI	13.50	9.00	7.20
2N1273	TI	.42	.28	.25
2N1274	TI	.50	.33	.30
2N1278	TI	4.75	3.15	1.40
2N1285	RCA	1.72	1.25	1.04
2N1300	RCA	1.37	1.00	.83
2N1300	SPR	5.35	3.65	...
2N1302	RCA	.45	.32	.27
2N1302	TI	.42	.30	.25
2N1302/JAN	RCA	.48	.35	.29

Type No.	Mfr.	1-99	100-999	1000-4999
2N1303	GE	.45	.30	.25

Type No.	Mfr.	1-99	100-999	1000-Up
2N1303	RCA	.45	.32	.27
2N1303	TI	.45	.30	.25
2N1303/JAN	RCA	.52	.35	...
2N1303/JAN	TI	.43	.31	.26
2N1304	RCA	.53	.38	.32
2N1304	TI	.50	.36	.30
2N1304/JAN	RCA	.65	.45	...
2N1304/JAN	TI	.53	.39	...

Type No.	Mfr.	1-99	100-999	1000-4999
2N1305	GE	.52	.35	.29

Type No.	Mfr.	1-99	100-999	1000-Up
2N1307	RCA	.64	.47	.39
2N1307	TI	.58	.42	.35
2N1307/JAN	GE	.71	.47	.40
2N1307/JAN	RCA	.86	.58	...
2N1307/JAN	TI	.63	.46	.38
2N1308	RCA	.97	.71	.59
2N1308	TI	.91	.66	.55
2N1308/JAN	RCA	1.16	.80	...
2N1308/JAN	TI	.96	.70	.58
2N1309	RCA	.97	.71	.59
2N1309	TI	.91	.66	.55
2N1309/JAN	RCA	1.16	.80	...
2N1312	TI	1.77	1.18	...
2N1358	MOT	4.15	3.06	...
2N1358/JAN	MOT	4.50	3.34	...
2N1358/USA	MOT	4.50	3.34	...
2N1359	MOT	1.40	1.05	...
2N1360	MOT	1.70	1.25	...

Type No.	Mfr.	1-99	100-999	1000-Up
2N1362	MOT	2.85	2.12	...
2N1363	MOT	3.10	2.30	...
2N1364	MOT	4.75	3.53	...
2N1370	TI	.72	.48	.43
2N1371	TI	1.14	.76	.68
2N1372	TI	.81	.54	.49
2N1373	TI	1.20	.80	.72
2N1374	TI	1.02	.68	.61
2N1375	TI	1.38	.92	.83
2N1376	TI	1.29	.86	.77
2N1377	TI	1.50	1.00	.90
2N1378	TI	1.29	1.00	.77
2N1280	TI	1.44	.96	.40
2N1381	TI	.72	.48	.43
2N1382	TI	.99	.66	.59
2N1383	TI	.92	.61	.55
2N1384	TI	2.89	2.00	...
2N1385	TI	.92	.61	.55
2N1385	RCA	1.82	1.32	1.10
2N1386	RCA	1.93	1.40	1.17
2N1397	RCA	2.15	1.56	1.30
2N1404	TI	.58	.39	.35
2N1408	MOT	1.05	.70	...
2N1412/USN	MOT	5.25	3.89	...
2N1413	MOT	.83	.55	...
2N1414	GE	.69	.46	.41
2N1414	MOT	.90	.60	...
2N1415	GE	.80	.53	.48
2N1415	MOT	1.05	.70	...
2N1417	GE	.90	.60	.50
2N1418	GE	.98	.65	.55
2N1420	MOT	.65	.50	...

Type No.	Mfr.	1-99	100-499	500-999
2N1420	TI	1.20	.80	.65

Type No.	Mfr.	1-99	100-999	1000-Up
2N1429	SPR	8.75	6.45	...
2N1479	RCA	1.65	1.20	1.00
2N1480	RCA	1.82	1.32	1.10
2N1482	RCA	2.81	2.04	1.70
2N1482/JAN	RCA	3.71	2.70	2.25
2N1483	RCA	2.89	2.10	...
2N1484	RCA	3.63	2.64	...
2N1484/JAN	RCA	4.46	3.24	2.70
2N1485	RCA	4.46	3.24	...
2N1485/JAN	RCA	5.28	3.84	3.20
2N1486	RCA	6.77	4.92	...
2N1486/JAN	RCA	7.59	5.52	4.60
2N1487	RCA	4.54	3.30	...
2N1487/USA	RCA	5.36	3.99	...
2N1488	RCA	4.95	3.60	3.00

Type No.	Mfr.	1-99	100-499	500-999
2N1488/USA	RCA	5.78	3.99	...
2N1489	RCA	7.43	5.40	4.50
2N1489/JAN	RCA	8.25	6.00	5.00
2N1490	RCA	8.25	6.00	5.00
2N1491	RCA	1.82	1.32	1.10
2N1492	RCA	4.29	3.12	2.60
2N1493	RCA	7.01	5.10	4.25
2N1493/USA	RCA	7.43	5.13	...
2N1494A	MOT	2.17	1.45	...
2N1495	MOT	3.30	2.20	...
2N1496	MOT	3.80	2.55	...
2N1499A	SPR	1.50	1.15	...
2N1500	MOT	7.65	5.10	...
2N1507	TI	1.20	.80	.65
2N1524	RCA	.51	.37	.31
2N1525	RCA	.53	.39	.32
2N1526	RCA	.53	.38	.32
2N1527	RCA	.55	.40	.33
2N1529	MOT	1.45	1.08	...
2N1529	TI	1.45	1.08	...
2N1530	MOT	1.60	1.15	...
2N1530	TI	1.60	1.15	...
2N1531	MOT	2.30	1.70	...
2N1531	TI	2.30	1.70	...
2N1532	MOT	3.00	2.24	...

Type No.	Mfr.	1-99	100-999	1000-Up
2N1532	TI	3.00	2.24	...
2N1533	MOT	4.35	3.25	...
2N1533	TI	4.35	3.25	...
2N1534	MOT	1.40	1.05	...
2N1535	MOT	1.50	1.14	...
2N1535	TI	1.50	1.14	...
2N1536	MOT	1.70	1.25	...
2N1536	TI	1.70	1.25	...
2N1536A	MOT	2.20	1.65	...
2N1537	MOT	3.90	2.90	...

Type No.	Mfr.	1-99	100-999	1000-Up
2N1537	TI	3.90	2.90	
2N1538	MOT	5.50	3.45	
2N1538	TI	5.50	4.05	
2N1539	MOT	1.50	1.12	
2N1539	TI	1.50	1.12	1.01
2N1539A	MOT	2.05	1.52	
2N1540	MOT	1.58	1.18	
2N1540A	MOT	2.10	1.62	
2N1541	MOT	1.85	1.38	
2N1541	TI	1.85	1.38	1.24
2N1542	MOT	2.35	1.75	
2N1543	TI	3.60	2.65	2.39
2N1543	MOT	3.60	2.65	
2N1544	MOT	2.22	1.64	
2N1544	TI	1.65	1.24	
2N1544A	MOT	2.22	1.66	
2N1545A	MOT	2.35	1.75	
2N1546	MOT	2.30	1.70	
2N1546	TI	2.30	1.70	
2N1546A	MOT	2.95	2.20	
2N1547	MOT	3.45	2.55	
2N1547	TI	2.75	2.05	
2N1547A	MOT	3.45	2.55	
2N1548	MOT	4.00	2.95	
2N1548	TI	4.00	2.95	
2N1549	MOT	2.55	1.70	
2N1549A/JAN	MOT	3.65	2.45	
2N1550	MOT	3.05	2.05	
2N1550A	MOT	4.00	2.75	
2N1550A/JAN	MOT	4.20	2.80	
2N1551	MOT	4.85	3.25	
2N1551A	MOT	5.60	3.75	
2N1551A/JAN	MOT	6.00	4.00	
2N1552	MOT	5.55	3.70	
2N1552A	MOT	6.30	4.20	
2N1553	MOT	1.85	1.35	
2N1553A	MOT	2.35	1.75	
2N1553A/JAN	MOT	3.35	2.25	
2N1554	MOT	2.30	1.70	
2N1554A	MOT	2.85	2.10	
2N1554A/JAN	MOT	4.05	2.70	
2N1555	MOT	2.75	2.05	
2N1555A/JAN	MOT	5.25	3.50	
2N1555A	MOT	3.45	2.55	
2N1556	MOT	4.00	2.95	
2N1566A	MOT	4.65	3.45	
2N1556A/JAN	MOT	6.00	4.00	
2N1557	MOT	2.15	1.58	
2N1557A	MOT	2.70	2.00	
2N1558	MOT	3.80	2.06	
2N1558A	MOT	3.40	2.50	
2N1559	MOT	3.25	2.40	
2N1560	MOT	4.45	3.30	
2N1560A	MOT	5.00	3.70	

Type No.	Mfr.	1-99	100-499	500-999
2N1566	TI	2.50	1.65	1.30
2N1595	GE	2.25	1.50	
2N1595	MOT	2.15	1.45	
2N1595/TI-110	TI	3.00	2.00	1.60
2N1596	GE	3.60	2.33	
2N1596	MOT	2.60	1.75	
2N1596/TI-111	TI	4.50	3.05	2.44
2N1597	GE	6.90	4.60	
2N1597	MOT	4.95	3.30	
2N1597/TI-112	TI	9.35	6.20	5.00
2N1598	MOT	8.60	5.75	
2N1599	MOT	12.35	8.25	
2N1600	INT	5.10	4.10	
2N1601	INT	5.70	4.25	
2N1601/TI-131	TI	5.70	3.45	3.35
2N1601/3RC10A	TI	5.70	3.45	3.35
2N1602	INT	9.45	6.30	
2N1602/3RC20A	INT	9.45	6.30	
2N1603	INT	13.50	9.00	
2N1604/3RC40A	INT	16.80	10.80	
2N1604	INT	16.80	10.80	
2N1605	TI	.62	.46	.37
2N1605A	RCA	1.14	.83	.69

Type No.	Mfr.	1-99	100-999	1000-Up
2N1613	MOT	.79	.68	.60

Type No.	Mfr.	1-99	100-499	500-999
2N1613	RCA	.75	.54	
2N1613	TI	.79	.68	.50
2N1613/JAN	TI	1.20	.80	.61

Type No.	Mfr.	1-99	100-999	1000-Up
2N1631	RCA	.79	.58	.48
2N1632	RCA	.63	.46	.38
2N1637	RCA	.61	.44	.37
2N1638	RCA	.54	.40	.33
2N1639	RCA	4.85	3.25	
2N1651	MOT	10.10	6.75	
2N1653	MOT	14.60	9.75	
2N1671	GE	2.95	1.97	

Type No.	Mfr.	1-99	100-499	500-999
2N1671	TI	2.95	1.98	1.15

Type No.	Mfr.	1-99	100-999	1000-Up
2N1671A	GE	3.20	2.13	1.95
2N1671A	TI	3.20	2.13	1.25
2N1671B	GE	3.55	2.36	
2N1671B	TI	3.55	2.36	1.50
2N1671C	GE	8.25	5.50	4.95
2N1692	MOT	22.50	17.00	
2N1700	RCA	1.90	1.38	1.15
2N1701	RCA	2.31	1.68	1.40
2N1702	RCA	4.54	3.30	2.75
2N1706	MOT	.83	.55	
2N1708	MOT	3.20	2.20	

Type No.	Mfr.	1-99	100-999	1000-4999
2N1711	NSC	.85	.54	
2N1711	RCA	.85	.74	.65

Type No.	Mfr.	1-99	100-499	500-999
2N1711	RCA	.94	.69	
2N1711	TI	.85	.74	.50
2N1714	TI	6.00	4.00	3.48
2N1714/JAN	TI	6.45	4.30	
2N1715/JAN	TI	8.70	5.80	
2N1716	TI	7.50	5.00	4.35
2N1716/JAN	TI	7.95	5.30	
2N1717/JAN	TI	11.70	7.80	
2N1718	TI	6.75	4.50	3.88
2N1719	TI	9.00	6.00	5.20
2N1720	TI	8.25	5.50	4.75
2N1724/JAN	TI	32.25	21.50	
2N1726	SPR	1.00	.75	

Type No.	Mfr.	1-99	100-999	1000-Up
2N1727	SPR	1.00	.75	
2N1728	SPR	1.10	.80	
2N1742	SPR	2.93	2.15	
2N1742	MOT	2.70	1.80	
2N1744	SPR	2.87	2.11	
2N1745	SPR	1.80	1.32	
2N1747	SPR	1.00	.75	
2N1748	SPR	1.05	.80	
2N1748A	SPR	1.15	.85	
2N1754	MOT	1.42	.95	
2N1754	SPR	1.35	.95	
2N1770A	TI	6.15	4.10	
2N1770A/C10U	GE	6.15	4.10	
2N1771	TI	4.65	3.10	2.79
2N1771/C11F	GE	4.65	3.10	
2N1771A	TI	7.00	4.65	
2N1771A/JAN	GE	9.37	6.25	
2N1772	TI	5.75	3.85	3.46
2N1772/C11A	GE	5.77	3.85	
2N1772A	TI	9.00	6.00	
2N1772A/C10A	GE	9.00	6.00	
2N1772A/JAN	GE	11.76	7.84	
2N1773/C11G	GE	6.97	4.65	
2N1773/5RC15A	INT	6.92	4.75	
2N1773A	TI	11.10	7.40	
2N1773/C10G	GE	11.10	7.40	
2N1774	TI	8.15	5.45	4.91
2N1774/5RC20A	INT	8.12	5.60	
2N1774/C10B	GE	13.50	9.00	
2N1774A/5RC20B	INT	12.90	8.50	
2N1774A/JAN	GE	17.04	11.36	
3N1775A	TI	15.15	10.50	
2N1775A/5RC25B	INT	15.50	10.45	
2N1776A	TI	23.65	15.75	
2N1776A/C10C	GE	18.40	12.25	
2N1776A/5RC30B	INT	18.35	12.20	
2N1776A/JAN	GE	22.00	14.67	
2N1777A	TI	23.65	15.75	
2N1777A/C10D	GE	23.65	15.75	
2N1777A/5RC40B	INT	22.50	15.00	
2N1777A/JAN	GE	27.36	18.24	
2N1778	WES	66.50	51.50	
2N1792	WES	22.30	16.50	
2N1793	WES	25.90	19.80	

Type No.	Mfr.	1-99	100-999	1000-Up
2N1794	WES	30.00	22.75	
2N1795	WES	34.20	25.00	
2N1796	WES	40.00	28.00	
2N1797	WES	45.50	32.50	
2N1798	WES	60.00	38.50	
2N1799	WES	75.00	50.75	
2N1800	WES	87.50	61.00	
2N1801	WES	108.00	70.00	
2N1802	WES	130.00	77.00	
2N1803	WES	150.00	85.00	
2N1804	WES	210.00	155.00	
2N1805	INT	83.00	64.00	
2N1805	WES	80.50	62.50	
2N1806	INT	107.00	82.50	
2N1807	WES	120.00	94.00	
2N1807	WES	135.00	104.00	
2N1807	TI	135.00	104.00	
2N1808	TI	.58	.39	.35

Type No.	Mfr.	1-24	25-99	100-999
2N1809/WX115U-A	WES	76.00	63.00	
2N1810/WX115U-B	WES	115.00	76.00	
2N1811/WX115B-C	WES	141.00	94.00	
2N1812/WX115V-D	WES	172.00	114.00	
2N1813	WES	211.00	147.00	
2N1814	WES	260.00	178.00	
2N1816/WX115W-A	WES	101.00	84.00	
2N1817/WX115W-B	WES	154.00	102.00	
2N1818/WX115W-C	WES	189.00	125.00	
2N1819	WES	232.00	156.00	
2N1820	WES	286.00	191.00	
2N1823/WX115X-A	WES	135.00	111.00	
2N1824/WX115X-B	WES	204.00	136.00	
2N1825	WES	251.00	168.00	
2N1826	WES	304.00	207.00	
2N1830	WES	179.00	146.00	
2N1831	WES	270.00	180.00	
2N1832	WES	332.00	222.00	
2N1833	WES	404.00	275.00	

Type No.	Mfr.	1-99	100-999	1000-Up
2N1842	MOT	3.00	2.00	
2N1842	TI	3.00	2.00	
2N1842A	GE	3.30	2.20	
2N1842A	MOT	3.15	2.10	
2N1842A	WES	2.85	1.90	
2N1843	MOT	3.75	2.50	
2N1843/10RC5	INT	3.15	2.10	
2N1843A	MOT	4.05	2.70	
2N1843A	WES	3.45	2.30	
2N1844	MOT	5.00	3.35	
2N1844/C36A	GE	4.95	3.30	
2N1844A	MOT	5.40	3.60	
2N1844A	WES	4.45	2.95	
2N1845	MOT	5.70	3.80	
2N1845A	GE	5.92	3.95	
2N1845A	MOT	6.05	4.05	
2N1845A	WES	5.20	3.45	
2N1846	MOT	6.00	4.00	
2N1846	WES	5.35	3.55	
2N1846/C36B	GE	5.32	3.55	
2N1846A	GE	6.45	4.30	
2N1846A	MOT	6.35	4.25	
2N1846A	WES	5.65	3.75	
2N1846B	TI	6.19	4.13	
2N1847	MOT	6.30	4.20	
2N1847	WES	5.70	3.80	
2N1847A	GE	6.00	4.00	
2N1847A	MOT	6.75	4.50	
2N1847A	WES	6.00	4.00	
2N1848	MOT	13.25	8.85	
2N1848	WES	6.10	4.05	
2N1848/C36C	GE	6.07	4.05	
2N1848A	GE	7.42	4.95	
2N1848A	WES	6.45	4.30	
2N1849	MOT	15.00	10.00	
2N1849	WES	7.45	4.95	
2N1849A	WES	7.90	5.25	
2N1849B	TI	15.60	10.40	9.35
2N1850	MOT	18.15	12.10	
2N1850	WES	8.10	5.40	

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Type No.	Mfr.	1-99	100-999	1000-Up
2N1850/C36E	GE	10.35	6.90	.....
2N1850A	GE	9.60	6.40	.....
2N1850A/10RC50A	INT	9.60	6.40	.....
2N1853/JAN	RCA	1.32	.92	.....

Type No.	Mfr.	1-99	100-499	500-999
2N1889	TI	2.20	1.48	1.00
2N1890	TI	2.20	1.48	1.00
2N1890/JAN	TI	8.65	5.80	.....
2N1891	TI	2.49	1.66	.....
2N1892	TI	.68	.45	.....
2N1893	MOT	1.57	1.05	.....
2N1893	RCA	1.08	.78	.....
2N1893	TI	1.35	.90	.....
2N1893/JAN	MOT	4.65	3.10	.....
2N1905	RCA	4.13	3.00	2.50
2N1906	RCA	6.60	4.80	4.00
2N1907	TI	9.38	6.75	4.72
2N1908	TI	12.75	9.00	6.75

Type No.	Mfr.	1-24	25-99	100-999
2N1909/C50U	GE	17.00	10.25	.....
2N1910	WES	24.80	19.20	.....
2N1910W/JAN	GE	35.00	28.30	.....
2N1910W/USN	WES	29.20	23.60	.....
2N1911	WES	28.80	22.30	.....
2N1911W/USN	WES	33.20	26.70	.....
2N1912	WES	33.40	25.80	.....
2N1913	WES	38.00	29.40	.....
2N1913/C50B	GE	24.00	14.50	.....
2N1913W/USN	WES	42.40	33.80	.....
2N1914	WES	44.50	34.50	.....
2N1915	WES	50.50	39.20	.....
2N1915W/JAN	GE	65.88	52.30	.....
2N1915/USN	WES	54.90	43.60	.....
2N1916	WES	66.50	51.50	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N1916/C50D	GE	36.00	21.50	.....

Type No.	Mfr.	1-24	25-99	100-999
2N1916/809H	WES	66.50	51.50	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N1916W/JAN	GE	85.40	67.00	.....
2N1924	GE	1.35	.90	.81
2N1924	MOT	1.80	1.20	.....

Type No.	Mfr.	1-99	100-999	1000-4999
2N1925	GE	1.56	1.04	.94
2N1925	MOT	2.03	1.35	.....
2N1926	GE	1.82	1.21	1.09
2N1926	MOT	2.40	1.60	.....
2N1939/C84	GE	7.65	5.10	.....
2N1959	MOT	4.45	2.95	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N1970	MOT	2.35	1.73	.....
2N1973	TI	2.20	1.48	.90
2N1974	TI	1.35	.90	.49
2N1975	TI	2.20	1.48	.90
2N1980	MOT	4.50	3.00	.....
2N1981	MOT	5.50	3.70	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N1982	MOT	7.80	5.20	.....
2N1983	MOT	2.50	1.67	.....
2N1984	MOT	2.33	1.56	.....
2N1990	MOT	2.25	1.50	.....
2N1991	MOT	3.95	2.96	.....
2N1994	TI	2.33	1.55	1.39
2N1997	TI	1.77	1.18	1.06
2N1998	TI	1.88	1.25	1.13
2N1999	TI	2.07	1.38	1.24
2N2000	TI	2.50	1.67	1.50
2N2001	TI	2.17	1.45	1.30
2N2015	RCA	9.08	6.60	5.50
2N2015/USA	RCA	9.90	6.85	.....
2N2016	RCA	9.90	7.20	.....
2N2016/USA	RCA	10.73	7.40	.....

Type No.	Mfr.	1-24	25-99	100-Up
2N2031/JAN	GE	29.20	23.60	.....
2N2031W/USN	GE	29.20	23.60	.....
2N2031W/USN	WES	29.20	23.60	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N2042	MOT	2.85	1.90	.....
2N2042A	MOT	3.40	2.25	.....
2N2043	MOT	3.20	2.15	.....
2N2043A	MOT	3.90	2.60	.....
2N2048	SPR	1.95	1.42	.....
2N2060	MOT	6.75	4.50	5.00

Type No.	Mfr.	1-99	100-499	500-999
2N2060	TI	6.75	4.50	3.75
2N2060/JAN	MOT	36.00	24.00	.....
2N2060/JAN	TI	24.00	16.00	.....
2N2060A	MOT	8.70	5.80	.....
2N2075	MOT	5.20	3.84	.....
2N2076	MOT	3.60	2.67	.....
2N2076A	MOT	4.75	3.17	.....
2N2077	MOT	2.85	2.12	.....
2N2078	MOT	1.90	1.39	.....
2N2079	MOT	7.20	5.34	.....
2N2079A/JAN	MOT	9.95	6.65	.....
2N2080	MOT	5.10	3.78	.....
2N2081	MOT	3.15	2.32	.....
2N2084	MOT	2.40	1.78	.....
2N2096	MOT	1.65	1.10	.....
2N2097	MOT	3.30	2.20	.....
2N2099	MOT	2.17	1.45	.....
2N2100	MOT	3.80	2.55	.....
2N2102	RCA	1.13	.82	.....
2N2102	TI	.99	.75	.69
2N2102A	TI	1.07	.80	.74

Type No.	Mfr.	1-999	100-999	1000-Up
2N2106	GE	1.97	1.32	1.19
2N2107	GE	2.09	1.39	.....
2N2108	GE	2.10	1.40	.....

Type No.	Mfr.	1-24	25-99	100-999
2N2109	WES	76.00	63.00	.....
2N2110	WES	115.00	76.00	.....
2N2111	WES	141.00	94.00	.....
2N2112	WES	172.00	114.00	.....
2N2113	WES	211.00	147.00	.....
2N2114	WES	260.00	178.00	.....
2N2116	WES	101.00	84.00	.....
2N2117	WES	154.00	102.00	.....
2N2118	WES	189.00	125.00	.....
2N2119	WES	232.00	156.00	.....
2N2120	WES	286.00	191.00	.....
2N2123	WES	135.00	111.00	.....
2N2124	WES	204.00	136.00	.....
2N2125	WES	251.00	168.00	.....
2N2126	WES	304.00	207.00	.....
2N2130	WES	179.00	146.00	.....
2N2131	WES	270.00	180.00	.....
2N2132	WES	332.00	222.00	.....
2N2133	WES	404.00	275.00	.....

Type No.	Mfr.	1-99	100-999	1000 Up
2N2137	MOT	1.80	1.20	.....
2N2138	MOT	2.10	1.40	.....
2N2139	MOT	2.25	1.50	.....
2N2140	MOT	3.90	2.60	.....
2N2142	MOT	2.30	1.55	.....
2N2143	MOT	2.45	1.65	.....
2N2144	MOT	3.75	2.50	.....
2N2147	RCA	1.57	1.14	.95
2N2148	RCA	1.08	.78	.65
2N2150	TI	18.00	12.00	10.80
2N2151	TI	21.00	14.00	12.00

Type No.	Mfr.	1-99	100-999	1000-Up
2N2152	MOT	3.60	2.40	.....
2N2153	MOT	5.55	3.70	.....
2N2153A	MOT	6.30	4.20	.....
2N2154	MOT	10.10	6.75	.....
2N2156	MOT	4.10	2.75	.....
2N2156A	MOT	4.85	3.25	.....
2N2157	MOT	6.35	4.25	.....
2N2158	MOT	10.85	7.25	.....
2N2160	GE	1.49	.99	.....
2N2165	SPR	5.70	4.25	.....
2N2170	SPR	2.35	1.75	.....
2N2171	MOT	1.95	1.30	.....
2N2185	SPR	15.00	11.00	.....
2N2188	TI	1.28	.85	.76
2N2189	TI	1.64	1.09	.98
2N2190	TI	1.47	.98	.88
2N2191	TI	1.85	1.23	1.11
2N2192	MOT	4.20	2.80	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2192	TI	1.86	1.24	.83
2N2192A	MOT	4.40	2.95	.....
2N2192A	TI	1.86	1.24	.83
2N2192B	MOT	12.45	8.20	.....
2N2193	MOT	2.90	1.95	.....
2N2193	NSC	2.90	1.90	.....
2N2193	TI	1.75	1.15	.78
2N2193A	GE	1.75	1.15	.48
2N2193A	MOT	3.15	2.10	.....
2N2193A	TI	1.75	1.15	.78

Type No.	Mfr.	1-99	100-999	1000-Up
2N2193B	MOT	10.58	7.20	.....
2N2194	MOT	2.18	1.45	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2194	TI	1.75	1.15	.78

Type No.	Mfr.	1-99	100-999	1000-Up
2N2194A	MOT	2.40	1.60	.....
2N2194B	MOT	8.25	5.50	.....
2N2195	MOT	1.38	.92	.....
2N2195A	MOT	1.53	1.02	.....
2N2195B	MOT	2.40	1.60	.....
2N2196	GE	4.50	3.00	2.00
2N2197	GE	4.62	3.25	2.93
2N2201/7B4	GE	6.90	4.60	4.15
2N2207	AMP	1.31	.90	.....
2N2212	MOT	8.60	5.75	.....
2N2217	SPR	3.35	2.25	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2217	TI	1.00	2.01	.55
2N2218	MOT	1.05	.69	.62
2N2218	NSC	.75	.50	.....
2N2218	SPR	.90	.60	.....
2N2218	TI	1.00	.81	.55
2N2218/JAN	MOT	1.80	1.20	.....
2N2218/JAN	TI	1.80	1.20	.....
2N2218/MM487	MOT	.75	.50	.....
2N2218A	MOT	1.50	.99	.89
2N2218A	SPR	1.50	1.00	.....
2N2218A	TI	1.10	.86	.58
2N2218A/JAN	MOT	1.40	.93	.84
2N2218A/JAN	TI	5.75	3.85	.....
2N2219	SPR	1.00	.65	.....
2N2219	MOT	1.60	.96	.....
2N2219	NSC	.80	.65	.....
2N2219	TI	1.31	.87	.59
2N2219/JAN	MOT	1.80	1.20	.....
2N2219/JANTX	NSC	3.50	2.20	.....
2N2219/JAN	TI	1.80	1.20	.85
2N2219/MM488	MOT	1.15	.77	.69
2N2219A	MOT	1.75	1.16	1.04
2N2219A	NSC	1.75	1.16	.....
2N2219A	TI	5.25	3.50	1.65
2N2219A/JAN	MOT	1.85	1.23	1.11
2N2219A/JAN	TI	6.60	4.40	.....
2N2220	TI	1.11	.74	.50
2N2220/MM511	MOT	3.35	2.25	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N2221	MOT	1.07	.93	.....
2N2221	SPR	.90	.60	.....
2N2221	TI	1.11	.74	.....
2N2221/JAN	GE	4.10	2.75	.....
2N2221/JAN	TI	1.80	1.20	.....
2N2221/JAN	MOT	1.80	1.20	.....
2N2221/MM512	MOT	.75	.50	.....
2N2221A	MOT	1.65	1.08	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N2221A	SPR	1.50	1.00	
2N2221A/JAN	MOT	4.85	3.25	
2N2221A/JAN	TI	5.70	3.80	
2N2221/JAN	MOT	1.80	1.20	
2N2222	MOT	.95	.63	
2N2222	NSC	.80	.63	
2N2222	SPR	.90	.60	
2N2222	TI	.95	.63	
2N2222/JAN	GE	4.70	3.15	
2N2222/JAN	MOT	1.35	.89	
2N2222/JAN	TI	1.80	1.20	
2N2222/USA	MOT	1.80	1.20	
2N2222A/JAN	MOT	5.65	3.75	
2N2222A/JAN	NSC	1.65	1.08	
2N2222A/JANTX	NSC	4.50	2.75	
2N2222A/JAN	TI	5.70	3.80	
2N2222/MM513	MOT	1.05	.70	
2N2222A	MOT	1.20	.79	
2N2222A	NSC	1.20	.79	
2N2222A	TI	1.20	.79	
2N2223	GE	7.35	6.45	
2N2223	MOT	4.95	3.30	
2N2223	TI	4.95	3.30	
2N2223A	MOT	5.85	3.90	
2N2224	MOT	3.75	2.50	

Type No.	Mfr.	1-24	24-99	100-Up
2N2226	WES	44.10	29.10	
2N2227	WES	61.10	41.10	
2N2228	WES	83.10	55.10	

Type No.	Mfr.	1-99	100-999	1000-Up
2N2229	WES	112.00	75.00	

Type No.	Mfr.	1-24	25-99	100-999
2N2229	WES	73.10	48.10	
2N2231	WES	99.10	66.10	
2N2270	NSC	.90	.60	

Type No.	Mfr.	1-99	100-999	1000-Up
2N2325/C5G	GE	5.92	3.95	
2N2325A	GE	8.47	5.65	
2N2326	MOT	5.40	3.60	
2N2326	TI	7.50	5.00	
2N2326/JAN	GE	12.85	9.40	
2N2326A/C5B	GE	7.80	5.20	
2N2326A	GE	11.07	7.38	
2N2326A/JAN	GE	14.90	10.75	
2N2327/C5H	GE	9.75	6.50	
2N2328/C5C	GE	12.00	8.00	
2N2328A	GE	17.22	11.48	
2N2330	MOT	14.62	9.75	
2N2338	RCA	6.60	4.80	4.00
2N2345/C7F	GE	9.15	6.10	
2N2346/C7A	GE	13.35	8.90	
2N2348/C7B	GE	18.90	12.60	
2N2349/4D-22	GE	2.32	1.54	1.39
2N2357	MOT	7.10	4.75	
2N2358	MOT	14.25	9.50	
2N2359	MOT	17.60	11.75	
2N2360	SPR	3.95	2.75	
2N2361	SPR	3.30	2.20	
2N2362	SPR	2.10	1.55	
2N2368	MOT	1.07	.93	.82

Type No.	Mfr.	1-99	100-499	500-999
2N2368	TI	.95	.69	.46
2N2369	MOT	1.25	.84	.76
2N2369	NSC	.93	.84	
2N2369	TI	.98	.73	.48
2N2369A	RCA	1.65	1.10	1.10
2N2369A	MOT	1.50	.99	.89
2N2369A/JAN	MOT	1.95	1.31	1.18
2N2369A/JAN	TI	1.10	.79	.53
2N2382	MOT	5.15	3.45	3.45
2N2386/TI693	TI	2.70	1.80	1.75

Type No.	Mfr.	1-99	100-999	1000-Up
2N2388/TI421	TI	14.40	9.65	
2N2395/TI432	TI	10.10	6.75	

Type No.	Mfr.	1-99	100-499	500-999
2N2396/TI433	TI	11.55	7.70	6.75

Type No.	Mfr.	1-99	100-999	1000-Up
2N2398	SPR	3.90	2.95	
2N2399	SPR	3.35	2.45	
2N2400	SPR	1.24	.95	
2N2401	SPR	1.45	1.05	

Type No.	Mfr.	1-99	100-999	1000-Up
2N2402	SPR	2.25	1.65	
2N2405	MOT	1.82	1.25	
2N2405	RCA	1.57	1.14	
2N2410	MOT	4.50	3.00	

Type No.	Mfr.	1-99	100-499	500-999
2N2410	MOT	1.51	.99	.66
2N2411	TI	1.61	1.07	.71
2N2412	TI	1.73	1.15	.77

Type No.	Mfr.	1-99	100-999	1000-Up
2N2415	MOT	6.00	4.00	
2N2415	TI	5.80	3.85	3.50
2N2416	MOT	3.35	2.25	
2N2419	GE	8.40	5.60	
2N2420B	MOT	11.90	7.95	
2N2422B	GE	12.90	8.60	
2N2429	AMP	.59	.39	
2N2430	AMP	.51	.34	
2N2431	AMP	.59	.39	

Type No.	Mfr.	1-99	100-499	500-999
2N2432/TIX605	TI	4.22	2.80	1.89
2N2432A	TI	4.30	2.85	1.94

Type No.	Mfr.	1-99	100-999	1000-Up
2N2432/JAN	TI	8.81	5.87	
2N2433	WES	89.00	66.50	
2N2453A	MOT	11.25	7.50	

Type No.	Mfr.	1-24	25-99	100-Up
2N2471	WES	61.00	41.00	

Type No.	Mfr.	1-99	100-999	1000-Up
2N2475	RCA	1.62	1.18	
2N2476	MOT	1.65	1.14	
2N2476	RCA	1.16	.84	.70
2N2477	MOT	2.06	1.35	
2N2480	GE	8.00	7.05	
2N2480	MOT	4.85	3.25	
2N2480	SPR			
2N2480A	GE	10.65	7.00	
2N2481	TI	15.35	10.25	

Type No.	Mfr.	1-99	100-499	500-999
2N2481	TI	1.36	.91	.61
2N2483	NSC	3.00	2.00	
2N2483	TI	1.49	.98	.67
2N2484	NSC	3.30	2.20	
2N2484	TI	1.66	1.10	.73
2N2488	SPR	9.95	2.15	
2N2489	SPR	3.65	2.70	
2N2490	MOT	1.88	1.39	
2N2491	MOT	2.63	1.95	
2N2492/MP-732	MOT	3.38	2.50	
2N2493/MP-733	MOT	6.00	4.45	
2N2495	AMP	2.07	1.38	
2N2497/TIX694	TI	3.75	2.50	2.35
2N2498/TIX695	TI	3.70	2.45	2.30
2N2499	TEL	2.85	1.90	
2N2499/TIX696	TI	3.60	2.40	2.28
2N2500/TIX697	TI	5.25	3.50	3.30
2N2501	MOT	4.70	3.15	3.15
2N2527	MOT	9.30	6.20	6.20
2N2528	MOT	14.85	9.90	9.90
2N2537	TI	1.86	1.24	.83
2N2538	MOT	5.85	3.90	3.90
2N2538	TI	1.66	1.10	.73
2N2539	TI	1.86	1.25	.83
2N2540	MOT	5.85	3.90	3.90
2N2540	TI	1.86	1.24	.83

Type No.	Mfr.	1-99	100-999	1000-Up
2N2552	MOT	2.30	1.55	
2N2552/2N1038-1	TI	1.88	1.25	1.13
2N2553	MOT	3.05	2.05	
2N2553/2N1039-1	TI	2.48	1.65	1.49
2N2553/JAN	TI	2.55	1.70	
2N2554	MOT	3.90	2.60	
2N2554/2N1040-1	TI	1.95	1.30	1.17
2N2555	MOT	5.60	3.75	
2N2555/JAN	TI	4.50	3.00	
2N2556/1038-2	TI	2.48	1.65	
2N2557	MOT	3.85	2.55	
2N2557/JAN	TI	2.65	1.75	
2N2557/2N1039-2	TI	2.48	1.65	1.49
2N2558	MOT	4.75	3.05	
2N2559	MOT	5.70	3.80	
2N2559/JAN	TI	4.58	3.05	
2N2560	MOT	1.95	1.30	

Type No.	Mfr.	1-99	100-999	1000-Up
2N2560/2N1042-1	TI	1.58	1.05	
2N2561	MOT	4.50	3.00	
2N2562	MOT	2.20	4.80	
2N2563	MOT	7.50	5.00	
2N2564	MOT	3.75	2.50	
2N2564/2N1042-2	TI	4.30	2.80	1.80
2N2565	MOT	4.65	3.10	
2N2566	MOT	2.20	4.80	
2N2567	MOT	4.85	4.05	
2N2573	MOT	3.40	2.25	
2N2574	MOT	3.90	2.60	
2N2575	MOT	5.00	3.35	
2N2576	MOT	5.70	3.80	
2N2577	MOT	11.20	7.50	
2N2578	MOT	13.00	8.65	
2N2578	MOT	15.40	10.30	

Type No.	Mfr.	1-99	100-499	500-999
2N2586	TI	2.60	1.74	1.16

Type No.	Mfr.	1-99	100-999	1000-Up
2N2604	MOT	3.50	2.30	

Type No.	Mfr.	1-99	100-499	500-999
2N2604	TI	2.35	1.56	1.05

Type No.	Mfr.	1-99	100-999	1000-Up
2N2605	MOT	4.00	2.70	
2N2605	NSC	4.00	2.70	

Type No.	Mfr.	1-99	100-499	500-999
2N2608	TI	2.90	2.00	1.80
2N2609	TI	5.70	3.50	2.95

Type No.	Mfr.	1-99	100-999	1000-Up
2N2613	RCA	.59	.43	.35
2N2614	RCA	.54	.39	.32

Type No.	Mfr.	1-99	100-999	1000-4999
2N2626	GE	.45	.30	.20

Type No.	Mfr.	1-99	100-999	1000-Up
2N2630	MOT	3.22	2.15	
2N2631	TI	4.79	3.31	
2N2635	MOT	.94	.63	
2N2639	MOT	9.00	6.00	
2N2639/TIX-613	TI	22.00	14.90	
2N2640	MOT	6.75	4.50	
2N2641	GE	4.75	3.85	
2N2641	MOT	4.25	2.85	

Type No.	Mfr.	1-99	100-499	500-999
2N2641	TI	4.28	2.85	2.05

Type No.	Mfr.	1-99	100-999	1000-Up
2N2642	MOT	10.10	6.75	

Type No.	Mfr.	1-99	100-499	500-999
2N2642	TI	10.25	6.75	5.00

Type No.	Mfr.	1-99	100-999	1000-Up
2N2642/TIX-616	TI	10.25	6.75	
2N2643	GE	8.00	7.00	
2N2643	MOT	7.20	4.80	
2N2643	TI	7.32	4.88	3.77
2N2644	MOT	5.25	3.50	

Type No.	Mfr.	1-99	100-999	1000-4999
2N2646	GE	1.00	.67	.60

Type No.	Mfr.	1-99	100-999	1000-Up
2N2646	MOT	1.42	.95	
2N2647	GE	1.89	1.26	1.05
2N2647	MOT	1.90	1.26	
2N2653	MOT	18.00	12.00	
2N2652A	MOT	21.00	14.00	
2N2654	AMP	.99	.66	
2N2659	TI	1.65	1.10	.99
2N2660	TI	1.95	1.30	1.17
2N2661	TI	2.85	1.90	1.71
2N2662	TI	1.65	1.10	.99
2N2663	TI	2.40	1.60	1.44
2N2664	TI	3.00	2.00	1.80
2N2665	TI	2.40	1.60	1.44

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-999	1000-Up
2N2667	TI	3.75	2.50	2.25
2N2668	TI	2.33	1.55	1.40
2N2669	TI	3.00	2.00	1.80
2N2670	TI	3.90	2.60	2.34
2N2672	AMP	.77	.51	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2693	TI	7.75	5.50	5.05

Type No.	Mfr	1-99	100-999	1000-Up
2N2695	MOT	4.35	2.90	.....
2N2695	TI	8.00	5.75	.....
2N2708	RCA	2.31	1.68	.....
2N2708/JAN	MOT	5.15	3.42	.....
2N2710/JAN	MOT	7.50	5.00	.....
2N2711	SPR	.24	.15	.12
2N2711/16A-1	GE	.38	.26	.21
2N2712	SPR	.27	.18	.15
2N2712/16A-2	GE	.36	.24	.20

Type No.	Mfr.	1-99	100-999	1000-4999
2N2713	SPR	.39	.26	.21
2N2713/16B-1	GE	.....	.....	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N2714	SPR	.42	.27	.23
2N2714	GE	.47	.32	.26
2N2720	MOT	21.75	14.50	.....
2N2721	MOT	17.25	11.50	.....
2N2722	MOT	14.70	9.80	.....
2N2722	NSC	14.10	9.20	.....
2N2723	MOT	15.00	10.00	.....
2N2724	MOT	16.50	11.00	.....
2N2725	MOT	21.00	14.00	.....
2N2726	GE	5.40	3.60	3.24
2N2727	GE	5.60	3.75	3.37

Type No.	Mfr.	1-24	25-99	100-999
2N2739/109VA	WES	43.50	36.60	.....
2N2740/10VB	WES	53.80	45.10	.....
2N2741/109VC	WES	69.30	58.40	.....
2N2745/109WA	WES	56.70	46.80	.....
2N2746/109WB	WES	73.80	61.20	.....
2N2727/109WC	WES	94.50	78.30	.....
2N2748	WES	120.68	100.80	.....
2N2751/109XA	WES	63.00	53.10	.....
2N2752/109XB	WES	81.70	68.40	.....
2N2753/109XC	WES	94.50	78.30	.....
2N2754	WES	132.30	111.60	.....
2N2757	WES	51.30	43.20	.....
2N2758	WES	66.00	55.80	.....
2N2759	WES	85.50	72.00	.....
2N2760	WES	109.90	91.80	.....
2N2761	WES	142.20	117.00	.....
2N2763	WES	56.70	46.80	.....
2N2764	WES	73.80	61.20	.....
2N2765	WES	94.50	78.30	.....
2N2766	WES	210.60	100.80	.....
2N2769	WES	63.00	53.10	.....
2N2770	WES	81.70	68.40	.....

Type No.	Mfr.	1-24	25-99	100-Up
2N2771	WES	103.50	88.20	.....
2N2772	WES	104.50	87.30	.....
2N2775	WES	69.30	58.50	.....
2N2776	WES	89.10	76.30	.....
2N2777	WES	114.00	97.10	.....
2N2778	WES	145.60	122.85	.....
2N2785	MOT	11.25	7.50	.....
2N2800	MOT	6.75	4.50	.....
2N2801	MOT	7.10	4.75	.....
2N2802	MOT	20.00	13.40	.....
2N2803	MOT	12.00	8.50	.....
2N2804	MOT	7.00	4.70	.....
2N2805	MOT	20.50	13.60	.....

Type No.	Mfr.	1-24	25-99	100-Up
2N2806	MOT	17.25	11.50	.....
2N2807	MOT	6.00	4.00	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2807/TI624	TI	6.00	4.00	3.42

Type No.	Mfr.	1-24	25-99	100-999
2N2832	MOT	3.35	2.25	.....
2N2833	MOT	4.85	3.25	.....
2N2834	MOT	7.10	4.75	.....
2N2838	MOT	7.10	4.75	.....
2N2840	GE	6.35	4.25	.....
2N2841	TEL	4.85	3.25	.....
2N2842	TEL	3.85	2.70	.....
2N2843	TEL	3.85	2.70	.....
2N2845	MOT	4.95	3.30	.....
2N2846	MOT	4.95	3.30	.....
2N2847	MOT	5.10	3.40	.....
2N2848	MOT	5.10	3.40	.....
2N2848	SPR	5.85	3.90	.....
2N2857	MOT	4.05	2.70	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N2857	RCA	4.46	3.24	2.70

Type No.	Mfr.	1-99	100-499	500-999
2N2861	TI	1.32	.88	.59
2N2862	TI	1.22	.81	.54
2N2863	TI	3.87	2.58	2.01

Type No.	Mfr.	1-99	100-999	1000-Up
2N2869/AN301	RCA	1.52	1.11	.92
2N2870/2N301A	RCA	3.15	2.29	1.91
2N2876	RCA	17.40	14.40	12.00
2N2876	TI	14.50	10.05	.....
2N2880	TI	33.00	22.00	.....
2N2894	MOT	1.95	1.30	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2894	TI	1.24	.85	.55

Type No.	Mfr.	1-99	100-999	1000-Up
2N2895	MOT	1.41	.97	.....
2N2895	RCA	1.41	1.02	.85
2N2896	MOT	2.06	1.43	.....
2N2896	RCA	2.06	1.50	1.25
2N2897	MOT	1.16	.80	.....
2N2897	RCA	1.16	.84	.....
2N2903	MOT	5.85	3.90	.....
2N2903A	MOT	7.20	4.80	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2904	MOT	1.95	1.29	1.16
2N2904	SPR	1.35	.89	.25
2N2904	TI	1.24	.85	.55
2N2904/JAN	MOT	2.35	1.58	1.42

Type No.	Mfr.	1-99	100-999	1000-Up
2N2904/JAN	TI	8.25	5.50	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2904A	MOT	2.55	1.69	1.52
2N2904A	TI	1.60	1.07	.72

Type No.	Mfr.	1-99	100-999	1000-Up
2N2904A/JAN	TI	11.25	7.50	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2905	MOT	2.20	1.45	1.31
2N2905	NSC	1.75	1.45	.....
2N2905	TI	1.36	.91	.61
2N2905/JAN	MOT	2.55	1.78	1.53
2N2905/JAN	TI	2.00	1.32	.89
2N2905A	MOT	2.65	1.77	1.59
2N2905A	TI	1.62	1.07	.72
2N2905A/JAN	MOT	3.00	2.00	1.80
2N2905A/JAN	TI	6.40	4.25	4.25
2N2906	MOT	1.85	1.24	1.12
2N2906	TI	1.24	.82	.55
2N2906/JAN	MOT	2.85	1.90	1.90
2N2906/JAN	TI	7.95	5.30	5.30
2N2906A	MOT	2.40	1.60	1.45
2N2906A	TI	1.60	1.07	.72
2N2906A/JAN	TI	10.80	7.20	7.20
2N2907	MOT	2.00	1.32	1.19
2N2907	TI	1.24	.82	.55
2N2907/JAN	MOT	2.35	1.58	1.42

Type No.	Mfr.	1-99	100-499	500-999
2N2907/JAN	TI	2.85	1.90	1.90
2N2907A/JAN	MOT	6.15	4.10	4.10
2N2907A/JAN	TI	6.15	4.10	4.10
2N2910	GE	6.65	4.25	4.25
2N2912	MOT	8.10	5.40	5.40
2N2913	MOT	2.70	1.80	.....
2N2913	TI	2.70	1.80	1.50
2N2914	TI	3.05	2.03	1.69
2N2915	MOT	7.05	4.70	4.70
2N2915	TI	7.10	4.73	4.04
2N2915A	TI	7.10	6.75	5.20
2N2916	GE	10.00	7.00	.....
2N2916	MOT	9.15	.....	.....
2N2916	TI	9.23	6.15	5.12
2N1917	MOT	3.60	.....	.....
2N1917	TI	3.60	2.40	2.00
2N2918	MOT	4.65	.....	.....
2N2918	TI	4.73	3.15	2.62
2N2919	MOT	7.85	.....	.....
2N2919	TI	7.88	5.25	4.37
2N2920	GE	12.00	8.50	.....
2N2920	MOT	11.10	.....	.....
2N2920	TI	11.15	7.43	6.19
2N2920A	TI	14.00	.....	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N2923	GE	.29	.20	.16
2N2923	SPR	.30	.20	.17
2N2924	GE	.32	.21	.18
2N2924	SPR	.33	.22	.18
2N2925	GE	.38	.26	.21
2N2925	SPR	.42	.27	.23
2N2926	GE	.27	.18	.15
2N2926	MOT	.24	.16	.13
2N2926	GE	11.25	7.50	5.00
2N2926	SPR	.27	.19	.16
2N2929	MOT	6.75	4.50	.....
2N2944	MOT	2.76	1.84	.....

Type No.	Mfr.	1-99	100-499	500-999
2N2944	TI	2.76	1.84	1.78
2N2944A	TI	2.76	1.84	1.78

Type No.	Mfr.	1-99	100-999	1000-Up
2N2945	MOT	2.52	1.68	.....
2N2945	SPR	5.00	3.35	1.25

Type No.	Mfr.	1-99	100-499	500-999
2N2945	TI	1.98	1.32	1.04

Type No.	Mfr.	1-99	100-999	1000-Up
2N2945A	TI	2.50	1.65	1.10
2N2946	MOT	2.88	1.92	.....
2N2946	SPR	5.50	3.68	1.41

Type No.	Mfr.	1-99	100-499	500-999
2N2946	TI	2.70	1.90	1.33
2N2948	MOT	20.25	13.50	.....
2N2949	MOT	10.50	7.00	6.30
2N2950/MM801	MOT	11.25	7.50	.....
2N2951	MOT	4.50	3.00	.....
2N2952	MOT	4.95	3.00	.....
2N2953	RCA	.54	.40	.33
2N2956	MOT	2.63	1.75	.....
2N2957	MOT	3.37	2.25	.....
2N2958	MOT	2.25	1.50	.....
2N2959	MOT	2.70	1.80	.....
2N2959	SPR	1.45	.95	.76
2N2970	SPR	29.15	21.60	.....
2N2972	MOT	9.90	6.60	.....
2N2972	TI	3.10	2.10	1.75
2N2973	MOT	11.60	7.75	.....
2N2973	TI	3.50	2.30	1.93
2N2974	TI	10.10	6.75	5.25
2N2975	TI	12.00	8.05	6.45
2N2976	TI	7.50	5.00	3.93
2N2977	MOT	25.50	17.00	.....
2N2977	TI	9.75	6.40	4.17
2N2978	TI	11.00	7.35	5.77
2N2979	MOT	32.25	21.50	.....
2N2979	TI	14.00	9.40	7.52
2N2989	TI	10.20	6.75	.....
2N2990	TI	13.10	8.75	.....
2N2993	TI	10.90	7.25	.....
2N2996TIX316	TI	7.43	.95	.....
2N2997	TI	3.08	2.05	.....
2N2998	TI	15.00	10.00	9.00
2N3001	TI	3.63	2.42	.....
2N3002	TI	3.90	2.60	.....
2N3003	TI	6.54	4.38	3.92

Type No.	Mfr.	1-99	100-499	500-999
2N3004	TI	9.08	6.05	
2N3005	TI	3.30	2.20	
2N3008	TI	8.25	5.50	4.95
2N3009	MOT	1.98	1.32	
2N3009	TI	1.17	.78	.52
2N3010	MOT	1.90	1.27	
2N3010	TI	.98	.67	.48
2N3010	MOT	1.00	.67	
2N3011	TI	1.17	.78	.52
2N3012	TI	1.36	.91	.61
2N3013	MOT	2.10	1.39	1.25
2N3013/JAN	TI	1.29	.86	.57
2N3014	MOT	1.75	1.16	1.04
2N3014	TI	1.51	.99	.66
2N3015	MOT	1.93	1.29	
2N3015	TI	.70	.45	.44
2N3019	MOT	6.00	4.00	
2N3020	MOT	5.70	3.80	
2N3035/TI-610	TI	12.50	8.30	7.90
2N3036	TI	5.50	3.70	3.10
2N3040/TIX-805	TI	24.00	16.00	15.07
2N3043	MOT	39.00	26.00	

Type No.	Mfr.	1-99	100-999	1000-Up
2N3044	MOT	33.00	22.60	
2N3045	MOT	14.25	9.50	
2N3046	MOT	36.00	24.00	
2N3047	MOT	30.00	20.00	
2N3048	MOT	12.75	8.50	
2N3053	MOT	1.09	.73	
2N3053	TI	4.70	3.15	1.90
2N3953	TI	.75	.54	.45
2N3054	WES	1.16	.84	
2N3054	MOT	1.25	.82	
2N3054	RCA	1.16	.84	
2N3055	MOT	1.82	1.32	
2N3055	RCA	1.82	1.32	1.10
2N3055	WES	1.82	1.32	
2N3059	SPR	14.25	9.50	8.55
2N3060	SPR	3.45	2.30	2.07
2N3066	TEL	2.45	1.70	
2N3067	TEL	2.15	1.50	
2N3068	TEL	2.60	1.80	
2N3069	TEL	4.60	3.05	
2N3070	TEL	3.00	2.00	
2N3071	TEL	3.75	2.50	
2N3109	NSC	8.25	5.50	
2N3114	MOT	6.00	4.00	
2N3114	TI	6.00	4.00	2.00
2N3115	MOT	1.95	1.30	
2N3116	MOT	2.40	1.60	
2N3117	TI	1.37	.91	.55
2N3118	RCA	4.95	3.60	3.00
2N3119	RCA	5.36	3.90	3.25
2N3127	MOT	5.10	3.40	
2N3133	MOT	4.95	3.30	
2N3134	MOT	5.85	3.90	
2N3135	MOT	4.95	3.30	
2N3136	MOT	5.85	3.90	
2N3137	MOT	11.10	7.40	2.05
2N3146	TI	4.35	2.90	2.61
2N3210	MOT	.83	.55	
2N3211	MOT	1.27	.85	
2N3217	SPR	12.75	9.45	
2N3218	SPR	7.40	5.50	
2N3223	GE	19.85	13.25	
2N3227	MOT	2.40	1.60	
2N3228	RCA	1.62	1.18	.98
2N3232	MOT	3.75	2.50	
2N3232	WES	1.00	.85	
2N3233	WES	1.25	1.00	
2N3235	MOT	3.75	2.50	
2N3235	WES	1.70	1.20	
2N3236	WES	4.13	2.85	
2N3237	WES	4.37	3.02	
2N3238	WES	3.96	2.74	
2N3239	WES	4.21	2.91	
2N3241A	RCA	.73	.53	.44
2N3242A	RCA	.83	.60	.50
2N3244	MOT	15.75	10.50	
2N3245	MOT	15.75	10.50	
2N3248	MOT	3.90	2.60	
2N3249	MOT	4.65	3.10	

Type No.	Mfr.	1-99	100-499	500-999
2N3250	MOT	3.20	2.15	1.94
2N3250	TI	1.39	.92	.61
2N3250A	MOT	3.55	2.38	2.14
2N3250A	TI	1.42	.94	.63
2N3250A/JAN	MOT	3.90	2.61	2.35
2N3251	MOT	3.55	2.38	2.14

Type No.	Mfr.	1-99	100-499	500-999
2N3251	TI	1.44	.96	.64
2N3251A	MOT	3.90	2.59	2.33
2N3251A	TI	2.66	1.77	1.18
2N3251/JAN	TI	6.00	4.00	4.00
2N3251A/JAN	MOT	4.25	2.82	2.54

Type No.	Mfr.	1-99	100-999	1000-Up
2N3251/ML1	MOT	4.80	3.20	
2N3251/ML2	MOT	5.40	3.60	
2N3251/ML3	MOT	6.15	4.10	
2N3252	MOT	9.75	6.50	
2N3253	MOT	9.75	6.50	
2N3253/JAN	MOT	10.50	7.00	
2N3261	RCA	1.32	.96	.80
2N3262	RCA	7.43	5.40	4.50
2N3266	RCA	43.50	36.00	30.00
2N3279/MM1151	MOT	4.50	3.00	
2N3280/MM1152	MOT	4.10	2.75	
2N3282/MM1154	MOT	2.15	1.45	
2N3283	MOT	1.50	1.00	
2N3284	MOT	1.42	.95	
2N3285	MOT	1.12	.75	
2N3286	MOT	.97	.65	
2N3287	MOT	5.60	3.75	
2N3290	MOT	4.00	2.65	2.40
2N3291	MOT	1.95	1.30	
2N3292	MOT	1.80	1.20	
2N3293	MOT	1.65	1.10	
2N3294	MOT	1.50	1.00	
2N3298	MOT	2.40	1.60	
2N3299	MOT	.75	.50	
2N3300	MOT	1.05	.50	
2N3301	MOT	.75	.50	
2N3302	MOT	1.05	.70	
2N3303	MOT	13.50	9.00	
2N3303	TI	13.50	9.00	
2N3304	MOT	4.50	3.00	
2N3307	MOT	10.50	7.00	
2N3309A	MOT	5.25	3.50	
2N3311	MOT	2.70	1.80	
2N3312	MOT	3.30	2.20	
2N3313	MOT	4.20	2.80	
2N3314	MOT	3.15	2.10	
2N3315	MOT	3.90	2.60	
2N3316	MOT	5.25	3.50	
2N3318	SPR	2.25	1.50	.95
2N3323	MOT	.90	.60	
2N3324	MOT	.82	.55	
2N3325	MOT	.75	.50	
2N3328	TI	10.50	7.00	
2N3329	TEL	3.70	2.45	
2N3330	TEL	3.30	2.20	
2N3330	TI	3.75	2.50	2.35
2N3331	TEL	3.70	3.45	
2N3331	TI	3.65	2.45	2.33
2N3332	TI	5.30	3.55	3.35
2N3350	NSC	17.25	11.50	
2N3365	TEL	1.95	1.30	
2N3366	TEL	1.60	1.10	
2N3367	TEL	2.25	1.50	
2N3368	TEL	2.10	1.40	
2N3369	TEL	1.70	1.15	
2N3370	TEL	2.40	1.60	
2N3375	MOT	9.90	7.60	
2N3375	RCA	10.80	8.95	7.45
2N3375/JAN	MOT	21.75	14.50	
2N3390	GE	.95	.63	.55
2N3391	GE	.63	.42	.35
2N3391	SPR	.57	.43	.29
2N3391	GE	.63	.42	.35
2N3391A	SPR	.60	.40	.32
2N3391A	GE	.72	.48	.40
2N3392	GE	.29	.20	.16
2N3392	SPR	.30	.20	.17
2N3393	GE	.32	.21	.18
2N3393	SPR	.30	.20	.17
2N3394	GE	.27	.18	.15
2N3395	GE	.50	.33	.28
2N3395	SPR	.33	.22	.18
2N3396	GE	.50	.33	.28
2N3396	SPR	.25	.17	.14
2N3397	GE	.47	.32	.26
2N3397	SPR	.36	.24	.20
2N3398	GE	.53	.35	.29
2N3398	SPR	.24	.16	.13
2N3399	AMP	.99	.66	
2N3402	GE	.36	.24	.20
2N3402	SPR	.42	.27	
2N3403	GE	.38	.26	.21
2N3404	GE	.56	.38	.31
2N3405	GE	.72	.48	.40

Type No.	Mfr.	1-99	100-999	1000-Up
2N3405	SPR	.60	.40	.32
2N3409	MOT	13.50	9.00	
2N3414	GE	.32	.21	.18
2N3414	SPR	.36	.24	.20
2N3415	GE	.34	.23	.19
2N3415	SPR	.39	.26	.21
2N3416	GE	.52	.35	.29
2N3416	SPR	.45	.30	.24
2N3417	GE	.68	.45	.38
2N3417	SPR	.72	.48	.40
2N3419/TI3034	TI	10.80	7.20	6.50
2N3420/TI3034	TI	10.45	6.95	6.25
2N3421/TI3036	TI	10.80	7.20	6.50
2N3423	MOT	13.20	8.80	
2N3424	MOT	15.75	10.50	
2N3425	MOT	5.25	3.50	
2N3427	MOT	1.95	1.30	
2N3428	MOT	2.25	1.50	
2N3429	WES	29.10	21.70	
2N3430	WES	38.10	28.40	
2N3431	WES	51.10	37.80	
2N3432	WES	67.10	50.10	
2N3433	WES	89.10	66.60	
2N3436	TEL	2.25	1.50	
2N3437	TEL	1.95	1.30	
2N3438	TEL	2.50	1.65	
2N3439	RCA	3.71	2.70	2.25
2N3439	MOT	1.93	1.43	
2N3439	MOT	3.70	2.55	
2N3440	MOT	1.45	1.07	
2N3440	MOT	1.80	1.22	
2N3440	RCA	1.82	1.32	1.10
2N3441	WES	2.48	1.80	
2N3441	RCA	2.48	1.80	1.50
2N3442	RCA	4.54	3.30	2.75
2N3444	MOT	12.00	8.00	
2N3444	TI	1.66	1.10	.74
2N3445	MOT	9.00	6.00	
2N3446	MOT	13.50	9.00	
2N3447	MOT	14.40	9.60	
2N3448	MOT	18.00	12.00	
2N3449	TI	3.00	2.00	
2N3452	TEL	2.40	1.60	
2N3453	TEL	2.25	1.50	
2N3454	TEL	2.55	1.70	
2N3455	TEL	2.55	1.70	
2N3456	TEL	2.40	1.60	
2N3457	TEL	2.85	1.90	
2N3458	TEL	2.30	1.55	
2N3458	TI	1.95	1.40	
2N3459	TEL	2.10	1.40	
2N3459	TI	2.15	1.55	
2N3460	TEL	2.65	1.75	
2N3460	TI	2.65	1.90	
2N3467	MOT	9.75	6.50	
2N3467	TI	2.80	1.86	1.13
2N3468	TI	6.25	5.25	1.50
2N3470	WES	44.10	29.10	
2N3471	WES	61.10	41.10	
2N3472	WES	83.10	55.10	
2N3473	WES	112.10	75.10	
2N3474	WES	73.10	48.10	
2N3475	WES	99.10	66.10	
2N3476	WES	132.10	88.10	
2N3477	WES	183.10	122.10	
2N3478	WES	1.90	1.38	1.15
2N3485	TI	8.70	5.80	3.25
2N3485A	TI	12.00	8.00	3.15
2N3486	MOT	10.20	6.80	
2N3486	TI	10.20	6.80	3.00
2N3486A	TI	13.50	9.00	3.45
2N3487	MOT	42.00	28.00	
2N3491	MOT	63.00	42.00	
2N3492	MOT	75.00	50.00	
2N3493	MOT	14.25	9.50	

Type No.	Mfr.	1-99	100-499	500-999
2N3494	TI	3.22	2.15	1.44
2N3495	MOT	12.75	8.50	
2N3495	TI	3.70	2.48	1.66
2N3496	MOT	9.75	6.50	
2N3496	TI	3.22	2.15	1.44
2N3497	MOT	12.75	8.50	
2N3497	TI	3.70	2.48	1.66

Type No.	Mfr.	1-99	100-999	1000-Up
2N3498	MOT	6.60	4.40	
2N3499	MOT	7.40	4.95	
2N3500	MOT	11.25	7.50	

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2N3501	MOT	12.60	8.40	.....
2N3502	NSC	1.90	1.65	.....
2N3502	TI	1.90	1.65	.....
2N3503	TI	2.00	1.32	.80
2N3504	TI	1.47	.98	.65
2N3505	TI	3.10	2.06	1.38
2N3506	MOT	12.30	8.20	.....
2N3506/JAN	MOT	12.30	8.20	.....
2N3507	MOT	13.20	8.80	.....
2N3509	MOT	5.40	3.60	.....

Type No.	Mfr.	1-99	100-499	500-999
2N3510	MOT	1.45	.97	.87
2N3511	MOT	1.95	1.29	1.16

Type No.	Mfr.	1-99	100-999	1000-Up
2N3512	RCA	1.08	.78	.65
2N3522/12X165	SPR	35.10	23.40	.....
2N3525	RCA	2.31	1.68	1.40
2N3528	RCA	1.58	1.14	.95
2N3529	RCA	1.96	1.43	1.19
2N3544	MOT	7.50	5.00	.....
2N3546	MOT	2.50	1.65	.....
2N3551/TIX-210	TI	100.00	67.50	.....
2N3552/TIX-211	TI	112.50	75.00	.....
2N3553	RCA	4.37	3.18	2.65
2N3553	MOT	3.25	2.50	2.65
2N3553/JAN	MOT	7.35	4.90	.....
2N3554	TI	8.10	5.40	.....
2N3558	TI	14.20	9.45	8.03
2N3559	TI	5.75	3.83	3.26
2N3560	TI	6.15	4.10	3.48
2N3562	TI	9.50	6.33	5.38
2N3563	NSC	.45	.30	.27
2N3564	NSC	.56	.36	.32
2N3565	NSC	.38	.25	.23
2N3566	NSC	.36	.24	.21
2N3567	NSC	.40	.27	.24
2N3568	NSC	.42	.28	.23
2N3569	NSC	.69	.46	.35
2N3570	TI	16.95	13.30	12.25
2N3571	TI	7.35	4.90	4.35
2N3572	TI	5.90	3.95	3.55
2N3583	RCA	2.31	1.68	1.40
2N3584	RCA	2.89	2.10	1.75
2N3585	RCA	4.79	3.48	2.90
2N3600	RCA	3.80	2.76	2.30
2N3605/16J1	GE	.34	.23	.19
2N3605A	GE	.45	.30	.25
2N3606/16J2	GE	.32	.21	.18
2N3606A	GE	.38	.26	.21
2N3607/16J3	GE	.23	.15	.13
2N3611	MOT	1.15	.78	.....
2N3612	MOT	1.30	.88	.....
2N3613	MOT	1.25	.85	.....
2N3614	MOT	1.40	.94	.....
2N3615	MOT	1.65	1.10	.....
2N3616	MOT	2.10	1.39	.....
2N3617	MOT	1.88	1.25	.....
2N3618	MOT	2.37	1.58	.....
2N3632	MOT	12.75	10.55	.....
2N3632	RCA	12.75	10.55	8.80
2N3634/MM1736	MOT	13.20	8.80	.....
2N3635/MM1737	MOT	14.40	9.60	.....
2N3636/MM1738	MOT	19.40	12.95	.....
2N3637/MM1739	MOT	21.30	14.20	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N3638	NSC	.46	.31	.28
2N3638A	NSC	.60	.40	.36
2N3641	NSC	.42	.28	.26
2N3642	NSC	.49	.33	.29
2N3643	NSC	.57	.38	.34
2N3644	NSC	.67	.44	.40
2N3645	NSC	.84	.56	.51
2N3646	NSC	.52	.34	.31
2N3647	MOT	2.25	1.50	.....
2N3648	MOT	2.70	1.80	.....
2N3649/C140F	GE	10.32	6.88	.....
2N3650/C140A	GE	11.25	7.50	.....
2N3651/C140B	GE	16.05	10.70	.....
2N3652/C140C	GE	24.30	16.20	.....
2N3653/C140D	GE	29.47	19.65	.....
2N3656/C141B	GE	16.87	11.25	.....
2N3657/C141C	GE	25.42	16.95	.....
2N3658/C141D	GE	30.75	20.50	.....
2N3662/16G-1	GE	.52	.35	.29
2N3663/16G-2	GE	.56	.38	.31
2N3668	RCA	2.39	1.74	1.45
2N3669	RCA	2.81	2.04	1.70
2N3670	RCA	3.80	2.76	2.30
2N3671	MOT	4.50	3.00	.....
2N3672	MOT	4.50	3.00	.....
2N3673	MOT	5.20	3.40	.....
2N3677	MOT	2.76	1.84	.....
2N3680	TI	13.50	9.00	6.00
2N3684	NSC	2.85	1.90	.....
2N3685	NSC	2.85	1.90	.....
2N3686	NSC	3.15	2.10	.....
2N3687	NSC	3.90	2.60	.....
2N3691	NSC	.40	.27	.23
2N3692	NSC	.42	.28	.26
2N3693	NSC	.45	.30	.27
2N3694	NSC	.45	.30	.27
2N3702/TIS03	TI	.37	.32	.25
2N3703/TIS04	TI	.34	.29	.23
2N3704/TI-412	TI	.34	.29	.23
2N3705/TI-413	TI	.29	.25	.20
2N3706/TI-414	TI	.27	.24	.19
2N3707/TI-415	TI	.34	.29	.23
2N3708/TI-416	TI	.27	.24	.19
2N3709	TI	.29	.25	.20
2N3710/TI-417	TI	.30	.27	.21

Type No.	Mfr.	1-99	100-499	500-999
2N3711/TI-418	TI	.32	.28	.....
2N3712	MOT	2.25	1.50	.....
2N3712	MOT	3.00	2.00	.....
2N3713	MOT	2.89	2.14	.....
2N3713	TI	4.40	2.95	.....
2N3714	MOT	3.08	2.28	.....
2N3714	TI	4.70	3.15	.....
2N3715	MOT	3.38	2.50	.....
2N3715	TI	4.85	3.25	.....
2N3716	TI	6.75	4.50	.....
2N3719	MOT	9.75	6.50	.....
2N3720	MOT	10.85	7.25	.....

Type No.	Mfr.	1-99	100-999	1000-4000
2N3721	GE	.38	.26	.21

Type No.	Mfr.	1-99	100-499	500-999
2N3721	SPR	.34	.23	.19
2N3724	TI	2.21	1.34	.89
2N3724A	TI	1.59	1.05	.71
2N3725	TI	2.10	1.45	.97
2N3725A	TI	3.70	2.48	1.66
2N3730	RCA	1.24	.90	.70
2N3731	RCA	1.62	1.18	.98
2N3733	MOT	15.00	11.50	.....
2N3733	MOT	15.80	13.10	.....
2N3734	MOT	6.00	4.00	.....
2N3735	MOT	6.00	4.00	.....
2N3736	MOT	6.60	4.40	.....
2N3737	MOT	6.60	4.40	.....
2N3738	MOT	1.54	1.14	.....
2N3739	MOT	1.82	1.35	.....
2N3740	MOT	1.93	1.43	.....
2N3741	MOT	2.60	1.60	.....
2N3742	MOT	12.60	8.40	.....
2N3743	MOT	29.25	19.50	.....
2N3757/C135D	GE	15.00	10.00	.....
2N3762	MOT	7.50	5.00	.....
2N3763	MOT	7.50	5.00	.....
2N3764	MOT	8.25	5.50	.....
2N3765	MOT	8.25	5.50	.....
2N3766	MOT	2.10	1.40	.....
2N3767	MOT	2.30	1.55	.....

Type No.	Mfr.	1-99	100-499	500-999
2N3771	MOT	3.75	2.50	.....
2N3771	RCA	4.13	3.00	2.50

Type No.	Mfr.	1-99	100-999	1000-Up
2N3771	WES	4.13	3.00	.....
2N3772	MOT	4.95	3.42	.....
2N3772	RCA	4.13	3.00	.....
2N3772	WES	4.13	3.00	.....
2N3773	RCA	7.43	5.40	.....
2N3773	WES	7.43	5.40	.....
2N3783/MM2500	MOT	30.00	20.00	.....
2N3784	MOT	15.00	10.00	.....
2N3785/MM2502	MOT	6.75	4.50	.....
2N3789	MOT	4.32	3.20	.....
2N3789	TI	7.50	5.00	.....
2N3790	MOT	5.20	3.85	.....
2N3790	TI	8.90	5.95	.....
2N3791	MOT	8.75	5.85	.....
2N3791	MOT	4.64	3.43	.....
2N3792	MOT	5.78	4.28	.....
2N3792	MOT	9.50	6.35	.....
2N3796	MOT	3.45	2.30	.....
2N3797	MOT	3.45	2.30	.....
2N3798	MOT	4.35	2.70	.....
2N3799	MOT	3.50	2.35	.....
2N3800	MOT	14.25	9.50	.....
2N3801	MOT	15.75	10.50	.....
2N3802	MOT	21.00	14.00	.....
2N3803	MOT	22.50	15.00	.....
2N3804	MOT	34.20	22.80	.....
2N3805	MOT	27.75	18.50	.....
2N3805A	MOT	36.15	24.10	.....
2N3806	MOT	11.70	7.80	.....
2N3806	TI	9.00	6.00	.....
2N3807	MOT	14.25	9.50	.....
2N3807	TI	10.15	6.75	.....
2N3808	MOT	14.55	9.70	.....
2N3808	TI	14.25	9.50	.....
2N3809	MOT	22.50	15.00	.....
2N3809	TI	16.30	10.75	.....
2N3810	MOT	20.25	13.50	.....
2N3810	TI	16.85	11.25	.....
2N3810A	MOT	34.20	22.80	.....
2N3810/JAN	TI	20.25	18.75	.....
2N3811	MOT	27.75	18.50	.....
2N3811	TI	19.30	12.75	.....
2N3811A	MOT	36.15	24.10	.....
2N3812	MOT	18.75	12.50	.....
2N3813	MOT	20.25	13.50	.....
2N3814	MOT	28.50	19.00	.....
2N3815	MOT	30.00	20.00	.....
2N3816	MOT	38.25	25.50	.....
2N3816	MOT	49.20	32.80	.....
2N3817	MOT	39.75	26.50	.....
2N3817A	MOT	51.75	34.50	.....
2N3819	TI	.56	.49	.39
2N3820	TI	.72	.63	.50
2N3821	MOT	2.50	1.66	1.49

Type No.	Mfr.	1-99	100-499	500-999
2N3821	TI	2.50	1.80	1.65
2N3822	MOT	2.20	1.45	.....
2N3822	TI	2.10	1.50	1.35
2N3823	MOT	1.88	1.25	.....
2N3823	NSC	1.50	1.00	.....
2N3823	TEL	1.80	1.15	.....
2N3823	TI	1.95	1.40	1.25
2N3824	MOT	1.72	1.15	.....
2N3824	TI	1.90	1.35	1.20
2N3825	TI	.58	.39	.....
2N3827	TI	.54	.36	.....
2N3827	NSC	.58	.39	.28
2N3829	TI	1.59	1.05	.71
2N3831	TI	3.80	2.65	1.90
2N3832	TI	7.50	5.00	4.35
2N3833	TI	50.00	43.50	29.00
2N3834	TI	40.00	31.00	22.00
2N3835	TI	25.00	20.75	14.50
2N3838	MOT	27.75	18.50	16.50

Type No.	Mfr.	1-99	100-999	1000-Up
2N3839	MOT	9.50	7.30	.....
2N3839	RCA	13.80	11.40	9.34
2N3840	MOT	4.80	3.20	.....
2N3843	GE	.43	.29	.24
2N3843	MOT	.41	.27	.23
2N3843	SPR	.42	.27	.23
2N3843A	GE	.35	.30	.25
2N3843A	SPR	.41	.27	.23
2N3844	GE	.45	.30	.25
2N3844	SPR	.43	.29	.24

Type No.	Mfr.	1-99	100-999	1000-Up
2N3844A	SPR	.45	.30	.25
2N3845	GE	.47	.32	
2N3845	MOT	.47	.32	.26
2N3845A	GE	.50	.33	.28
2N3845A	SPR	.48	.32	.26
2N3853	SPR	.29	.20	.17
2N3854/16143	GE	.34	.23	.19
2N3854A/16L3	GE	.36	.24	.20
2N3855/16L44	GE	.36	.24	.20
2N3855A	SPR	.34	.23	.19
2N3855A/16L64	GE	.38	.26	.21
2N3856	SPR	.34	.23	.19
2N3856/16L45	GE	.38	.26	.21
2N3856A	SPR	.36	.24	.20
2N3856A/16L65	GE	.41	.27	.23
2N3858	GE	.29	.20	.16
2N3858	SPR	.25	.17	.14
2N3858A	GE	.38	.26	.21
2N3858A	SPR	.33	.22	.18
2N3859	GE	.32	.27	.18
2N3859	SPR	.36	.23	.19
2N3859	GE	.41	.27	.23
2N3860	GE	.36	.24	.20
2N3866	MOT	1.60	1.23	1.00
2N3866	RCA	1.65	1.25	1.00
2N3866	TI	1.90	1.50	1.25
2N3867	MOT	14.85	9.48	
2N3868	MOT	16.57	11.05	
2N3870	RCA	3.88	2.82	2.35
2N3871	RCA	4.54	3.30	2.75
2N3872	RCA	6.11	4.44	3.70
2N3873	RCA	8.22	5.98	4.98
2N3877	SPR	.45	.30	.24
2N3877/16X2	GE	.50	.33	.28
2N3877A	SPR	.49	.33	.26
2N3877A/16X1	GE	.54	.36	.30
2N3878	RCA	3.13	2.28	1.90
2N3879	RCA	4.78	3.48	2.90
2N3883	RCA	1.35	.90	
2N3896	RCA	4.37	3.18	2.65
2N3897	RCA	5.03	3.66	3.05
2N3898	RCA	6.60	4.80	4.00
2N3899	RCA	8.75	6.36	5.30
2N3900	GE	.61	.41	.34
2N3900	SPR	.36	.24	.19
2N3900A	GE	.68	.45	.38
2N3900A	SPR	.57	.38	.31

Type No.	Mfr.	1-99	100-999	1000-4999
2N3903	MOT	.75	.50	.37
2N3904	MOT	.82	.55	.41
2N3904	NSC	.82	.55	
2N3905	MOT	.75	.50	.37
2N3906	MOT	.82	.55	.41
2N3906	NSC	.82	.55	
2N3909	MOT	1.65	1.10	.99
2N3909	TI	2.05	1.40	
2N3910	MOT	3.93	2.62	
2N3911	MOT	4.05	2.70	
2N3912	MOT	4.25	2.85	
2N3921	TEL	14.40	7.55	
2N3922	TEL	8.60	5.75	
2N3924	MOT	4.00	2.80	2.40
2N3925	MOT	6.00	4.10	3.50
2N3826	MOT	12.50	9.00	
2N3927	MOT	13.50	10.00	
2N3932	RCA	1.40	1.02	.85
2N3933	RCA	1.62	1.18	.98
2N3934	TEL	11.30	7.55	
2N3935	TEL	8.60	5.75	
2N3937	TI	14.60	9.75	8.29
2N3940	TI	30.00	20.00	17.00
2N3946	MOT	2.40	1.60	
2N3947	MOT	2.75	1.85	
2N3948	MOT	5.12	3.42	2.80
2N3950	MOT	34.20	22.80	
2N3959/MM2400	MOT	10.50	7.00	6.30
2N3960/MM2401	MOT	13.10	8.75	7.90
2N3961	TI	8.70	5.80	5.20
2N3962	TI	5.20	3.48	2.10
2N3963	TI	5.00	3.30	2.00

Type No.	Mfr.	1-99	100-499	500-999
2N3964	TI	5.60	3.72	2.50
2N3965	TI	5.60	3.70	2.50
2N3966	TEL	8.00	5.35	
2N3966	TI	3.80	2.70	2.40

Type No.	Mfr.	1-99	100-999	1000-Up
2N3967	TEL	2.90	1.95	
2N3967A	TEL	5.85	3.90	
2N3968	TEL	3.30	2.20	
2N3968A	TEL	6.30	4.20	
2N3969	TEL	3.30	2.20	
2N3969A	TEL	6.70	4.45	
2N3970	TEL	3.70	2.45	
2N3971	TEL	2.75	1.85	
2N3972	TEL	2.25	1.50	

Type No.	Mfr.	1-99	100-499	500-999
2N3975	SPR	.38	.26	.21
2N3977	MOT	3.30	2.20	
2N3977	SPR	3.30	2.20	1.15
2N3978	MOT	3.00	2.00	
2N3978	SPR	3.00	2.00	1.00
2N3979	SPR	3.30	2.20	1.15
2N3980	MOT	3.40	2.25	
2N3980	TI	3.40	2.25	2.05
2N3993	TI	5.60	4.05	3.50
2N3994	TI	4.80	3.42	2.97
2N3997	TI	24.00	16.00	14.50
2N3998	TI	18.30	12.20	11.00
2N3999	TI	19.60	13.05	11.75
2N4000	TI	7.10	4.75	4.25
2N4001	TI	7.65	5.10	4.60
2N4002	TI	112.50	75.00	67.50
2N4003	TI	148.00	99.00	89.50
2N4004	TI	112.50	75.00	
2N4005	TI	148.00	99.00	
2N4006	MOT	3.90	2.60	
2N4007	MOT	4.80	3.20	
2N4008	MOT	6.45	4.30	
2N4009	MOT	9.50	6.35	
2N4010	MOT	11.45	7.65	
2N4011	MOT	15.00	10.00	
2N4012	MOT	14.20	11.75	
2N4031	NSC	9.75	6.50	
2N4036	NSC	1.32	.96	
2N4036	RCA	1.32	.96	.80
2N4037	RCA	1.16	.84	.70
2N4040	TI	33.53	23.68	
2N4041	TI	15.00	11.00	
2N4048	MOT	5.60	3.75	
2N4049	MOT	7.50	5.00	
2N4050	MOT	9.30	6.20	
2N4051	MOT	6.45	4.30	
2N4052	MOT	8.25	5.50	
2N4053	MOT	10.10	6.75	
2N4058	TI	.35	.31	.24
2N4059	TI	.29	.25	.20
2N4060	TI	.30	.27	.21
2N4062	TI	.34	.29	.23
2N4063/40255	RCA	3.80	2.76	2.30
2N4064/40256	RCA	1.90	1.38	1.15
2N4068	RCA	1.34	.97	.81

Type No.	Mfr.	1-99	100-999	1000-Up
2N4069	RCA	1.40	1.02	.85
2N4072	MOT	2.25	1.50	1.35
2N4073	MOT	2.70	1.80	1.62
2N4074	RCA	.73	.53	.44
2N4077	AMP	1.04	.69	
2N4078	AMP	1.04	.69	
2N4079MP	AMP	2.08	1.39	
2N4091	MOT	3.15	2.10	1.90
2N4091	TEL	3.15	2.10	
2N4091	TI	3.35	2.40	
2N4091	NSC	2.65	1.90	
2N4092	MOT	1.85	1.23	1.10
2N4092	TEL	1.85	1.20	
2N4092	TI	3.00		
2N4093	MOT	2.15	1.45	1.30
2N4093	MOT	2.15	1.45	1.30
2N4093	TEL	2.15	1.40	
2N4093	TI	2.65	2.15	
2N4101	RCA	3.05	2.22	1.85
2N4102	RCA	2.64	1.92	1.60
2N4103	RCA	5.12	3.72	3.10
2N4104	TI	6.00	4.00	
2N4107MP	AMP	1.22	.81	
2N4121	NSC	.57	.38	

Type No.	Mfr.	1-99	100-999	1000-4999
2N4123	MOT	.52	.35	.26
2N4124	MOT	.60	.40	.30
2N4124	NSC	.60	.40	
2N4125	MOT	.52	.35	.26
2N4136MP	AMP	1.08	.72	
2N4126	MOT	.60	.40	.30

Type No.	Mfr.	1-99	100-999	1000-Up
2N4138	TI	12.00	8.00	6.40
2N4139	TEL	7.50	5.00	

Type No.	Mfr.	1-99	100-999	1000-4999
2N4140	TI	.63	.42	.36
2N4141	NSC	.65	.45	.30
2N4141	TI	.74	.49	.41
2N4142	TI	.75	.50	.42
2N4143	TI	.96	.64	.55

Type No.	Mfr.	1-99	100-999	1000-Up
2N4151/MCR2304-1	MOT	1.11	.74	
2N4153/MCR2304-3	MOT	1.41	.94	
2N4154/MCR2304-4	MOT	1.68	1.04	
2N4155/MCR2304-5	MOT	1.93	1.29	
2N4156/MCR2304-6	MOT	2.25	1.49	
2N4157/MCR2304-7	MOT	3.43	2.29	
2N4158/MCR2304-8	MOT	4.46	2.98	
2N4159/MCR2304L-1	MOT	1.11	.74	
2N4160/MCR2304L-2	MOT	1.26	.84	
2N4161/MCR2304L-3	MOT	1.41	.94	
2N4162/MCR2304L-4	MOT	1.68	.104	
2N4163/MCR2304L-5	MOT	1.93	1.29	
2N4164/MCR2304L-6	MOT	2.24	1.49	
2N4165/MCR2304L-7	MOT	3.43	2.29	
2N4166/MCR2304L-8	MOT	4.46	2.98	
2N4167/MCR2305-1	MOT	1.34	.89	
2N4168/MCR2305-2	MOT	1.49	.99	
2N4169/MCR2305-3	MOT	1.64	1.09	
2N4170/MCR2305-4	MOT	1.79	1.19	
2N4171/MCR2305-5	MOT	2.16	1.44	
2N4172/MCR2305-6	MOT	2.46	1.64	
2N4173/MCR2305-7	MOT	3.66	2.44	
2N4174/MCR2305-6	MOT	4.69	3.13	
2N4175/MCR2305L-1	MOT	1.34	.89	
2N4176/MCR2305L-2	MOT	1.75	1.25	
2N4177/MCR2305L-3	MOT	1.90	1.40	
2N4178/MCR2305L-4	MOT	1.79	1.11	
2N4179/MCR2305L-5	MOT	2.16	1.44	
2N4180/MCR2305L-6	MOT	2.46	1.64	
2N4181/MCR2305L-7	MOT	5.15	3.50	
2N4182/MCR2305L-8	MOT	4.69	3.13	
2N4183/MCR2604L-1	MOT	1.19	.79	
2N4184/MCR2604L-2	MOT	1.34	.89	
2N4185/MCR2604L-3	MOT	1.49	.99	
2N4186/MCR2604L-4	MOT	1.63	1.09	
2N4187/MCR2604L-5	MOT	2.01	1.34	
2N4188/MCR2604L-6	MOT	2.31	1.54	
2N4189/MCR2604L-7	MOT	5.14	3.49	
2N4190/MCR2604L-8	MOT	4.54	3.03	
2N4191/MCR2605L-1	MOT	1.19	.79	

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SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-999	1000-Up
2N4192/MCR2605L-2	MOT	1.34	.89	
2N4193/MCR2605L-3	MOT	1.49	.99	
2N4194/MCR2605L-4	MOT	1.63	1.08	
2N4195/MCR2605L-5	MOT	2.54	1.74	
2N4196/MCR2605L-6	MOT	2.31	1.54	
2N4197/MCR2605L-7	MOT	5.14	3.49	
2N4198/MCR2605L-8	MOT	4.54	3.03	

Type No.	Mfr.	1-24	25-99	100-999
2N4199	MOT	21.25	19.10	15.00
2N4200	MOT	28.75	25.80	20.00
2N4201	MOT	32.50	29.10	22.50
2N4202	MOT	44.25	38.40	29.50
2N4203	MOT	51.75	45.05	34.50
2N4204	MOT	63.75	55.70	42.50
2N4212	MOT	2.15	2.15	1.45

Type No.	Mfr.	1-99	100-999	1000-Up
2N4213	MOT	2.60	1.75	
2N4214	MOT	3.30	2.20	
2N4115	MOT	4.50	3.00	
2N4216	MOT	4.95	3.30	
2N4220	MOT	1.50	1.00	.90
2N4220A	MOT	1.72		
2N4220A	TI	2.10	1.50	
2N4221	MOT	1.40		
2N4221	TI	1.82	1.30	
2N4221A	MOT	1.65		
2N4221A	TI	2.03	1.45	
2N4222	MOT	1.42		
2N4222	TI	1.82	1.30	
2N4222A	MOT	1.65		
2N4222A	TI	2.03	1.45	
2N4223	MOT	1.50		
2N4223	TI	1.90	1.35	
2N4223	TEL	1.50	1.00	
2N4424	MOT	1.65		
2N4224	TI	1.82	1.30	
2N4224	TEL	1.55	1.05	
2N4231	MOT	2.10	1.40	
2N4232	MOT	2.40	1.60	
2N4233	MOT	3.20	2.15	
2N4234	MOT	1.90	1.26	
2N4235	MOT	2.50	1.66	
2N4236	MOT	2.80	1.86	
2N4237	MOT	1.50	1.00	
2N4238	MOT	1.75	1.17	
2N4239	MOT	2.05	1.37	
2N4240	RCA	3.14	2.28	1.90
2N4241	AMP	1.37	.91	
2N4241MP	AMP	2.75	1.83	

Type No.	Mfr.	1-99	100-999	1000-9999
2N4248	NSC	.30	.20	.15
2N4249	NSC	.75	.50	.38
2N4250	NSC	.80	.53	.40
2N4253	TI	1.70	1.15	1.05
2N4256	GE	.68	.45	.38
2N4259	RCA	1.90	1.38	1.15
2N4260	MOT	12.35	8.25	
2N4261	MOT	14.60	9.75	
2N4264	MOT	.48	.32	.24
2N4265	MOT	.54	.36	.27
2N4274	NSC	.57	.38	.29
2N4275	NSC	.60	.40	.30
2N4276	MOT	3.50	2.35	
2N4277	MOT	4.20	2.80	
2N4278	MOT	4.65	3.10	
2N4279	MOT	5.30	3.55	
2N4280	MOT	5.70	3.80	

Type No.	Mfr.	1-99	100-999	1000-9999
2N4281	MOT	6.80	4.55	
2N4282	MOT	7.05	4.70	
2N4283	MOT	8.45	5.65	
2N4286	NSC	.44	.29	.19
2N4287	NSC	.59	.39	.27
2N4288	NSC	.42	.28	.19
2N4289	NSC	.57	.38	.26
2N4291	NSC	.57	.38	.26
2N4301	TI	31.50	21.00	19.00
2N4302	TEL	.65	.40	
2N4303	TEL	.80	.55	
2N4304	NSC	.55	.35	
2N4304	TEL	.55	.35	
2N4314	RCA	1.24	.90	.75
2N4339	NSC	2.15	1.40	
2N4340	NSC	2.20	1.45	
2N4341	NSC	2.40	1.57	
2N4342	MOT	1.12	.75	.67
2N4343	MOT	1.35	.90	.81
2N4346	RCA	2.31	1.68	1.40
2N4347	RCA	2.97	2.16	1.80
2N4348	RCA	4.13	3.00	2.50
2N4351	MOT	2.85	1.90	1.70
2N4352	MOT	2.70	1.80	1.62
2N4371	WES	28.80	22.30	
2N4372	WES	38.00	29.40	
2N4374	WES	97.50	75.50	
2N4375	WES	145.00	112.00	
2N4376	WES	210.00	155.00	
2N4377	WES	286.00	215.00	
2N4378	WES	370.00	275.00	
2N4383	SPR	1.05	.70	.65
2N4384	SPR	1.05	.70	.65
2N4386	SPR	.75	.51	.45
2N4390	RCA	.75	.54	.45
2N4391	MOT	4.20	2.80	2.50
2N4391	NSC	3.20	2.10	
2N4391	TEL	3.70	2.45	
2N4391	TI	3.35	2.40	2.20
2N4392	MOT	2.85	1.90	1.72
2N4392	NSC	2.50	1.70	
2N4392	TEL	2.60	1.70	
2N4392	TI	3.00	2.15	1.95
2N4393	MOT	3.05	2.05	1.84
2N4393	NSC	2.50	1.70	
2N4393	TEL	2.00	1.30	
2N4393	TI	2.65	1.90	1.75
2N4398	MOT	11.25	7.50	6.75
2N4398	TI	11.25	7.50	

Type No.	Mfr.	1-99	100-999	1000-Up
2N4399	MOT	13.50	9.05	
2N4399	TI	13.50	9.05	8.15
2N4400	MOT	.60	.40	.30
2N4401	MOT	.75	.50	.38
2N4402	MOT	.60	.40	.30
2N4403	MOT	.75	.50	.38
2N4404	MOT	8.25	5.50	
2N4406	MOT	11.25	7.50	
2N4407	MOT	12.75	8.50	
2N4409	MOT	.67	.45	.34
2N4410	MOT	.96	.64	.48
2N4411	MOT	18.00	12.00	
2N4412	SPR	1.80	1.20	1.13
2N4412A	SPR	1.95	1.30	1.15
2N4413	SPR	1.80	1.20	1.13
2N4413A	SPR	1.95	1.30	1.15
2N4414	SPR	1.25	.85	.77
2N4414A	SPR	1.40	.95	.86
2N4415	SPR	1.25	.85	.77
2N4415A	SPR	1.40	.95	
2N4416	MOT	2.45	1.65	1.49
2N4416	NSC	1.80	1.20	
2N4416	TI	2.15	1.50	1.30
2N4416	TEL	2.35	1.50	
2N4416A	TI	2.25	1.50	1.30
2N4418	TI	.53	.37	.33
2N4419	TI	.51	.33	
2N4421	TI	.50	.33	
2N4422	TI	.52	.34	
2N4424	GE	.43	.29	.24
2N4425	GE	.47	.32	.26
2N4427	MOT	1.90	1.46	1.20
2N4427	RCA	2.15	1.50	1.25
2N4440	RCA	11.90	9.85	8.20
2N4441	MOT	1.20	.80	.68
2N4442	MOT	1.50	1.00	.85
2N4443	MOT	2.00	1.35	1.15
2N4444	MOT	4.50	3.00	2.55
2N4851	MOT	.97	.65	
2N4852	MOT	.97	.65	

Type No.	Mfr.	1-99	100-999	1000-Up
2N4853	MOT	2.25	1.50	
2N4854	TI	13.50	9.00	6.90
2N4855	TI	10.80	7.20	5.70
2N4856	MOT	3.90	2.60	2.35
2N4856	TEL	3.60	2.40	
2N4856	TI	3.20	2.30	1.90
2N4856A	MOT	4.35	2.90	2.60
2N4856A	TI	3.35	2.40	2.00
2N4857	TEL	3.00	1.95	
2N4857	TI	2.90	2.05	1.70
2N4857A	TI	3.00	2.15	1.80
2N4858	TEL	2.50	1.65	
2N4858	TI	2.70	1.80	1.50
2N4858A	TI	2.65	1.90	1.60
2N4859	MOT	3.60	2.40	2.15
2N4859	TEL	3.05	2.00	
2N4859/TIS41	TI	2.60	1.85	1.55
2N4859A	MOT	4.10	2.75	2.45
2N4859A	TI	2.80	2.00	1.65
2N4860	MOT	3.15	2.10	1.90
2N4860	TEL	2.75	1.80	
2N4860	TI	2.35	1.68	1.40
2N4860A	TI	2.70	1.80	1.50
2N4861	MOT	2.60	1.75	1.58
2N4861	TEL	2.25	1.50	
2N4861	TI	2.20	1.56	1.30
2N4861A	TI	2.35	1.68	1.40
2N4870	MOT	.75	.50	.43
2N4871	MOT	.68	.50	.43
2N4876	TI	4.20	2.80	2.70
2N4881	TEL	5.85	3.90	
2N4882	TEL	6.20	4.15	
2N4883	TEL	4.45	2.95	
2N4884	TEL	4.80	3.20	
2N4885	TEL	4.95	3.30	
2N4886	TEL	4.35	2.90	
2N4890	MOT	1.12	.75	
2N4891	TI	.76	.66	.52
2N4892	TI	.78	.69	.61
2N4894	TI	.99	.87	.68
2N4898	MOT	1.63	1.21	
2N4899	MOT	2.02	1.50	
2N4900	MOT	2.26	1.67	
2N4901	MOT	1.93	1.43	1.57
2N4901	TI	2.75	1.84	
2N4902	MOT	2.80	2.07	
2N4902	TI	3.30	2.21	1.90
2N4903	MOT	3.38	2.50	
2N4903	TI	4.25	2.84	2.40
2N4904	MOT	2.31	1.71	
2N4904	TI	3.35	2.25	1.95
2N4905	MOT	3.08	2.28	
2N4905	TI	4.45	2.98	2.55
2N4906	MOT	3.85	2.85	
2N4906	TI	5.60	3.75	3.20
2N4910	MOT	1.55	1.05	
2N4911	MOT	1.80	1.20	
2N4912	MOT	2.10	1.40	
2N4913	MOT	1.73	1.28	
2N4913	TI	2.40	1.68	
2N4914	MOT	2.12	1.57	
2N4914	TI	2.60	1.75	
2N4915	MOT	2.89	2.14	
2N4915	TI	4.20	2.80	
2N4918	MOT	1.65	1.11	
2N4919	MOT	1.90	1.27	
2N4920	MOT	2.25	1.50	
2N4921	MOT	1.33	.89	
2N4922	MOT	1.48	.99	
2N4923	MOT	1.80	1.20	
2N4924	MOT	2.05	1.00	
2N4925	MOT	2.50	1.65	
2N4926	MOT	2.95	1.95	
2N4927	MOT	3.15	2.10	
2N4928	MOT	4.05	2.70	
2N4929	MOT	4.95	3.30	
2N4930	MOT	5.90	4.50	3.95
2N4931	MOT	6.75	4.50	
2N4932	MOT	29.00	24.00	20.00
2N4933	RCA	29.90	24.00	20.00
2N4937	MOT	7.15	4.75	
2N4938	MOT	5.70	3.80	
2N4939	MOT	3.40	2.25	
2N4940	MOT	15.75	10.30	
2N4941	MOT	12.30	8.20	
2N4942	MOT	8.85	5.90	
2N4947	TI	2.03	1.35	
2N4948	TI	1.35	.90	.80
2N4948	MOT	1.35	.90	
2N4949	TI	2.40	1.60	1.30
2N4949	MOT	2.40	1.00	
2N4951	GE	.65	.44	.36

Type No.	Mfr.	1-99	100-999	1000-Up
2N4951	SPR	.33	.22	.18
2N4952	GE	.70	.47	.39
2N4952	SPR	.36	.24	.19
2N4953	GE	.74	.50	.41
2N4953	SPR	.42	.48	.22
2N4954	GE	.56	.38	.31
2N4954	SPR	.30	.20	.16
2N4957	MOT	20.25	13.50	8.25
2N4958	MOT	10.35	6.90	5.50
2N4959	MOT	6.75	4.50	3.95
2N4970	NSC	.65	.45	.30
2N4971	NSC	.75	.50	.38
2N4972	NSC	.78	.52	.40
2N4974	MOT	9.00	6.00	.....
2N4975	MOT	7.50	5.00	.....
2N4977	TEL	4.30	2.85	.....
2N4978	TEL	5.10	3.40	.....
2N4979	TEL	3.75	2.50	.....
2N4983/D13D1	GE	1.17	.78	.60
2N4987	GE	.84	.56	.41
2N4988	GE	1.23	.82	.65
2N4989	GE	1.73	1.15	.88
2N4990	GE	.89	.59	.45
2N4991	GE	.75	.50	.40
2N4992	GE	1.35	.90	.71
2N4993/D13E1	GE	1.65	1.10	.99
2N4994	TI	.30	.27	.21
2N4995	TI	.32	.28	.22
2N4996	TI	.48	.42	.33
2N4997	TI	.51	.45	.35
2N5016	RCA	36.25	30.00	25.00
2N5018	TEL	8.10	5.40	.....
2N5019	TEL	5.10	3.40	.....
2N5024	RCA	7.35	4.90	4.40
2N5027	GE	.59	.39	.33
2N5028	GE	.70	.47	.39
2N5029	GE	.52	.35	.29
2N5030	GE	.45	.30	.25
2N5031	MOT	13.00	10.00	.....
2N5032	MOT	8.45	6.50	.....
2N5034	RCA	1.34	.98	.81
2N5035	RCA	1.32	.96	.80
2N5036	RCA	1.42	1.04	.86
2N5037	RCA	1.41	1.02	.85
2N5038	RCA	10.30	7.50	6.25
2N5039	RCA	8.10	5.90	4.90
2N5043	TI	19.00	12.65	.....
2N5044	TI	9.50	6.33	.....
2N5045	TEL	10.70	7.15	.....
2N5045	TI	10.50	8.40	7.60
2N5046	TEL	9.15	6.40	.....
2N5046	TI	8.00	6.40	.....
2N5047	TEL	7.65	5.35	.....
2N5047	TI	6.70	5.34	.....
2N5048	GE	30.00	20.00	.....
2N5049	GE	37.50	25.00	.....
2N5058	TI	4.35	2.90	1.75
2N5059	TI	3.70	2.48	1.50
2N5060	MOT	.69	.46	.39

Type No.	Mfr.	1-99	100-999	1000-4999
2N5061	MOT	.83	.55	.47
2N5062	MOT	.96	.64	.54
2N5063	MOT	1.12	.75	.....
2N5064	MOT	1.43	.95	.....

Type No.	Mfr.	1-99	100-999	1000-Up
2N5067	MOT	1.80	1.20	.....
2N5068	MOT	2.25	1.50	.....
2N5069	MOT	2.85	1.90	.....
2N5070	RCA	29.00	24.00	20.00
2N5071	RCA	29.00	24.00	20.00
2N5078	TEL	3.30	2.20	.....
2N5086	MOT	.75	.50	.38
2N5087	MOT	.81	.54	.40
2N5088	MOT	.75	.50	.38
2N5089	MOT	.98	.65	.49
2N5090	RCA	11.40	8.30	6.90
2N5090	MOT	7.80	6.00	.....
2N5102	RCA	21.75	18.00	15.00
2N5108	MOT	10.70	8.25	.....
2N5108	RCA	12.90	10.70	8.90
2N5109	RCA	3.47	2.52	2.10
2N5128	NSC	.25	.17	.15
2N5129	NSC	.25	.17	.15
2N5130	NSC	.25	.17	.15
2N5132	NSC	.23	.15	.14
2N5133	NSC	.23	.15	.14
2N5134	NSC	.23	.15	.14
2N5138	NSC	.25	.17	.15
2N5139	NSC	.23	.15	.14

Type No.	Mfr.	1-99	100-999	1000 Up
2N5143	NSC	.27	.18	.16
2N5146	MOT	47.60	31.75	.....
2N5155	MOT	4.10	2.75	.....
2N5160	MOT	4.75	3.65	3.00
2N5161	MOT	16.75	12.50	.....
2N5162	MOT	27.00	18.00	.....
2N5163	NSC	.50	.35	.....
2N5164	MOT	3.30	2.20	.....
2N5165	MOT	4.65	3.10	.....
2N5166	MOT	6.45	4.30	.....
2N5167	MOT	9.75	6.50	.....
2N5168	MOT	3.70	2.45	.....
2N5169	MOT	5.00	3.35	.....
2N5170	MOT	2.80	1.55	.....
2N5171	MOT	10.10	6.75	.....
2N5172	GE	.20	.14	.11
2N5174	GE	.65	.44	.36
2N5175	GE	.70	.47	.39
2N5176A	GE	.74	.50	.41
2N5179	MOT	.97	.75	.62
2N5179	RCA	.65	.47	.39
2N5180	RCA	.54	.40	.33
2N5182	RCA	.40	.29	.24
2N5183	RCA	.40	.29	.24
2N5184	RCA	.48	.35	.29
2N5185	RCA	.56	.41	.34
2N5186	RCA	.40	.29	.24
2N5187	RCA	.56	.41	.34
2N5188	RCA	.66	.48	.40
2N5189	RCA	.73	.53	.44
2N5190	MOT	1.57	1.05	.....
2N5191	MOT	1.92	1.28	.....
2N5192	MOT	2.50	1.67	.....
2N5193	MOT	2.00	1.33	.....
2N5194	MOT	2.25	1.50	.....
2N5195	MOT	2.90	1.95	.....
2N5202	RCA	4.53	3.30	2.75
2N5204/C137M	GE	15.15	10.10	.....
2N5205/C137N	GE	21.25	13.50	.....
2N5208	MOT	.54	.36	.27
2N5209	MOT	.66	.44	.33
2N5210	MOT	.72	.48	.36
2N5220	MOT	.97	.65	.56
2N5221	MOT	.30	.20	.18
2N5222	MOT	.24	.16	.14
2N5223	MOT	.21	.14	.12
2N5224	MOT	.24	.16	.14
2N5225	MOT	.27	.18	.16
2N5226	MOT	.30	.20	.18
2N5227	MOT	.24	.16	.14
2N5228	MOT	.28	.19	.17
2N5229	MOT	2.49	1.66	.....
2N5230	MOT	3.00	2.00	.....
2N5231	MOT	3.75	2.50	.....
2N5232	GE	.36	.24	.20
2N5232A	GE	.41	.27	.23
2N5233	GE	.41	.27	.23
2N5234	GE	.43	.29	.24
2N5235	GE	.50	.33	.28
2N5239	RCA	4.87	3.54	2.95
2N5240	RCA	6.50	4.74	3.95
2N5245/TIS88	TI	.70	.62	.48
2N5246	TI	.58	.50	.....
2N5247	TI	.83	.73	.....
2N5248/TIS34	TI	.61	.53	.75
2N5249	GE	.50	.33	.28
2N5249A	GE	.54	.36	.30
2N5262	RCA	1.62	1.18	.98
2N5265	MOT	4.65	3.10	2.80
2N5266	MOT	3.75	2.50	2.25
2N5267	MOT	3.45	2.30	2.05
2N5268	MOT	3.30	2.20	1.98
2N5269	MOT	3.45	2.30	2.05
2N5270	MOT	3.75	2.50	2.25
2N5273	TI	7.50	5.00	.....
2N5274	TI	15.30	10.20	.....
2N5275	TI	24.00	16.00	13.80
2N5277	TEL	4.00	2.65	.....
2N5278	TEL	4.35	2.90	.....
2N5293	RCA	.91	.66	.55
2N5294	RCA	.91	.66	.55
2N5295	RCA	.91	.66	.55
2N5296	RCA	.91	.66	.55
2N5297	RCA	1.04	.76	.63
2N5298	RCA	1.04	.76	.....
2N5301	MOT	6.90	4.60	.....
2N5301	TI	6.90	4.60	.....
2N5302	MOT	7.65	5.10	.....
2N5302	TI	7.65	5.10	.....
2N5303	MOT	12.00	8.00	.....
2N5303	TI	18.00	12.00	.....
2N5305	GE	.38	.26	.21

Type No.	Mfr.	1-99	100-999	1000-Up
2N5306/D16P4	GE	.43	.29	.24
2N5307	GE	.47	.32	.26
2N5308	GE	.52	.35	.29
2N5320	RCA	1.65	1.20	1.00
2N5321	RCA	1.16	.84	.70
2N5322	RCA	1.90	1.38	1.15
2N5323	RCA	1.41	1.02	.85
2N5324	MOT	4.50	3.00	.....
2N5325	MOT	6.00	4.00	.....
2N5332	MOT	14.00	9.40	.....
2N5333	TI	13.50	9.00	.....
2N5334	MOT	3.38	2.50	.....
2N5335	MOT	3.95	2.92	.....
2N5336	MOT	5.76	4.20	.....
2N5337	MOT	7.21	5.35	.....
2N5338	MOT	8.00	5.92	.....
2N5339	MOT	9.55	7.07	.....
2N5344	MOT	18.00	12.00	.....
2N5345	MOT	22.50	15.00	.....
2N5346	MOT	36.00	24.00	.....
2N5347	MOT	41.20	26.75	.....
2N5348	MOT	45.80	30.50	.....
2N5349	MOT	52.50	34.95	.....
2N5354/D29A4	GE	.41	.27	.23
2N5355/D29A5	GE	.45	.30	.25
2N5356/D29A6	GE	.52	.35	.29
2N5357	MOT	15.00	10.00	.....
2N5358	MOT	3.95	2.65	2.38
2N5359	MOT	3.45	2.30	2.05
2N5360	MOT	3.00	2.00	1.80
2N5361	MOT	2.65	1.76	1.58
2N5362	MOT	3.00	2.00	1.80
2N5363	MOT	3.45	2.30	2.05
2N5364	MOT	3.95	2.65	2.38
2N5365/D29A7	GE	.45	.30	.25
2N5366/D29A8	GE	.50	.33	.28
2N5367/D29A9	GE	.56	.38	.31
2N5384	TI	27.00	18.00	.....
2N5385	TI	22.50	15.00	.....
2N5386	TI	73.50	49.00	.....
2N5387	TI	38.00	25.50	.....
2N5388	TI	42.00	28.00	.....
2N5389	TI	48.00	32.00	.....
2N5390	TI	37.80	25.20	.....
2N5391	TEL	6.55	4.35	.....
2N5392	TEL	5.60	3.75	.....
2N5393	TEL	6.55	4.35	.....
2N5394	TEL	4.95	3.30	.....
2N5395	TEL	5.60	3.75	.....
2N5396	TEL	4.95	3.30	.....
2N5399	TI	14.00	9.40	.....
2N5400	MOT	.75	.36	.30
2N5401	MOT	.91	.61	.55
2N5415/TA2819	RCA	3.30	2.40	2.00
2N5416/TA2819A	RCA	4.95	3.60	3.00
2N5427	MOT	5.96	4.42	.....
2N5428	MOT	7.53	5.57	.....
2N5429	MOT	8.30	6.15	.....
2N5430	MOT	9.75	7.23	.....
2N5431	MOT	3.50	2.35	.....
2N5435	MOT	10.85	7.35	.....
2N5436	MOT	15.35	10.25	.....
2N5437	MOT	18.00	12.00	.....
2N5438	MOT	14.60	9.75	.....
2N5439	MOT	18.35	12.25	.....
2N5440	MOT	22.50	15.00	.....
2N5441/TA2836	RCA	5.94	4.95	3.17
2N5442/TA2837	RCA	11.47	8.34	6.95
2N5443	RCA	13.63	11.28	.....
2N5445/TA2839	RCA	10.50	8.70	7.25
2N5446	RCA	14.21	11.76	9.80
2N5447	TI	.37	.32	.25
2N5448	TI	.34	.29	.23
2N5449	TI	.34	.29	.....
2N5450	TI	.39	.25	.20
2N5451	TI	.27	.24	.19
2N5457/MPF103	MOT	.80	.54	.43
2N5458/MPF104	MOT	.73	.49	.39
2N5459/MPF105	MOT	.80	.54	.43
2N5460/MPF151	MOT	.90	.60	.48
2N5461/MPF152	MOT	.67	.45	.36
2N5462/MPF153	MOT	.90	.60	.48
2N5463/MPF154	MOT	1.35	.90	.72
2N5464/MPF155	MOT	1.08	.72	.58
2N5465/MPF156	MOT	1.35	.90	.72
2N5467	RCA	3.38	2.56	2.05
2N5470	RCA	87.00	72.00	60.00
2N5471	MOT	2.55	1.70	1.50
2N5472	MOT	2.33	1.55	1.40
2N5473	MOT	2.15	1.45	1.30

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Type No.	Mfr.	1-99	100-999	1000-Up
2N5474	MOT	2.00	1.35	1.20
2N5475	MOT	1.80	1.20	1.05
2N5476	MOT	2.00	1.35	1.20
2N5477	MOT	33.00	22.00	.....
2N5478	MOT	37.10	24.75	.....
2N5479	MOT	42.50	28.30	.....
2N5480	MOT	49.40	32.95	.....
2N5484	MOT	.98	.65	.52
2N5485/MPF106	MOT	1.05	.70	.56
2N5486/MPF107	MOT	1.05	.70	.65
2N5490	RCA	1.07	.78	.65
2N5491	RCA	1.07	.78	.65
2N5492	ECA	1.19	.86	.72
2N5493	RCA	1.19	.86	.72
2N5494	RCA	1.19	.86	.72
2N5495	RCA	1.19	.86	.72
2N5496	RCA	1.29	.94	.78
2N5497	RCA	1.29	.94	.78
2N5505	TEL	16.65	11.10	.....
2N5506	TEL	14.15	9.45	.....
2N5507	TEL	13.20	8.80	.....
2N5508	TEL	6.65	4.45	.....
2N5509	TEL	4.55	3.05	.....
2N5510	TEL	16.65	11.10	.....
2N5511	TEL	14.15	9.45	.....
2N5512	TEL	13.20	8.80	.....
2N5513	TEL	6.65	4.45	.....
2N5514	TEL	4.55	3.05	.....

Type No.	Mfr.	1-99	100-499	500-999
2N5543	TI	4.50	3.00	2.70
2N5544	TI	3.25	2.50	2.25
2N5545	TI	23.00	15.00	14.25
2N5546	TI	13.00	9.00	8.55
2N5547	TI	11.00	7.50	7.15

Type No.	Mfr.	1-99	100-999	1000-Up
2N5548	TI	1.82	1.60	.....
2N5549	TI	4.35	3.30	2.15
2N5550	MOT	.69	.46	.41
2N5551	MOT	.84	.56	.50
2N5555	MOT	1.20	.80	.65
2N5556	MOT	12.00	9.50	8.00
2N5578	RCA	43.50	36.00	30.00
2N5581	MOT	8.70	5.80	.....
2N5582	MOT	10.20	6.80	.....
2N5583	MOT	7.35	4.90	.....
2N5635/MM1549	MOT	5.60	4.30	.....
2N5636/MM1550	MOT	17.50	13.50	.....
2N5637/MM1551	MOT	30.65	23.60	.....
2N5641	MOT	6.40	4.28	.....
2N5671	RCA	15.80	13.10	10.90
2N5672	RCA	21.60	17.90	14.90
2N5679	MOT	22.50	15.00	.....
2N5683	MOT	27.00	18.00	.....
2N5684	MOT	.73	.49	.....
2N5777	GE	.60	.50	.35
2N5778	GE	.70	.55	.40
2N5779	GE	1.00	.70	.50
2N5780	GE	1.20	.80	.55
2N5784	RCA	1.24	.90	.75
2N5785	RCA	1.08	.78	.65
2N5786	RCA	.99	.72	.60
2N5810	GE	.47	.32	.26
2N5811	GE	.52	.35	.29
2N5812	GE	.52	.35	.29

Type No.	Mfr.	1-99	100-999	1000-Up
2N5813	GE	.56	.38	.31
2N5814	GE	.43	.29	.24
2N5815	GE	.47	.32	.26
2N5816	GE	.47	.32	.26
2N5817	GE	.52	.35	.29
2N5818	GE	.52	.35	.29
2N5819	GE	.56	.38	.31
2N5820	GE	.83	.55	.46
2N5821	GE	.88	.59	.49
2N5822	GE	.88	.59	.49
2N5823	GE	.95	.63	.53
2N5824	GE	.32	.21	.18
2N5825	GE	.34	.23	.19
2N5826	GE	.38	.26	.21
2N5827	GE	.41	.27	.23
2N5828	GE	.54	.36	.30

Type No.	Mfr.	1-99	100-Mix	100-999
.4M2.4AZ5/1N4370A	MOT	2.75	2.35	2.05
.4M2.4AZ10/1N4370	MOT	2.00	1.70	1.50
.4M2.7AZ5/1N4371A	MOT	2.75	2.35	2.05
.4M2.7AZ10/1N4371	MOT	2.00	1.70	1.50
.4M3.0AZ5/1N4372A	MOT	2.75	2.35	2.05
.4M3.0AZ10/1N4372	MOT	2.00	1.70	1.50
.4M3.3AZ5/1N746A	MOT	2.75	2.35	2.05
.4M3.3AZ10/1N746	MOT	2.00	1.70	1.50
.4M3.6AZ/1N747A	MOT	2.75	2.35	2.05
.4M3.6AZ10/1N747	MOT	2.00	1.70	1.50
.4M3.6ZS-10	MOT	.....	.....	.....
.4M3.9AZ5/1N748A	MOT	2.75	2.35	2.05
.4M3.9AZ10/1N748	MOT	2.00	1.70	1.50
.4M4.3AZ5/1N749A	MOT	2.75	2.35	2.05
.4M4.3AZ10/1N749	MOT	2.00	1.70	1.50
.4M4.7AZ5/1N750A	MOT	2.75	2.35	2.05
.4M4.7AZ10/1N750	MOT	2.00	1.70	1.50
.4M5.1AZ5/1N751A	MOT	2.75	2.35	2.05
.4M5.1AZ10/1N751	MOT	2.00	1.70	1.50
.4M5.6AZ5/1N752A	MOT	2.75	2.35	2.05
.4M5.6AZ10/1N752	MOT	2.00	1.70	1.50
.4M6.2AZ5/1N753A	MOT	2.75	2.35	2.05
.4M6.2AZ10/1N753	MOT	2.00	1.70	1.50
.4M6.4FR10	MOT	.33	.....	.25
.4M6.8AZ5/1N754A	MOT	2.75	2.35	2.05
.4M6.8AZ10/1N754	MOT	2.00	1.70	1.50
.4M7.5AZ5/1N755A	MOT	2.75	2.35	2.05
.4M7.5AZ10/1N755	MOT	2.00	1.70	1.50
.4M8.2AZ5/1N756A	MOT	2.75	2.35	2.05
.4M8.2AZ10/1N756	MOT	2.00	1.70	1.50
.4M9.1AZ5/1N757A	MOT	2.75	2.35	2.05
.4M9.1AZ10/1N757	MOT	2.00	1.70	1.50
.4M10AZ5/1N758A	MOT	2.75	2.35	2.05
.4M10AZ10/1N758	MOT	2.00	1.70	1.50
.4M12AZ5/1N759	MOT	2.75	2.35	2.05
.4M12AZ10/1N759A	MOT	2.00	1.70	1.50
1M110ZS10	MOT	2.26	1.95	1.70
1M120ZS10	MOT	2.26	1.95	1.70
1M130ZS10	MOT	2.26	1.95	1.70
1M150ZS10	MOT	2.26	1.95	1.70
1M160ZS10	MOT	2.26	1.95	1.70
1M180ZS10	MOT	2.26	1.95	1.70

Type No.	Mfr.	1-99	100-Mix	100-999
1M200ZS10	MOT	2.26	1.95	1.70
1Z3.9T5/1N1518A	INT	3.50	3.00	2.75
1Z3.9T10/1N1518	INT	2.70	2.40	2.20
1Z4.7T5/1N1519A	INT	3.50	3.00	2.75
1Z4.7T10/1N1519	INT	2.70	2.40	2.20
1Z5.6T5/1N1520A	INT	3.50	3.00	2.75
1Z5.6T10/1N1520	INT	2.70	2.40	2.20
1Z6.8T5/1N1521A	INT	3.50	3.00	2.75
1Z6.8T10/1N1521	INT	2.70	2.40	2.20
1Z8/2T5/1N1522A	INT	3.50	3.00	2.75
1Z10T5/1N1523A	INT	3.50	3.00	2.75
1Z10T10/1N1523	INT	2.70	2.40	2.20
1Z12T5/1N1524A	INT	3.50	3.00	2.75
1Z12T10/1N1524	INT	2.70	2.40	2.20
1Z15T5/1N1525A	INT	3.50	3.00	2.75
1Z15T10/1N1525	INT	2.70	2.40	2.20
1Z18T5/1N1526A	INT	3.50	3.00	2.75
1Z18T10/1N1526	INT	2.70	2.40	2.20
1Z27T10	INT	1.12	.....	.85
1Z30T10	INT	1.12	.....	.85
1Z22T5/1N1527A	INT	3.50	3.00	2.75
1Z22R10/1N1527	INT	2.70	2.40	2.20
1Z27T5/1N1528A	INT	3.50	3.00	2.75
1Z27T10/1N1528	INT	2.70	2.40	2.20
1Z30T5	INT	3.79	.....	2.95
1ZC3.9T10	INT	1.34	.....	1.02
1ZC4.CT10	INT	1.34	.....	1.02
1ZC5.1T10	INT	1.34	.....	1.02
1ZC6.2T10	INT	1.34	.....	1.02
1ZC7.5T10	INT	1.12	.....	.85
1ZC9.1T10	INT	1.12	.....	.85
1ZC10T10/1ZF10T10	INT	1.12	.....	.85
1ZC11R10/1ZF11T10	INT	1.12	.....	.85
1ZC12T10/1ZF12T10	INT	1.12	.....	.85
1ZC13T10/1ZF13T10	INT	1.12	.....	.85
1ZC16T10/1ZF16T10	INT	1.12	.....	.85
1ZC20T10/1ZF20T10	INT	1.12	.....	.85
1ZC24T10/1ZF24T10	INT	1.12	.....	.85
1ZC30T10/1ZF30T10	INT	1.12	.....	.85
1ZF4.3T10	INT	1.34	.....	1.02
1ZF5.1T10	INT	1.34	.....	1.02
1ZF6.2T10	INT	1.34	.....	1.02
1ZF7.5T10	INT	1.12	.....	.85
1ZF9.1T10	INT	1.12	.....	.85
1ZF10T10/1ZC10T10	INT	1.12	.....	.85
1ZF11T10/1ZC11T10	INT	1.12	.....	.85
1ZF12T10/1ZC12T10	INT	1.12	.....	.85
1ZF13T10/1ZC13T10	INT	1.12	.....	.85
1ZF16T10/1ZC16T10	INT	1.12	.....	.85
1ZF20T10/1ZC20T10	INT	1.12	.....	.85
1ZF24T10/1ZC24T10	INT	1.12	.....	.85
1ZF27T10/1ZC27T10	INT	1.12	.....	.85
1ZF30T10/1ZC30T10	INT	1.12	.....	.85
1.5M6.8Z5/1N3785B	MOT	6.95	6.00	5.25
1.5M10Z5/1N3789B	MOT	6.95	6.00	5.25
1.5M12Z5/1N3791B	MOT	6.95	6.00	5.25
1.5M15Z5/1N3793B	MOT	6.95	6.00	5.25
1.5M17Z5	MOT	6.95	6.00	5.25
1.5M18Z5/1N3795B	MOT	6.95	6.00	5.25
1.5M20Z5/1N3796B	MOT	6.95	6.00	5.25
1.5M24Z5/1N3798B	MOT	6.95	6.00	5.25
1.5M25Z5	MOT	6.95	6.00	5.25
1.5M30Z5/1N3800B	MOT	6.95	6.00	5.25
1.5M33Z5/1N3801B	MOT	6.95	6.00	5.25
1.5M62Z5/1N3808B	MOT	6.95	6.00	5.25

Type No.	Mfr.	1-99	100-Mix	100-999
1.5M75Z5/1N3810B	MOT	6.95	6.00	5.25
1.5M100Z5/1N3813B	MOT	6.95	6.00	5.25
2E4	INT	.55	.50	.42

Type No.	Mfr.	1-24	25-99	100-Up
3AF1	SAR	.40	.34	.31
3AF2	SAR	.52	.44	.40
3AF4	SAR	.74	.63	.58
3AF6	SAR	1.09	.93	.85

Type No.	Mfr.	1-9	10-99	100-999
3F20D	INT	.93	.82	.74
3F40D	INT	1.50	1.43	1.27
3F60D	INT	3.51	3.16	2.84
3F80D	INT	5.43	4.89	4.40
3F100D	INT	7.05	6.34	5.71

Type No.	Mfr.	1-99	100-Mix	100-999
3HS1/1N606	INT	1.19	.....	.79
3MS30/1N1794	INT	1.23	.....	.82
3RC20A/2N1602	INT	9.45	.....	6.30
3RC40A/2N1604	INT	16.80	.....	10.80
3Z3.9T5/1N1588A	INT	4.55	4.05	3.65
3Z3.9T10/1N1588	INT	3.80	3.40	3.05
3Z4.7T5/1N1589A	INT	4.55	4.05	3.65
3Z5.6T10/1N1590	INT	3.80	3.40	3.05
3Z6.8T5/1N1591A	INT	4.55	4.05	3.65
3Z8.2T5/1N1592A	INT	4.55	4.05	3.65
3Z8.2T10/1N5192	INT	3.80	3.40	3.05
3Z10T5/1N1593A	INT	4.55	4.05	3.65
3Z10T10/1N1593	INT	3.80	3.40	3.05
3Z12T5/1N1594A	INT	4.55	4.05	3.65
3Z12T10/1N1594	INT	3.80	3.40	3.05
3Z15T5/1N1595A	INT	4.55	4.05	3.65
3Z15T10/1N1595	INT	3.80	3.40	3.05
3Z18T5/1N1596A	INT	4.55	4.05	3.65
3Z18T10/1N1596	INT	3.80	3.40	3.05
3Z22T5/1N1597A	INT	4.55	4.05	3.65
3Z22T10/1N1597	INT	3.80	3.40	3.05

Type No.	Mfr.	1-9	10-99	100-999
4D4	INT	.55	.40	.....
4D6	INT	.65	.50	.....
4D8	INT	.75	.65	.55

Type No.	Mfr.	1-99	100-999	1000-Up
4JA40A/A40A	GE	1.77	1.18	1.06
4JA40B/A40B	GE	1.82	1.21	1.09
4JA40C/A40C	GE	2.40	1.60	1.44
4JA40D/A40D	GE	2.90	1.93	1.74
4JA40E/A40E	GE	3.53	2.35	2.12
4JA40F/A40F	GE	1.73	1.15	1.04
4JA40M/A40M	GE	4.20	2.80	2.52
4JA44B/A44B	GE	1.16	.77	.69
4JA44C/A44C	GE	1.28	.85	.76

Type No.	Mfr.	1-9	10-99	100-999
4JA411CB1AD1	GE	7.20	6.00	.....
4JPA108	GE	27.35	18.35	12.25

Type No.	Mfr.	1-99	100-999	1000-Up
4JZ4X5.6B/1N1765	GE	2.40	1.60	.....
4JZ4X6.2B/1N1766	GE	2.40	1.60	1.44
4JZ4Z6.8B/1N1767	GE	2.40	1.60	.....
4JZ4X7.5B/1N1768	GE	2.40	1.60	.....
4JZ4X8.2B/1N1769	GE	3.00	2.00	.....
4JZ4X9.1B/1N1770	GE	3.00	2.00	.....
4JZ4X10B/1N1771	GE	3.00	2.00	1.75
4JZ4X11B/1N1772	GE	3.00	2.00	.....
4JZ4X12B/1N1773	GE	3.00	2.00	1.75
4JZ4X13B/1N1774	GE	3.00	2.00	1.75
4JZ4X15B/1N1775	GE	3.00	2.00	....
4JZ4X16B/1N1776	GE	3.00	2.00	.....
5A2	INT	.32	.28	.....
5A3	INT	.37	.32	.....
5A4	INT	.41	.35	.....
5A5	INT	.45	.38	.....

Type No.	Mfr.	1-99	100-999	1000-Up
5A6	INT	.50	.44	.....
5A8	INT	.85	.75	.....
5A10	INT	1.20	1.02	.....
5MA2/1N1082	INT	.65	.52	.....
5MA4/1N1084	INT	.75	.60	.....

Type No.	Mfr.	1-4	5-9	10-99
5MA5	INT	1.25	1.25	1.25
5MA6	INT	1.70	1.35	.....
5MA8	INT	2.70	1.95	.....
5MA10	INT	3.40	2.40	.....
5RC15A/2N1773	INT	6.92	4.60	.....
5RC20A/2N1774	INT	8.12	5.40	.....
5RC20B/2N1774A	INT	13.45	8.95	.....
5RC25B/2N1775A	INT	15.50	10.45	.....
5RC20B/2N1776A	INT	18.35	12.20	.....
5RC40B/2N177A	INT	23.60	15.50	.....

Type No.	Mfr.	1-9	10-99	100-999
6F20D	INT	1.45	1.31	1.16
6F40D	INT	2.61	2.35	2.09
6F60D	INT	3.30	2.97	2.67
6F80D	INT	3.51	3.16	2.84
6F100D	INT	6.63	5.97	5.37

Type No.	Mfr.	1-49	50-999	1000-Up
6RS5SP4B4	GE	.81	.61	.55
6RS20SP1B1	GE	.69	.52	.47
6RS20SP2B2	GE	.80	.60	.54
6RS20SP3B3	GE	.91	.69	.62
6RS20SP4B4	GE	1.03	.78	.70
6RS20SP5B5	GE	1.15	.87	.78
6RS20SP6B6	GE	1.26	.95	.86
6RS20SP7B7	GE	1.38	1.04	.94
6RS20SP9B9	GE	1.62	1.22	1.10
6RS20SP10B10	GE	1.73	1.31	1.18
6RS21SA1D1	GE	1.87	1.33	1.20
6RS21SA2D2	GE	2.00	1.45	1.30
6RS21SA3D3	GE	2.20	1.63	1.43
6RS21SA4D4	GE	2.38	1.70	1.55
6RS21SA5D5	GE	2.55	1.85	1.65
6RS21SA6D6	GE	2.75	1.97	1.78
6RS21SA7D7	GE	2.90	2.10	1.90
6RS21SA8D8	GE	3.10	2.25	2.04

Type No.	Mfr.	1-99	100-999	1000-Up
6RS21SA9D9	GE	3.30	2.40	2.17

Type No.	Mfr.	1-49	50-999	1000-Up
6RS21SA11D11	GE	3.65	2.70	2.47
6RS21SA20D20	GE	5.25	4.30	4.05

Type No.	Mfr.	1-99	100-999	1000-Up
6.8SC20	INT	.....	.....	.....
7A30	GE	1.01	.67	.57
7A35	GE	.....	.....	.....
7B4/2N2201	GE	6.90	4.60	4.15
7F1	GE	.....	.....	.....

Type No.	Mfr.	1-4	5-99	100-Up
8D4	INT	.59	.50	.44
8D6	INT	.67	.59	.53
10	SAR	.65	.35	.....

Type No.	Mfr.	1-24	25-99	100-999
10B	SAR	1.05	.89	.83

Type No.	Mfr.	1-99	100-999	1000-Up
10B1	INT	.50	.37	.....
10B2	INT	.55	.40	.....

Type No.	Mfr.	1-4	5-9	10-99
10B3	INT	.65	.65	.65
10B4	INT	.80	.64	.....
10B5	INT	.95	.95	.95
10B10	INT	2.05	1.64	.....
10C/1N2610	SAR	.35	.28	.....
10C1	INT	.32	.29	.....
10C2	INT	.35	.32	.....
10C3	INT	.38	.36	.....
10C4	INT	.42	.38	.....
10C5	INT	.47	.43	.....
10C6	INT	.52	.46	.....
10C8	INT	.75	.65	.....
10C10	INT	1.70	1.20	.....
10D2/1N2069	INT	.32	.28	.....
10D3	INT	.37	.32	.....
10D4/1N2070	INT	.41	.35	.....
10D5	INT	.45	.38	.....

Type No.	Mfr.	1-4	5-9	10-99
10D6/1N2071	INT	.85	.75	.....
10D10	INT	1.20	1.02	.....
10DB1I	INT	1.00	.75	.....
10DB2P	INT	1.10	.83	.....
10DB3P	INT	1.20	.90	.....
10DB6P	INT	1.49	1.11	.....
10J2/1N1621	SAR	2.30	1.85	.....

Type No.	Mfr.	1-24	25-99	100-Up
10JM	SAR	2.24	1.92	1.80
10LA/1N1085A	SAR	3.24	2.86	2.66
10M/1N1081	SAR	.60	.55	.51

Type No.	Mfr.	1-99	100-Mix	100-999
10RC5/2N1843	INT	3.15	.....	2.10
10RC20A/2N1846A	INT	5.62	.....	3.75

Type No.	Mfr.	1-24	25-99	100-Up
10T5.6	SAR	4.83	4.14	3.86
10T6.2/1N1804	SAR	3.39	2.90	2.70
10T7.5	SAR	4.83	4.14	3.86
10T9.1	SAR	4.83	4.14	3.86

Type No.	Mfr.	1-99	100-Mix	100-999
10Z4.9T5/1N1599A	INT	8.00	7.10	6.40
10Z3.9T10/1N1599	INT	5.95	5.40	4.75
10Z4.7T5/1N1600A	INT	8.00	7.10	6.40
10Z5.6T5/1N1601A	INT	8.00	7.10	6.40
10Z6.8T10/1N1602	INT	5.95	5.40	4.75
10Z8.2T5/1N1603A	INT	8.00	7.10	6.40
10Z10T5/1N1604A	INT	8.00	7.10	6.40
10Z12T5/1N1605A	INT	8.00	7.10	6.40
10Z12T10/1N1605	INT	5.95	5.40	4.75
10Z15T10/1N1606	INT	5.95	5.40	4.75
10Z18T10/1N1607	INT	5.95	5.40	4.75
10Z27T5/1N1609A	INT	8.00	7.10	6.40
12A8	GE	4.50	.....	3.35

Type No.	Mfr.	1-24	25-99	100-Up
14A502	GE	15.00	10.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
16A-1/2N2711	GE	.34	.23	.19
16A2/2N2712	GE	.32	.21	.18
16B-2/2N2714	GE	.43	.29	.24
16F10/1N3616	INT	1.50	1.00	.....
16F20/1N3618	INT	3.00	2.00	.....
16F40/1N3620	INT	4.75	3.05	.....
16J2/2N3606	GE	.29	.20	.17
16J3/2N3607	GE	.23	.15	.13
16L43/2N3854	GE	.29	.20	.17
16L45/2N3856	GE	.34	.23	.19
16L63/2N3854A	GE	.32	.21	.18
16L64/2N3855A	GE	.34	.23	.19
16L65/2N3856A	GE	.36	.24	.20
16RC20A/2N685	INT	5.85	3.93	.....
16RC40A/2N688	INT	8.25	5.45	.....
16RC60A/2N689	INT	10.12	6.75	.....
16RC70A/2N691	INT	19.27	12.85	.....
16RC80A/2N692	INT	25.00	18.50	.....
16X1/2N3877A	GE	.52	.35	.29
16X2/2N3877	GE	.47	.32	.26
18DB2A	INT	2.38	2.14	.....
18DB3A	INT	2.47	2.35	.....
18DB4A	INT	2.61	2.48	.....
18DB5A	INT	2.76	2.62	.....
18DB6A	INT	2.90	2.75	.....
18DB8A	INT	3.42	3.25	.....
18DB10A	INT	5.12	4.95	.....
18RC20	INT	6.50	4.35	.....
18RC40	INT	9.10	6.05	.....
18RC60	INT	13.20	8.80	.....

Type No.	Mfr.	1-9	10-99	100-249
20A05	INT	.45	.32	.31
20A1	INT	.50	.35	.34

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-9	10-99	100-249
20A2	INT	.55	.39	.38
20A3	INT	.60	.43	.41
20A4	INT	.70	.50	.48
20A5	INT	.80	.56	.53
20A6	INT	.90	.63	.59
20A8	INT	1.30	.91	.84
20A10	INT	1.60	1.10	1.01

Type No.	Mfr.	1-24	25-99	100-Up
20C/1N2611	SAR	.37	.32	.29
20H3P/1N1344	SAR	1.20	1.03	.96
20J2/1N1622	SAR	2.80	2.40	2.24
20LA/1N1086A	SAR	4.00	3.43	3.20
20SP4B4	GE	1.03		.78
21PT5	INT	1.10		.82
21P10	INT	1.20		.90
21PT20	INT	1.30		.98
21PT40	INT	1.70		1.27
21PT60	INT	2.25	1.70	

Type No.	Mfr.	1-4	5-9	10-99
25-2003	INT	.12	.12	.12
25-2004	INT	.50	.50	.50
25-2005	INT	.90	.90	.90
25H15/1N2130A	INT	3.10		2.30
25HB10/1N2130	INT	2.05		1.45
25HB20/1N2131	INT	2.40		1.65
25HB40/1N2135	INT	3.70		2.60
26N08	AMP	2.35		

Type No.	Mfr.	1-99	100-999	1000-Up
30LA/1N1087A	SAR	4.67	3.73	
30M/1N1083	SAR	.70	.61	.57
36RC10	INT	19.30	14.80	
36RC20	INT	25.30	19.50	
36RC30	INT	34.10	26.20	
36RC40	INT	45.00	34.60	
36RC40A	INT	45.00	34.60	
36RC50	INT	54.25	40.70	
36RC60	INT	65.75	50.70	
40B	SAR	1.25	1.00	
40B	WES	1.75	1.51	1.41
40C/1N2613	SAR	.60	.46	
40-H/1N2387	SAR	.43	.37	.35
40H3P/1N1346	SAR	1.50	1.29	1.20
40HF-5/1N1183	INT	1.15	.80	
40HF-10/1N1184	INT	1.45	1.05	
40HF-20/1N1186	INT	2.00	1.40	
40HF-30/1N1187	INT	2.55	1.85	
40HF-40/1N1188	INT	3.05	2.20	
40HF40	INT	3.85	2.80	
40HF60	INT	4.55	3.30	
40HF80	INT	7.05	5.05	
40HF100	INT	9.90	7.20	

Type No.	Mfr.	1-24	25-99	100-Up
40J2/1N1624	SAR	4.24	3.62	3.40
40J3N	SAR	3.84	3.84	3.60
40J3P	SAR	3.84	3.84	3.60
40LA/1N1088A	SAR	5.35	4.67	4.27
40LF/1N1092	SAR	5.35	3.67	3.27
40RCS5	INT	12.90		9.15
40RCS10	INT	14.00		9.90
40RCS20	INT	16.40		11.75
40RCS30	INT	19.10		13.35
40RCS40	INT	22.00		15.20
40RCS50	INT	25.90		17.50
40RCS60	INT	29.85		19.90

Type No.	Mfr.	1-99	100-999	1000-Up
45L5/1N3111	INT	7.00		
45L20/1N3086	INT	14.00		
45L30/1N3087	INT	17.75		
45L40/1N3088	INT	25.00		
45L50/1N3089	INT	22.50		

Type No.	Mfr.	1-9	10-99	100-Up
50	SAR	.85	.45	

Type No.	Mfr.	1-99	100-999	1000-Up
50FB1L	INT	2.75	2.05	
50FB2L	INT	3.20	2.40	
50FB3L	INT	3.60	2.70	
50FB4L	INT	4.20	3.15	

Type No.	Mfr.	1-24	25-99	100-Up
60B	SAR	1.50	1.27	1.19
60B	WES	1.95	1.66	1.54
60C/1N2615	SAR	.55	.45	.42

Type No.	Mfr.	1-99	100-999	1000-Up
60FB05L	INT	3.20	2.45	
60FB1L	INT	3.45	2.65	
60FB2L	INT	4.25	3.20	
60FB3L	INT	4.70	3.50	
60FB4L	INT	5.70	4.25	
60FB5L	INT	3.20	2.45	
60FB6L	INT	7.00	5.25	
60H/1N2489	SAR	.47	.40	.31
60H3/1N1348	SAR	2.12	1.82	1.69
60LA	WES	6.45	5.52	5.15

Type No.	Mfr.	1-24	25-99	100-Up
60M	SAR	.85	.70	.66

Type No.	Mfr.	1-4	5-99	100-999
61-8969	INT	2.95	2.65	2.35

Type No.	Mfr.	1-24	25-99	100-Up
67C015/H20LSS	INT	6.00	4.80	
67C024/H20LSS	INT	7.20	5.75	
67C030/H20LSS	INT	9.00	7.20	
67C050/H20LSS	INT	11.25	9.00	
67C075/H20LSS	INT	16.00	12.80	
67C100/H20LSS	INT	22.50	18.00	
67C120/H20LSS	INT	27.00	21.60	
67C150/H20LSS	INT	33.75	27.00	
67C200/H20LSS	INT	45.00	36.00	
67C250/H20LSS	INT	56.25	45.00	
67C300/H20LSS	INT	67.50	54.00	
67C400/H20LSS	INT	90.00	72.00	
67C500/H20LSS	INT	112.50	90.00	
67C750/H20LSS	INT	168.50	135.00	
67D020/H53PNN	INT	5.50	4.95	
67D030/H53PNN	INT	6.00	5.40	
67D050/H04TNN	INT	5.00	4.50	
67D050/H20TTS	INT	6.00	5.40	
67D050/H53PNN	INT	10.95	9.85	
67D050/H55RNN	INT	8.70	7.85	
67D075/H04TNN	INT	7.50	6.75	
67D075/H20TTS	INT	9.00	8.10	
67D075/H55FNN	INT	10.40	9.40	
67D080/H53PNN	INT	15.60	13.95	
67D100/H04TNN	INT	10.00	9.00	
67D100/H20TTS	INT	12.00	10.80	
67D100/H53PNN	INT	19.50	17.55	
67D120/H04TNN	INT	12.00	10.80	
67D120/H20TTS	INT	14.40	13.00	
67D120/H53PNN	INT	23.40	21.00	
67D150/H04TNN	INT	15.50	13.50	
67D150/H20TTS	INT	18.00	16.20	
67D150/H53PAN	INT	29.20	26.50	
67D200/H04TNN	INT	20.00	18.00	
67D200/H20TTS	INT	24.00	21.00	
67D200/H53PNN	INT	39.00	35.10	
67D250/H20TTS	INT	30.00	27.00	
67D250/H53PNN	INT	48.75	43.80	
67D300/H04TNN	INT	30.00	27.00	
67D300/H20TTS	INT	36.00	32.40	
67D400/H04TNN	INT	40.00	36.00	
67D400/H20TTS	INT	48.00	43.60	
67D500/H20TTS	INT	60.00	54.00	
67D600/H20TTS	INT	72.00	64.80	
67D750/H20TTS	INT	90.00	81.00	
70H10A	INT	3.80	2.70	
70H20	INT	4.80	3.51	
70H30	INT	6.00	4.20	
70H40	INT	7.85	5.40	

Type No.	Mfr.	1-99	100-999	1000-Up
70H50A	INT	7.85	5.40	
70H80	INT	13.60	9.10	
70H100A	INT	14.75	10.40	
70U10/1N2055	INT	13.90		

Type No.	Mfr.	1-9	10-99	100-Mix
71RA60	INT	105.00	87.70	
71RA100	INT	220.00	141.55	
75	SAR	1.00	.60	

Type No.	Mfr.	1-24	25-99	100-999
80C	SAR	.62	.53	.49

Type No.	Mfr.	1-9	10-99	100-Up
100	SAR	1.10	.65	

Type No.	Mfr.	1-24	25-99	100-999
100C	SAR	.95	.82	.76

Type No.	Mfr.	1-99	100-999	1000-Up
100PB05P	INT	4.05	3.25	
100PB1P/2AFB1AP	INT	4.30	3.35	
100PB2P/2AFB2AP	INT	5.15	4.15	
100PB3P/2AFB3AP	INT	5.55	4.50	
100PB4P/2AFB4AP	INT	6.35	5.15	
100PB1P	INT	4.30	3.35	
100PB2P	INT	5.15	4.15	
100PB3P	INT	5.55	4.50	
100PB6P/2AFB6AP	INT	9.95	8.00	

Type No.	Mfr.	1-9	10-29	30-99
100-160	SAR	1.20	.44	.40

Type No.	Mfr.	1-24	25-99	100-Up
109UA/2N2739	WES	57.10	48.10	
109UB/2N2740	WES	74.10	62.10	
109UC/2N2741	WES	95.10	80.10	
109WA/2N2745	WES	63.10	52.10	
109WB/2B2746	WES	82.10	68.10	
109WC/2N2747	WES	105.10	87.10	
109XA/2N2751	WES	70.10	59.10	
109XB/2N2752	WES	90.10	76.10	
109XC/2N2753	WES	115.00	98.10	
120SM/1N1109	SAR	4.00	3.43	3.20

Type No.	Mfr.	1-9	10-99	100-Up
150	SAR	1.25	.74	

Type No.	Mfr.	1-99	100-999	1000-Up
151-04	WES	5.65	4.45	
151-06	WES	8.50	6.65	
151-08	WES	11.40	8.80	
151-09	WES	12.85	10.00	
151-10	WES	14.40	11.20	
151-12	WES	16.25	12.50	
151-14	WES	18.30	14.10	
151-16	WES	20.60	15.80	
151-18	WES	23.20	17.90	
151-20	WES	26.20	20.10	
151-22	WES	29.60	22.70	
151-24	WES	34.20	25.85	
151-26	WES	38.90	29.40	
151-28	WES	44.10	33.50	
151-30	WES	50.00	28.00	

Type No.	Mfr.	1-9	10-99	100-999
151RA60	INT	177.00	124.50	
151RA100	INT	328.00	225.00	

Type No.	Mfr.	1-99	100-999	1000-Up
152-04	WES	6.55	5.10	
152-06	WES	9.60	7.50	
152-08	WES	12.70	9.90	
152-09	WES	14.25	11.10	
152-10	WES	15.85	12.35	
152-12	WES	18.70	14.40	
152-14	WES	21.00	16.20	
152-16	WES	23.70	18.30	
152-18	WES	26.70	20.35	
152-20	WES	28.90	22.10	
152-22	WES	32.70	24.90	
152-24	WES	37.20	28.40	
152-26	WES	42.35	32.30	
152-28	WES	48.20	36.80	
152-30	WES	54.60	41.70	
153-04	WES	5.65	4.45	
153-05	WES	7.10	5.55	
153-06	WES	8.50	6.65	
153-07	WES	9.95	7.75	

Type No.	Mfr.	1-99	100-999	1000-Up
153-08	WES	11.40	8.80	
153-10	WES	14.40	11.20	
153-12	WES	16.25	12.50	
153-14	WES	18.30	14.10	
153-16	WES	20.60	15.80	
153-18	WES	23.20	17.90	
153-20	WES	26.20	20.10	
153-22	WES	29.60	22.70	
153-24	WES	34.20	25.85	
153-26	WES	38.90	29.40	
153-28	WES	44.10	33.50	
153-30	WES	50.00	38.00	
154-04	WES	6.55	5.10	
154-05	WES	8.05	6.55	
154-06	WES	9.60	7.50	
154-08	WES	12.70	9.90	
154-10	WES	15.85	12.35	
154-12	WES	18.70	14.40	
154-14	WES	21.00	16.20	
154-16	WES	23.70	18.30	
154-18	WES	26.70	20.35	
154-20	WES	28.90	22.10	
154-22	WES	32.70	24.90	
154-24	WES	37.20	28.40	
154-26	WES	42.35	32.30	
154-28	WES	48.20	36.80	
154-30	WES	54.60	41.70	
160SM/1N1110	SAR	4.75	3.86	
163-04	WES	14.60	11.35	
163-05	WES	16.90	12.60	
163-06	WES	18.60	13.40	
163-07	WES	19.60	14.15	
163-08	WES	20.60	14.85	
163-09	WES	21.60	15.56	
163-10	WES	22.60	16.30	
163-12	WES	25.60	18.45	
163-14	WES	28.60	20.60	
163-16	WES	31.60	22.75	
163-18	WES	34.60	24.90	
163-20	WES	37.60	27.10	
163-22	WES	40.85	29.55	
163-24	WES	44.40	32.20	
163-26	WES	48.25	35.10	
163-28	WES	52.45	38.25	
163-30	WES	57.00	41.70	
164-04	WES	19.50	14.15	
164-05	WES	20.60	14.85	
164-06	WES	21.60	15.60	
164-07	WES	22.60	16.30	
164-08	WES	23.60	17.00	
164-09	WES	24.60	17.75	
164-10	WES	25.60	18.45	
164-12	WES	28.60	20.60	
164-14	WES	31.60	22.75	
164-16	WES	34.60	24.90	
164-18	WES	37.60	27.10	
164-20	WES	40.60	29.30	
164-22	WES	43.85	31.65	
164-24	WES	47.35	34.20	
164-26	WES	51.15	36.95	
164-28	WES	55.25	39.90	
164-30	WES	59.70	43.10	

Type No.	Mfr.	1-24	25-99	100-Up
200	SAR	1.60	.95	

Type No.	Mfr.	1-99	100-Up
200SM/1N1111	SAR	5.65	4.53

Type No.	Mfr.	1-24	25-99	100-Up
200UB5	INT	6.30	5.70	
200UB10	INT	7.10	6.40	
200UB20	INT	11.60	10.60	
200UB30	INT	13.40	12.10	
200UB40	INT	15.30	13.80	
200UB50	INT	17.80	16.10	
201V	WES	47.50	31.00	
201Z	WES	59.00	45.00	
201ZB	WES	32.00	32.00	
202M	WES	10.65	7.10	

Type No.	Mfr.	1-99	100-999	1000-Up
202P	WES	12.10	8.05	
202S	WES	17.50	11.00	
202V	WES	23.50	14.95	
202Z	WES	26.75	18.25	
202ZB	WES	42.00	32.00	
202ZD	WES	36.00	25.20	
203M	WES	13.25	8.75	
210/6500	BEN	.50	.25	.20
210/6518	BEN	.40	.20	.16

Type No.	Mfr.	1-24	25-99	100-Up
211E	WES	32.00	25.00	
218B	WES	67.00	56.00	
218C	WES	70.00	59.00	
218D	WES	73.00	62.00	
218F	WES	85.00	74.00	
218H	WES	109.00	93.00	
218K	WES	134.00	113.00	
218M	WES	156.00	134.00	
218P	WES	205.00	162.00	
218V	WES	277.00	237.00	
218Z	WES	315.00	269.00	
218ZB	WES	251.00	296.00	
218ZD	WES	406.00	332.00	
223A	WES	124.00	108.00	
223B	WES	132.00	115.00	
223D	WES	138.00	120.00	
223F	WES	166.00	145.00	
223H	WES	210.00	183.00	
223K	WES	260.00	226.00	
223M	WES	315.00	274.00	
223P	WES	370.00	322.00	
223S	WES	425.00	370.00	
223V	WES	485.00	422.00	
223Z	WES	540.00	470.00	
223ZB	WES	500.00	525.00	
223ZD	WES	675.00	590.00	

Type No.	Mfr.	1-99	100-999	1000-Up
240SM/1N1112	SAR	6.50	5.20	
250A	WES	22.30	16.50	
250B	WES	25.90	19.80	
250C	WES	30.00	22.75	
350D	WES	34.20	25.00	
250E	WES	40.00	28.00	
250F	WES	45.50	32.50	
250H	WES	60.00	38.50	
250K	WES	75.00	50.75	
250M	WES	87.50	61.00	
250P	WES	108.00	70.00	
250S	WES	130.00	77.00	
250V	WES	150.00	85.00	
250Z	WES	210.00	155.00	
250ZB	WES	248.00	190.00	
250ZD	WES	286.00	215.00	
250ZF	WES	121.50	87.53	
250ZH	WES	138.75	100.80	
250ZK	WES	157.50	117.00	

Type No.	Mfr.	1-24	25-99	100-Up
251A	WES	18.60	14.60	
251B	WES	21.50	16.80	
251C	WES	25.10	19.60	
251D	WES	28.50	22.30	
251E	WES	32.00	25.00	
251F	WES	38.00	29.70	
251H	WES	50.15	39.25	
251K	WES	60.25	47.15	
251M	WES	73.15	57.25	
251P	WES	39.70	70.20	
251S	WES	108.00	85.05	
251V	WES	126.00	99.50	
251Z	WES	148.75	117.50	
251ZB	WES	174.00	130.50	
251ZD	WES	196.00	147.00	
251ZF	WES	222.00	167.50	
251ZH	WES	247.00	187.50	
251ZK	WES	275.00	205.00	
254A	WES	22.50	16.50	
254F	WES	45.50	32.50	
254K	WES	75.00	50.75	
254P	WES	108.00	70.00	
254V	WES	150.00	85.00	
254ZB	WES	24.80	19.20	
254ZF	WES	50.50	39.20	
263A	WES	27.00	23.00	
263B	WES	31.00	26.00	
263C	WES	35.00	29.00	
263D	WES	40.00	32.00	
263E	WES	49.00	38.00	
263F	WES	58.00	44.00	
263H	WES	74.00	58.00	
263K	WES	91.00	67.00	
263M	WES	105.00	81.00	
263P	WES	131.00	102.00	
263S	WES	157.00	121.00	
263V	WES	188.00	145.00	
263Z	WES	222.00	172.00	
263ZB	WES	258.00	203.00	
263ZD	WES	291.00	237.00	
263ZF	WES	340.00	276.00	
263ZK	WES	440.00	356.00	

Type No.	Mfr.	1-24	25-99	100-Up
270B	WES	97.50	84.50	
270D	WES	108.00	93.50	
270F	WES	128.00	111.00	
270H	WES	168.00	146.00	
270K	WES	213.00	182.00	
270M	WES	262.00	224.00	
270P	WES	315.00	270.00	
270S	WES	366.00	315.00	
270V	WES	418.00	361.00	
270Z	WES	270.00	408.00	
270ZB	WES	530.00	455.00	
270ZD	WES	582.00	500.00	
270ZF	WES	630.00	560.00	
270ZH	WES	700.00	620.00	
270ZK	WES	775.00	690.00	

Type No.	Mfr.	1-99	100-999	1000-Up
280SM/1N113	SAR	7.35	5.87	
282B	WES	105.00	97.00	
282D	WES	140.00	118.00	
282F	WES	160.00	145.00	
282H	WES	200.00	180.00	
282K	WES	245.00	220.00	
282M	WES	305.00	270.00	
282P	WES	345.00	305.00	
282S	WES	390.00	350.00	
282V	WES	440.00	400.00	
282Z	WES	495.00	450.00	
282ZB	WES	555.00	510.00	
282ZD	WES	630.00	560.00	
282ZF	WES	700.00	620.00	
282ZH	WES	775.00	690.00	
282ZK	WES	860.00	765.00	

Type No.	Mfr.	1-9	10-99	100-Up
300	SAR	1.80	1.09	

Type No.	Mfr.	1-9	10-29	30-99
300-500	SAR	2.20	.70	.61

Type No.	Mfr.	1-99	100-999	1000-Up
320-H/1N1222	WES	.75	.50	
366F	WES	1.08	.70	
368A	WES	.79	1.42	
368B	WES	.83	.71	
368C	WES	.93	.72	
368D	WES	1.10	.77	
368DR	WES	1.10	.77	
368F	WES	1.31	.88	
368FR	WES	1.31	.88	
368H	WES	1.52	.99	
368HR	WES	1.52	.99	
368K	WES	1.79	1.16	
368KR	WES	1.79	1.16	
368M	WES	2.05	1.42	
368MR	WES	2.05	1.42	
376A	WES	6.30	5.40	
376B	WES	7.50	6.40	
376C	WES	8.95	7.60	
376D	WES	10.70	9.50	
376F	WES	13.60	11.50	
376H	WES	15.50	13.10	
376M	WES	21.30	18.00	
377A	WES	7.95	6.25	
377B	WES	9.45	7.50	
377C	WES	11.40	8.90	
377D	WES	15.45	11.00	
377E	WES	16.50	12.30	
377H	WES	20.20	16.00	
377K	WES	25.30	22.10	
377M	WES	31.00	26.10	
384C	WES	.31	.26	
384P	WES	.74	.62	
387C	WES	8.35	5.55	
388A	WES	1.10	.75	
388B	WES	1.40	.90	
388C	WES	1.50	1.05	
388D	WES	1.65	1.10	
388F	WES	2.16	1.51	
388H	WES	2.34	1.64	
388K	WES	2.70	1.89	
388M	WES	3.40	2.50	
398C	WES	.45	.35	
398P	WES	1.05	.87	

Type No.	Mfr.	1-9	10-99	100-Up
400	SAR	2.20	1.10	

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Type No.	Mfr.	1-99	100-999	1000-Up
407A	WES	.64	.43	.....
407AR	WES	.64	.43	.....
407B	WES	.67	.45	.....
407BR	WES	.67	.45	.....
407C	WES	.74	.50	.....
407CR	WES	.74	.50	.....
407D	WES	.85	.57	.....
407DR	WES	.85	.57	.....
407F	WES	1.06	.71	.....
407FR	WES	1.06	.71	.....
407H	WES	1.15	.77	.....
407HR	WES	1.15	.77	.....
407K	WES	1.38	.93	.....
407KR	WES	1.38	.93	.....
407M	WES	1.71	1.15	.....
407Z	WES	2.86	1.92	.....
407ZR	WES	2.86	1.92	.....
408A	WES	.67	.45	.....
408AR	WES	.67	.45	.....
408B	WES	.70	.47	.....
408BR	WES	.70	.47	.....
408C	WES	.78	.52	.....
408CR	WES	.78	.52	.....
408D	WES	.90	.60	.....
408DR	WES	.90	.60	.....
408F	WES	1.11	.75	.....
408FR	WES	1.11	.75	.....
408H	WES	1.22	.82	.....
408HR	WES	1.22	.82	.....
408K	WES	1.45	.97	.....
408KR	WES	1.45	.97	.....
408M	WES	1.80	1.23	.....
408P	WES	2.26	1.52	.....
408PR	WES	2.26	1.52	.....
408S	WES	2.53	1.70	.....
408SR	WES	2.53	1.70	.....
408V	WES	2.83	1.90	.....
408VR	WES	2.83	1.90	.....
408Z	WES	3.16	2.12	.....
408ZR	WES	3.16	2.12	.....
409A	WES	.71	.47	.....
409AR	WES	.71	.47	.....
409BR	WES	.74	.50	.....
409C	WES	.82	.55	.....
409CR	WES	.82	.55	.....
409D	WES	.95	.64	.....
409DR	WES	.95	.64	.....
409F	WES	1.17	.78	.....
409FR	WES	1.17	.78	.....
409H	WES	1.28	.86	.....
409HR	WES	1.28	.86	.....
409K	WES	1.53	1.03	.....
409KR	WES	1.53	1.03	.....
409M	WES	1.90	1.27	.....
409MR	WES	1.90	1.27	.....
410A	WES	6.30	5.35	.....
410B	WES	7.05	6.00	.....
410C	WES	9.20	7.95	.....
410D	WES	11.40	9.15	.....
410F	WES	12.90	10.60	.....
410H	WES	14.00	11.60	.....
410K	WES	15.55	12.90	.....
410M	WES	18.25	15.15	.....
410P	WES	20.85	17.00	.....
410S	WES	23.00	18.85	.....
410V	WES	25.20	20.70	.....

Type No.	Mfr.	1-99	100-999	1000-Up
410Z	WES	27.35	22.55	.....
411H	WES	14.80	12.25	.....
411K	WES	16.40	13.60	.....
411M	WES	19.25	16.00	.....
411P	WES	21.75	17.95	.....
411S	WES	24.30	19.95	.....
411V	WES	26.55	21.85	.....
411Z	WES	28.85	23.80	.....
411ZD	WES	39.50	28.85	.....
411ZH	WES	55.00	39.50	.....
416A	WES	2.85	2.21	.....
416B	WES	3.95	2.74	.....
461C	WES	4.65	3.35	.....
416F	WES	6.55	4.57	.....
416K	WES	8.55	5.74	.....
416P	WES	11.00	9.65	.....
416S	WES	12.55	10.37	.....
416V	WES	13.80	10.90	.....
416Z	WES	15.05	11.45	.....
417A	WES	1.20	.80	.....
417AR	WES	1.20	.80	.....
417B	WES	1.56	1.05	.....
417BR	WES	1.56	1.05	.....
417C	WES	1.89	1.26	.....
417CR	WES	1.89	1.26	.....
417D	WES	2.12	1.42	.....
417DR	WES	2.12	1.42	.....
417F	WES	3.31	2.22	.....
417FR	WES	3.31	2.22	.....
417H	WES	3.86	2.59	.....
417HR	WES	3.86	2.59	.....
417K	WES	4.60	3.08	.....
417KR	WES	4.60	3.08	.....
417M	WES	5.52	3.70	.....
417MR	WES	5.52	3.70	.....
418A	WES	1.46	.98	.....
418AR	WES	1.46	.98	.....
418B	WES	1.67	1.13	.....
418BR	WES	1.67	1.13	.....
418C	WES	1.94	1.31	.....
418CR	WES	1.94	1.31	.....
418D	WES	2.16	1.45	.....
418DR	WES	2.16	1.45	.....
418F	WES	3.69	2.48	.....
418FR	WES	3.69	2.48	.....
418H	WES	4.37	2.93	.....
418HR	WES	4.37	2.93	.....
418K	WES	5.09	3.41	.....
418KR	WES	5.09	3.41	.....
418M	WES	5.85	3.92	.....
418MR	WES	5.85	3.92	.....
419A	WES	1.53	1.04	.....
419AR	WES	1.53	1.04	.....
419B	WES	1.77	1.19	.....
419BR	WES	1.77	1.19	.....
419C	WES	2.05	1.37	.....
419CR	WES	2.05	1.37	.....
419D	WES	2.73	1.83	.....
419DR	WES	2.73	1.83	.....
419F	WES	4.28	2.87	.....
419FR	WES	4.28	2.87	.....
419H	WES	5.00	3.36	.....
419HR	WES	5.00	3.96	.....
419K	WES	5.73	3.84	.....
419KR	WES	5.73	4.83	.....
419M	WES	6.14	4.11	.....
419MR	WES	6.14	4.11	.....

Type No.	Mfr.	1-24	25-99	100-Up
439A/1N3161	WES	19.25	16.20	.....
439B/1N3162	WES	22.95	19.35	.....
439C/1N3163	WES	26.95	23.05	.....
439D/1N3164	WES	31.80	26.85	.....
439F/1N3165	WES	36.15	30.50	.....
439G/1N3167	WES	52.55	44.30	.....
439H/1N3168	WES	62.00	50.65	.....
439K/1N3169	WES	72.70	61.20	.....
439M/1N3170	WES	89.05	74.70	.....

Type No.	Mfr.	1-99	100-999	1000-Up
478C	WES	5.63	3.75	.....
479C	WES	6.60	4.40	.....

Type No.	Mfr.	1-9	10-99	100-Up
500	SAR	2.30	1.30	.....

Type No.	Mfr.	1-24	25-99	100-Up
509C/916H14	WES	3.52	2.80	.....
509C/916H16	WES	3.80	2.88	.....
509C/916H18	WES	5.00	2.80	.....
509C/916H22	WES	8.00	7.00	.....
509C/916H74	WES	4.25	3.60	.....
509C/916H76	WES	5.80	4.90	.....
509C/916H78	WES	8.05	7.20	.....

Type No.	Mfr.	1-99	100-999	1000-Up
600	TI	1.94	1.58	.....
622	TI	3.70	3.03	.....
624	TI	3.75	3.07	.....
650	TI	4.35	3.65	.....
650C0	TI	4.85	4.15	.....
650C3	TI	4.85	4.15	.....
651C5	TI	4.85	4.15	.....
652	TI	4.35	3.65	3.35
652C	TI	4.35	3.65	.....
652C0	TI	4.85	3.15	.....
652C5	TI	4.85	4.15	.....
653C	TI	4.35	3.65	.....
653C4	TI	4.85	4.15	.....
653C9	TI	4.85	4.15	.....
703A	WES	.43	.37	.....
703AR	WES	.43	.37	.....
703B	WES	.49	.41	.....
703BR	WES	.49	.41	.....
703D	WES	.71	.59	.....
703DR	WES	.71	.59	.....
703F	WES	.81	.68	.....
703FR	WES	.81	.68	.....
710A/AR	WES	13.50	11.75	.....
710B/BR	WES	20.50	16.25	.....
710C/CR	WES	23.75	19.00	.....
710D/DR	WES	28.50	21.90	.....
710E/ER	WES	30.50	23.50	.....
710F/FR	WES	32.75	25.25	.....
710H/HR	WES	36.00	27.50	.....
710K/KR	WES	44.50	34.50	.....

Type No.	Mfr.	1-24	25-99	100-Up
710M/MR	WES	52.75	40.75	.....
710P/PR	WES	59.00	45.50	.....
710S/SR	WES	67.50	52.75	.....
710V/VR	WES	72.50	58.00	.....
710Z	WES	80.00	63.50	.....
710ZB/ZBR	WES	85.50	72.50	.....
710ZD/ZDR	WES	96.50	81.50	.....
760ZH	WES	109.50	104.50	.....
760ZHR	WES	109.50	104.50	.....
760ZM	WES	125.50	120.50	.....
760ZMR	WES	125.50	120.50	.....
770ZD	WES	96.50	81.50	.....
770ZDR	WES	96.50	81.50	.....
783M	WES	60.50	46.75	.....
783P	WES	67.85	52.40	.....
783S	WES	77.50	60.50	.....
783Z	WES	92.00	73.00	.....
783ZB	WES	98.40	83.40	.....
783ZD	WES	111.00	93.75	.....
783ZF	WES	128.80	100.00	.....
783ZH	WES	141.50	112.70	.....
783ZK	WES	155.25	124.25	.....
783ZM	WES	176.00	139.00	.....
783ZP	WES	186.25	149.50	.....
783ZS	WES	216.20	171.30	.....
783ZV	WES	241.50	187.50	.....
783ZZ	WES	264.50	201.25	.....
784A	WES	18.50	16.70	.....
784B	WES	19.80	17.90	.....
784C	WES	22.85	20.65	.....
784D	WES	22.85	20.65	.....
784E	WES	25.40	22.80	.....
784F	WES	27.95	25.20	.....
784H	WES	31.40	28.30	.....
784K	WES	45.20	40.80	.....
784M	WES	66.50	60.00	.....
784S	WES	84.50	74.50	.....
784Z	WES	100.00	89.50	.....
809P	WES	120.00	94.00	.....
809V	WES	172.00	133.00	.....
809ZB	WES	248.00	190.00	.....
809ZD	WES	286.00	215.00	.....
803/2N1149	TI	8.65	5.75	.....

Type No.	Mfr.	1-99	100-999	1000-Up
904A/2N1151	TI	8.65	5.75	.....
953/2N1155	TI	10.52	7.92	.....
953/2N1156	TI	14.12	10.58	.....
1401-0415	WES	215.00	150.00	.....
1401-0420	WES	265.00	180.00	.....
1401-0425	WES	315.00	215.00	.....
1401-0615	WES	240.00	165.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
1401-0620	WES	290.00	200.00	.....
1401-0625	WES	340.00	235.00	.....
1401-815	WES	265.00	180.00	.....
1401-820	WES	315.00	215.00	.....
1401-825	WES	380.00	260.00	.....
1401-1015	WES	305.00	210.00	.....
1401-1020	WES	370.00	255.00	.....
1401-1025	WES	445.00	310.00	.....
1401-1215	WES	365.00	250.00	.....
1441-0405	WES	120.00	83.00	.....
1441-0407	WES	145.00	100.00	.....
1441-0410	WES	175.00	120.00	.....
1441-0605	WES	130.00	91.00	.....
1441-0607	WES	160.00	110.00	.....
1441-610	WES	190.00	130.00	.....
1441-0805	WES	155.00	107.00	.....
1441-0807	WES	180.00	125.00	.....
1441-0810	WES	225.00	155.00	.....
1441-1005	WES	175.00	120.00	.....
1441-1007	WES	205.00	145.00	.....
1441-1010	WES	250.00	170.00	.....
1441-1205	WES	200.00	140.00	.....
1441-1207	WES	240.00	165.00	.....
1441-1210	WES	290.00	200.00	.....
1711-0402	WES	22.20	14.80	.....
1711-0405	WES	27.00	18.00	.....
1711-0602	WES	24.00	15.95	.....
1711-0605	WES	30.00	20.00	.....
1711-802	WES	28.50	19.00	.....
1711-0805	WES	33.50	23.00	.....
1711-1002	WES	32.00	22.00	.....
1711-1005	WES	37.00	26.50	.....
1711-1202	WES	35.50	25.00	.....
1711-1205	WES	41.00	36.00	.....
1714-0402	WES	3.25	2.50	.....
1714-0405	WES	5.00	3.50	.....
1714-0602	WES	5.00	3.75	.....
1714-0605	WES	6.50	4.50	.....
1714-0802	WES	6.00	4.75	.....
1714-0805	WES	8.00	5.75	.....
1714-1002	WES	8.00	6.00	.....
1714-1005	WES	9.50	7.25	.....
1714-1202	WES	10.00	8.00	.....
1714-1205	WES	11.50	9.00	.....
1714-1402	WES	10.00	7.60	.....
1714-1405	WES	11.30	8.60	.....
1714-1602	WES	11.40	8.60	.....
1714-1605	WES	12.60	9.50	.....
1714-1802	WES	12.40	9.40	.....
1716-0802	WES	34.60	24.00	.....
1716-0805	WES	39.60	27.40	.....
1716-1005	WES	46.20	32.00	.....
1716-1205	WES	52.00	36.00	.....
1716-1405	WES	59.50	41.00	.....
1716-1605	WES	67.00	46.00	.....
1717-0402	WES	23.50	15.50	.....
1717-0405	WES	30.00	20.00	.....
1717-0602	WES	28.00	19.00	.....
1717-0605	WES	34.00	22.50	.....
1717-0802	WES	34.00	22.50	.....
1717-0805	WES	37.50	25.00	.....
1717-1002	WES	37.50	25.00	.....
1717-1005	WES	41.50	27.50	.....
1717-1202	WES	41.50	27.50	.....
1717-1205	WES	45.00	31.00	.....
1718-0602	WES	24.60	17.00	.....
1718-0605	WES	30.40	21.00	.....
1718-0802	WES	28.90	20.00	.....
1718-0805	WES	34.70	24.00	.....
1718-1002	WES	33.30	23.00	.....
1718-1005	WES	39.10	27.00	.....
1718-1202	WES	38.30	26.50	.....
1718-1205	WES	44.20	30.50	.....
1718-1402	WES	43.40	30.00	.....
1718-1405	WES	50.00	34.50	.....
1718-1602	WES	50.70	35.00	.....
1718-1605	WES	57.10	39.50	.....
1718-1802	WES	57.90	40.00	.....
1723-0405	WES	8.50	7.50	.....
1723-0410	WES	9.00	8.00	.....
1723-1605	WES	9.50	8.50	.....
1723-6010	WES	10.00	9.00	.....
1723-0805	WES	11.00	9.50	.....
1723-0810	WES	12.00	10.00	.....
1723-1005	WES	12.00	10.50	.....
1723-1010	WES	12.50	11.00	.....
1723-1210	WES	18.30	13.90	.....
1723-1405	WES	18.80	14.30	.....
1723-1410	WES	20.60	15.60	.....
1723-1605	WES	21.00	15.90	.....
1723-1610	WES	23.10	17.50	.....
1723-1805	WES	23.10	17.50	.....
1723-1810	WES	25.40	19.30	.....
1723-2005	WES	26.40	20.00	.....

Type No.	Mfr.	1-24	25-99	100-Up
1726-0405	WES	33.00	22.80	.....
1726-0410	WES	39.50	27.50	.....
1726-0605	WES	39.50	27.50	.....
1726-0610	WES	46.00	32.00	.....
1726-0805	WES	46.00	32.00	.....
1726-0810	WES	53.00	36.50	.....
1726-1005	WES	53.00	36.50	.....
1726-1010	WES	61.00	42.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
1763-0415	WES	13.50	10.00	.....
1763-0420	WES	16.00	12.00	.....
1763-0425	WES	19.50	14.50	.....
1763-0615	WES	15.00	11.00	.....
1763-0610	WES	15.00	11.40	.....
1763-0615	WES	15.00	11.00	.....
1763-0620	WES	17.50	13.00	.....
1763-0625	WES	22.00	16.00	.....
1763-0630	WES	23.60	17.90	.....
1763-0810	WES	18.00	13.60	.....
1763-0815	WES	17.50	12.80	.....
1763-0820	WES	20.00	15.50	.....
1763-0825	WES	25.00	19.00	.....
1763-830	WES	28.00	21.20	.....
1763-1010	WES	20.80	15.70	.....
1763-1020	WES	23.00	18.00	.....
1763-1025	WES	28.00	21.50	.....
1763-1030	WES	32.50	24.70	.....
1763-1210	WES	23.80	18.00	.....
1763-1220	WES	30.00	22.50	.....
1763-1230	WES	37.00	28.00	.....
1763-1410	WES	26.50	20.10	.....
1763-1420	WES	33.50	25.00	.....
1763-1430	WES	41.50	31.50	.....
1763-1610	WES	33.00	25.00	.....
1763-1620	WES	41.50	31.00	.....
1763-1810	WES	39.50	30.00	.....

Type No.	Mfr.	1-24	25-99	100-Up
1768-0415	WES	67.00	46.00	.....
1768-1420	WES	78.00	54.00	.....
1768-0425	WES	90.00	62.00	.....
1768-0610	WES	59.00	41.00	.....
1768-0615	WES	74.00	51.00	.....
1768-0620	WES	86.00	59.00	.....
1768-0625	WES	99.00	68.00	.....
1768-0630	WES	79.00	54.50	.....
1768-0810	WES	65.50	45.00	.....
1768-0815	WES	82.00	56.00	.....
1768-0820	WES	95.00	66.00	.....
1768-0825	WES	109.00	75.00	.....
1768-0830	WES	87.00	60.00	.....
1768-1010	WES	72.00	49.50	.....
1768-1015	WES	90.00	62.00	.....
1768-1020	WES	105.00	73.00	.....
1768-1025	WES	120.00	83.00	.....
1768-1030	WES	96.00	66.50	.....
1768-1210	WES	79.00	54.50	.....
1768-1220	WES	92.00	64.00	.....
1768-1230	WES	105.00	73.00	.....
1768-1410	WES	89.00	60.00	.....
1768-1420	WES	101.00	70.50	.....
1768-1430	WES	115.00	80.00	.....
1768-1610	WES	96.00	66.50	.....
1771-0440	WES	150.00	103.00	.....
1771-1450	WES	165.00	114.00	.....
1771-0460	WES	175.00	122.00	.....
1771-0640	WES	165.00	113.00	.....
1771-0650	WES	180.00	125.00	.....
1771-0660	WES	195.00	135.00	.....
1771-1840	WES	180.00	124.00	.....
1771-0850	WES	200.00	140.00	.....
1771-0860	WES	215.00	150.00	.....
1771-1040	WES	200.00	135.00	.....
1771-1050	WES	220.00	150.00	.....
1771-1060	WES	230.00	160.00	.....
1776-0440	WES	108.00	75.00	.....
1776-1450	WES	119.00	82.00	.....
1776-0460	WES	130.00	90.00	.....
1776-0640	WES	119.00	82.00	.....
1776-0650	WES	130.00	90.00	.....
1776-0660	WES	144.00	99.00	.....
1776-0840	WES	130.00	90.00	.....
1776-0850	WES	144.00	99.00	.....
1776-0860	WES	157.00	108.00	.....
1776-1040	WES	144.00	99.00	.....

Type No.	Mfr.	1-24	25-99	100-Up
1776-1050	WES	157.00	108.00	.....
1776-1060	WES	175.00	120.00	.....
1776-1240	WES	157.00	119.00	.....
1776-1260	WES	190.00	144.00	.....
1776-1440	WES	173.00	131.00	.....
1776-1460	WES	206.00	156.00	.....
1776-1640	WES	190.00	144.00	.....
2191A	WES	23.50	18.50	.....
2191B	WES	27.00	21.50	.....
2191D	WES	36.00	28.00	.....
2191F	WES	48.00	38.00	.....
2191H	WES	63.00	49.00	.....
2191K	WES	76.00	59.50	.....
2191M	WES	92.00	72.00	.....
2191P	WES	113.00	89.00	.....
2191S	WES	136.00	107.00	.....
2191V	WES	158.50	125.50	.....
2191Z	WES	187.00	148.00	.....
2241A	WES	102.00	86.50	.....
2241B	WES	117.00	101.50	.....
2241D	WES	130.00	112.00	.....
2241F	WES	153.50	133.00	.....
2241H	WES	201.00	175.00	.....
2241K	WES	255.50	218.50	.....
2241M	WES	314.50	269.00	.....
2241P	WES	378.00	324.00	.....
2241S	WES	439.00	378.00	.....
2241V	WES	501.50	433.00	.....
2241Z	WES	564.00	489.50	.....
2241ZB	WES	636.00	546.00	.....
2241ZD	WES	698.50	600.00	.....
2248A	WES	110.00	93.00	.....
2248B	WES	117.50	104.50	.....
2248D	WES	128.00	113.50	.....
2248F	WES	148.00	131.00	.....
2248H	WES	188.00	166.00	.....
2248K	WES	233.00	212.00	.....
2248M	WES	282.00	240.00	.....
2248P	WES	335.00	290.00	.....
2248S	WES	386.00	335.00	.....
2248V	WES	438.00	381.00	.....
2248Z	WES	490.00	428.00	.....
2248ZB	WES	550.00	475.00	.....
2248ZD	WES	602.00	520.00	.....
2248ZF	WES	648.00	548.00	.....
2248ZH	WES	763.00	613.00	.....
2248ZK	WES	833.00	670.00	.....
2541A	WES	47.50	36.00	.....
2541B	WES	52.00	40.00	.....
2541D	WES	66.00	52.00	.....
2541F	WES	86.00	68.00	.....
2541H	WES	117.00	88.00	.....
2541K	WES	136.50	106.50	.....
2541M	WES	164.00	127.50	.....
2541P	WES	297.00	196.00	.....
2541S	WES.	362.50	209.50	.....

Type No.	Mfr.	1-99	100-999	1000-Up
4403	RCA	1.21	.88	.73
4404	RCA	1.32	.96	.80
4448	RCA	1.32	.96	.80
4453	RCA	1.28	.93	.77
7163	RCA	1.21	.88	.73
40005	RCA	1.82	1.32	1.10
40006	RCA	3.30	2.40	2.00
40022	RCA	.75	.55	.45
40050	RCA	.99	.72	.60
40051	RCA	1.21	.88	.73
40053/2N3053	RCA	.75	.54	.45
40080	RCA	1.08	.78	.65
40081	RCA	1.41	1.02	.85
40082	RCA	4.04	2.94	2.45
40084	RCA	.99	.72	.60
40108	RCA	.99	.72	.60
40109	RCA	1.16	.84	.70
40110	RCA	1.57	1.14	.95
40112	RCA	2.48	1.80	1.50
40113	RCA	3.14	2.28	1.90
40114	RCA	3.71	2.70	2.25
40209R	RCA	1.32	.96	.80
40213	RCA	3.63	2.64	2.20
40214	RCA	4.21	3.06	2.55
40231	RCA	.51	.37	.31
40232	RCA	.58	.42	.35
40233	RCA	.64	.47	.39
40234	RCA	.45	.32	.27
40235	RCA	.61	.44	.37
40236	RCA	.51	.37	.31
40237	RCA	.41	.30	.25

Semiconductor Directory

SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-99	100-999	1000-Up
40238	RCA	.46	.34	.28
40239	RCA	.43	.31	.26
30240	RCA	.41	.30	.25
40242	RCA	.61	.44	.37
40243	RCA	.50	.36	.30
40244	RCA	.41	.30	.25
40245	RCA	.43	.31	.26
40246	RCA	.41	.30	.25
40250	RCA	1.16	.84	.70
40250V1	RCA	1.24	.90	.75
40251	RCA	1.90	1.38	1.15
30254	RCA	.75	.55	.45
40255/2N4063	RCA	3.80	2.76	2.30
40256/2N4064	RCA	1.90	1.38	1.15
40261	RCA	.50	.36	.30
40262	RCA	.56	.41	.34
40265	RCA	.35	.25	.21
40266	RCA	.29	.21	.17
40267	RCA	.33	.24	.20
40280	RCA	4.62	3.36	2.80
40282	RCA	11.90	9.85	8.20
40285	RCA	37.70	31.20	26.00
40287	RCA	21.75	18.00	15.00
40292	RCA	11.30	9.35	7.80
40310	RCA	.99	.72	.60
40311	RCA	.73	.53	.44
40313	RCA	2.23	1.62	1.35
40314	RCA	.78	.57	.47
40315	RCA	.75	.54	.45
40316	RCA	.99	.72	.60
40317	RCA	.78	.57	.47
40318	RCA	2.10	1.52	1.27
40319	RCA	1.16	.84	.70
40320	RCA	.78	.57	.47
40321	RCA	1.24	.90	.75
40322	RCA	2.15	1.56	1.30
40323	RCA	.70	.51	.42
40324	RCA	.99	.72	.60
40325	RCA	1.90	1.38	1.15
40326	RCA	.78	.57	.47
40327	RCA	1.24	.90	.75
40328	RCA	2.19	1.60	1.33
40329	RCA	.50	.37	.30
40340	RCA	29.00	24.00	20.00
40346	RCA	1.14	.83	.69
40346V1	RCA	1.23	.89	.74
40347	RCA	.75	.54	.45
40347V1	RCA	.91	.66	.55
40348	RCA	1.06	.77	.64
40348V1	RCA	1.14	.83	.60
40349	RCA	1.56	1.13	.94
40349V1	RCA	1.64	1.19	.99
40349V2	RCA	1.64	1.19	.99
40354	RCA	1.18	.86	.71
40360	RCA	.91	.66	.55
40361	RCA	.99	.72	.60
40362	RCA	1.24	.90	.75
40363	RCA	1.82	1.32	1.10
40364	RCA	4.79	3.48	2.90
40372	RCA	1.24	.90	.75
40373	RCA	2.56	1.86	1.55
40374	RCA	2.56	1.86	1.55
40378	RCA	1.47	1.07	.89
40379	RCA	1.85	1.34	1.12
40389	RCA	.91	.66	.55
40390	RCA	2.15	1.56	1.30
40391	RCA	1.24	.90	.75
40392	RCA	.91	.66	.55
40394	RCA	1.24	.90	.75
40395	RCA	.46	.34	.28
40396	RCA	.91	.66	.55
40397	RCA	.71	.52	.43
40398	RCA	.64	.47	.39
40399	RCA	.59	.43	.36
40400	RCA	.54	.40	.33
40405	RCA	1.82	1.32	1.10
40406	RCA	1.19	.87	.72
40407	RCA	.81	.59	.49
40408	RCA	1.08	.78	.65
40409	RCA	1.14	.83	.69
40410	RCA	1.32	.96	.80
40411	RCA	4.29	3.12	2.60
40412	RCA	1.06	.77	.64
40412V1	RCA	1.14	.83	.69
40412V2	RCA	1.14	.83	.69
40429	RCA	2.06	1.50	1.25
40430	RCA	2.30	1.74	1.45
40431	RCA	2.56	1.86	1.55
40439	RCA	1.98	1.44	1.20
40440	RCA	1.32	.96	.80
40446	RCA	4.29	3.12	2.60
40451	RCA	.90	.65	.54
40452	RCA	.80	.58	.48
40458	RCA	.78	.57	.47
40467A	RCA	1.24	.90	.75
40468A	RCA	.75	.54	.45
40472	RCA	.66	.48	.40
40473	RCA	.60	.44	.36
40485	RCA	1.57	1.14	.95
40486	RCA	2.06	1.50	1.25
40491	RCA	.84	.62	.51
40502	RCA	2.23	1.62	1.35
40503	RCA	2.56	1.86	1.55
40504	RCA	1.78	1.30	1.08
40506	RCA	3.22	2.34	1.95
40507	RCA	1.63	1.19	.99
40509	RCA	2.23	1.62	1.35
40510	RCA	2.56	1.86	1.55
40511	RCA	2.72	1.98	1.65
40512	RCA	3.14	2.28	1.90
40513	RCA	1.24	.90	.75
40514	RCA	1.26	.92	.76
40519	RCA	1.52	1.10	.92
40525	RCA	1.57	1.14	.95
40526	RCA	1.78	1.30	1.08
40527	RCA	2.48	1.80	1.50
40528	RCA	1.57	1.14	.95
40529	RCA	1.62	1.18	.98
40530	RCA	2.31	1.68	1.40
40531	RCA	1.73	1.26	1.05
40532	RCA	1.94	1.41	1.18
40534	RCA	1.73	1.26	1.05
40535	RCA	1.78	1.30	1.08
40539	RCA	.66	.48	.40
40542	RCA	1.31	.95	.79
40543	RCA	1.37	1.00	.83
40544	RCA	.75	.54	.45
40555	RCA	9.85	7.20	5.98
40559A	RCA	.70	.51	.42
40561	RCA	4.54	3.30	2.75
40562	RCA	4.54	3.30	2.75
40565	RCA	4.54	3.30	2.75
40567	RCA	6.52	4.74	3.95
40568	RCA	7.01	5.10	4.25
40572	RCA	7.01	5.10	4.25
40575	RCA	2.48	1.80	1.50
40576	RCA	3.29	2.38	1.08
40581	RCA	4.87	3.54	2.95
40582	RCA	4.12	3.72	2.10
40582/1N5411	RCA	.61	.44	.37
40595	RCA	2.23	1.62	1.35
40601	RCA	1.16	.84	.70
40602	RCA	.83	.60	.50
40603	RCA	1.04	.76	.63
40604	RCA	.98	.71	.59
40605	RCA	45.00	37.25	31.05
40608/TA4761	RCA	2.48	1.80	1.50
40611	RCA	.71	.52	.43
40612	RCA	.67	.49	.40
40613	RCA	.73	.53	.44
40616	RCA	.73	.53	.44
40618	RCA	.74	.54	.45
40621	RCA	.86	.62	.52
40622	RCA	.88	.64	.53
40625	RCA	.89	.65	.54
40626	RCA	.89	.65	.54
40627	RCA	1.20	.83	.73
40632	RCA	1.24	.90	.75
40633	RCA	1.27	.92	.77
40634	RCA	1.29	.94	.78
40635	RCA	.74	.54	.45
40636	RCA	2.31	1.68	1.40
40637	RCA	.91	.66	.55
40638	RCA	2.15	1.56	1.30
40640	RCA	2.72	1.98	1.65
40641	RCA	2.85	2.08	1.73
40642	RCA	.99	.72	.60
40654	RCA	1.62	1.18	.98
40655	RCA	1.70	1.24	1.03
40657	RCA	2.03	1.48	1.23
40658	RCA	2.11	1.54	1.28
40660	RCA	5.78	4.20	3.50
40661	RCA	8.22	5.98	4.98
40662	RCA	7.27	4.66	3.80
40663	RCA	8.71	6.34	5.28
40664	RCA	2.22	1.61	1.34
40665	RCA	14.00	11.65	9.70
40667	RCA	2.05	1.49	1.24
40668	RCA	1.62	1.18	.98
40669	RCA	2.18	1.58	1.32
40671	RCA	11.14	8.10	6.75
40673	RCA	1.63	1.19	.99
40736R	RCA	4.95	3.60	3.00
406735	RCA	132.00	110.00	91.00
70318-1	TI	.15	.05	.....
354001-99	TI	.15	.05	.....
354001-100	TI	.15	.05	.....
40605	RCA	45.00	37.25	31.05
40673	RCA	1.63	1.19	.99
40675	RCA	132.00	110.00	91.00
40684	RCA	1.57	1.14	.95
40685	RCA	1.63	1.19	.99
40686	RCA	2.01	1.46	1.22
40687	RCA	2.64	1.92	1.60
40691	RCA	1.70	1.24	1.03
40692	RCA	2.40	1.74	1.45
40693	RCA	1.57	1.14	.95
40694	RCA	1.64	1.19	.99
40695	RCA	2.01	1.40	1.22
40696	RCA	1.41	1.02	.85
40697	RCA	1.47	1.07	.89
40698	RCA	1.85	1.34	1.12
40699	RCA	8.17	5.94	4.95
40700	RCA	11.77	8.34	6.95
40701	RCA	13.63	11.28	9.40
40702	RCA	8.66	6.30	5.25
40703	RCA	10.51	8.70	8.25
40704	RCA	14.21	11.76	9.80
40705	RCA	5.78	4.20	3.50
40706	RCA	8.22	5.98	4.98
40707	RCA	6.27	4.56	3.80
40708	RCA	8.71	6.34	5.28
40709	RCA	11.14	8.10	6.75
40710	RCA	10.37	8.58	7.15
40711	RCA	3.47	2.52	2 10
40712	RCA	4.65	3.38	2.82
40713	RCA	3.96	2.88	2.40
40714	RCA	5.15	3.74	3.12
40715	RCA	2.40	1.80	1.50
40716	RCA	3.27	2.38	1.98
40717	RCA	3.38	2.46	2.05
40718	RCA	4.41	3.20	2.07
40719	RCA	3.80	2.82	2.35
40720	RCA	4.90	3.56	2.97
40721	RCA	1.62	1.18	.98
40722	RCA	2.18	1.58	1.32
40723	RCA	1.95	1.42	1.18
40724	RCA	2.05	1.49	1.24
40725	RCA	1.57	1.14	.95
40726	RCA	2.06	1.50	1.25
40727	RCA	2.06	1.50	1.25
40728	RCA	2.39	1.74	1.45
40729	RCA	2.23	1.62	1.35
40730	RCA	2.56	1.86	1.55
40731	RCA	1.73	1.26	1.05
40732	RCA	2.23	1.62	1.35
40733	RCA	1.65	1.20	1.00
40734	RCA	2.15	1.56	1.30
40735	RCA	31.40	26.00	21.65
40736A	RCA	7.45	5.40	4.50
40737	RCA	2.18	1.58	1.32
40738	RCA	2.56	1.86	1.55
40739	RCA	3.33	2.42	2.02
40740	RCA	4.50	3.28	2.73
40741	RCA	2.67	1.94	1.63
40742	RCA	3.05	2.22	1.85
40743	RCA	3.83	2.78	2.32
40744	RCA	5.00	3.64	3.03
40745	RCA	3.83	2.78	2.32
40746	RCA	4.21	3.06	2.55
40747	RCA	4.98	3.62	3.02
40748	RCA	6.15	4.48	3.73
40749	RCA	3.43	2.50	2.08
40750	RCA	4.04	2.94	2.45
40751	RCA	5.45	3.96	3.30
40752	RCA	7.39	5.38	4.40
40753	RCA	3.93	2.86	2.38
40754	RCA	4.54	3.30	2.75
40755	RCA	5.94	4.32	3.60
40756	RCA	7.89	5.73	4.78
40757	RCA	5.08	3.70	3.08

Type No.	Mfr.	1-99	100-999	1000-Up
40758	RCA	5.69	4.14	3.45
40759	RCA	7.10	5.16	4.30
40760	RCA	9.04	6.58	5.48
40761	RCA	1.86	1.36	1.13
40762	RCA	2.56	1.86	1.55
40766	RCA	1.57	1.14	.95
40767	RCA	1.73	1.26	1.05
40769	RCA	1.95	1.42	1.18
40770	RCA	2.77	2.02	1.68
40771	RCA	1.77	1.28	1.07
40772	RCA	2.21	1.61	1.34
40773	RCA	1.88	1.37	1.14
40775	RCA	2.48	1.80	1.50
40776	RCA	4.36	3.17	2.64
40777	RCA	3.55	2.58	2.15
40778	RCA	4.83	3.52	2.93
40779	RCA	4.74	3.44	2.87
40780	RCA	6.15	4.48	3.78
40781	RCA	5.95	3.95	3.29
40782	RCA	6.70	4.88	4.57
40783	RCA	5.20	3.78	3.15
40784	RCA	7.00	5.10	4.25
40785	RCA	5.95	7.32	3.60
40786	RCA	7.70	5.60	4.68
3N34	TI	5.00	4.15	3.55
3N35	TI	22.50	15.00	13.50
3N35/JAN	TI	24.38	16.25	14.50
3N74/TIX608	TI	15.00	10.00	.....
3N81	GE	3.40	2.25	2.00
3N82	GE	4.95	3.30	2.95
3N83	GE	1.98	1.32	.99
3N84	GE	1.98	1.32	.99
3N85	GE	3.30	2.20	1.98
3N86	GE	6.00	4.00	3.60
3N92	SPR	4.50	3.00	2.70
3N111	SPR	8.85	5.90	5.25
3N123	SPR	3.05	2.00	1.67
3N124/MM2090	MOT	3.00	2.00	1.70
3N125/MM2091	MOT	3.00	2.00	1.70
3N126/MM2092	MOT	3.00	2.00	1.70
3N128	RCA	1.29	.94	.78
3N138	RCA	2.89	2.10	1.75
3N139	RCA	2.48	1.80	1.50
3N140	RCA	1.62	1.18	.98
3N140	MOT	1.65	1.10	.99
3N141	RCA	1.45	1.06	.88
3N142	RCA	1.04	.76	.63
3N143	RCA	1.30	.95	.79
3N152	RCA	1.62	1.18	.98
3N153	RCA	1.42	1.03	.86
3N154	RCA	1.49	1.08	.90
3N155	MOT	3.30	2.20	1.98
3N155	RCA	7.50	5.00	.....
3N155A	MOT	6.30	4.20	3.75
3N155A	RCA	8.25	5.50	.....
3N156	MOT	3.30	2.20	1.98
3N156	RCA	7.50	5.00	.....
3N156A	MOT	6.30	4.20	3.75
3N156A	RCA	8.25	5.50	.....
3N157	MOT	3.30	2.20	1.98
3N157	RCA	7.50	5.00	.....
3N157A	MOT	6.30	4.20	3.75
3N157A	RCA	8.25	5.50	.....
3N158	MOT	3.30	2.20	1.98
3N158	RCA	7.50	5.00	.....
3N158A	MOT	6.30	4.20	3.75
3N158A	RCA	8.25	5.50	.....
3N159	RCA	2.06	1.50	1.25
3N169	MOT	6.40	4.25	3.80
3N170	MOT	5.50	3.65	3.30
3N171	MOT	4.20	2.80	2.50

Type No.	Mfr.	100-499	500-999	1000-Up
3N201	RCA	1.55	1.10	.....
3N202	RCA	1.45	1.05	.....
3N203	RCA	1.40	1.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
A1B	INT	1.22	.82	.....
A1H	INT	.43	.30	.....
A3T918	TI	2.60	1.75	.55
A3T929	TI	2.15	1.45	.51
A3T930	TI	2.30	1.55	.53
A3T2221	TI	2.00	1.35	.54
A3T2221A	TI	2.25	1.50	.57
A3T2222	TI	2.30	1.55	.55
A3T2222A	TI	2.50	1.55	.58
A3T2484	TI	2.50	1.70	.55
A3T2894	TI	1.80	1.15	.53
A3T2906	TI	2.30	1.55	.57
A3T2906A	TI	2.60	1.75	.58
A3T2907	TI	2.75	1.83	.57
A3T2907A	TI	2.90	1.95	.58
A3T3011	TI	1.55	1.05	.54

Type No.	Mfr.	1-9	10-99	100-999
A5M	INT	7.00	6.65	4.55

Type No.	Mfr.	1-99	100-999	1000-Up
A5T2222	TI	.48	.40	.31
A5T2907	TI	.50	.43	.34
A5T3644	TI	.43	.38	.30
A5T3645	TI	.45	.40	.32
A5T3903	TI	.75	.50	.....
A5T3904	TI	.82	.55	.41
A5T3905	TI	.75	.50	.37
A5T3906	TI	.82	.55	.41
A5T5058	TI	1.12	.98	.77
A5T5059	TI	1.05	.91	.71
A7G	GE	1.95	1.30	.....
A14A	GE	.34	.26	.19

Type No.	Mfr.	1-99	100-999	4999-5000
A14B	GE	.46	.31	.22

Type No.	Mfr.	1-99	100-999	1000-Up
A14B/1N5059	GE	.36	.26	.20
A14C	GE	.40	.31	.22
A14D/5060	GE	.43	.33	.22
A14E	GE	.52	.40	.28
A14F	GE	.30	.23	.16
A14M/1N5061	GE	.57	.45	.44
A14N/1N5062	GE	.95	.63	.44
A15A	GE	.62	.42	.32
A15B	GE	.75	.50	.38
A15D	GE	1.00	.67	.51
A15F	GE	.57	.39	.30
A15M	GE	1.50	.95	.73
A15M	GE	10.40	7.15	.....
A15N	GE	3.75	2.50	1.90
A38B/1N4525	GE	6.45	4.30	.....
A38D/1N4526	GE	8.78	5.85	.....
A38M/1N4527	GE	10.70	6.90	.....
A38P/1M4529	GE	13.50	9.00	.....
A38P/1N4530	GE	17.35	11.50	.....
A40A/4JA40A	GE	1.77	1.18	.....
A40B/4JA40B	GE	1.82	1.21	.....
A40C/4JA40C	GE	2.40	1.60	.....
A40D/4JA40D	GE	2.90	1.93	.....
A40D/4JA40E	GE	3.53	2.35	.....
A40D/4JA40G	GE	1.73	1.15	.....
A44B/4JA44B	GE	1.16	.77	.....
A44C/4JA44C	GE	1.28	.85	.....
A321	AME	.59	.39	.....
A322	AME	.65	.43	.....
A323	AME	1.20	.80	.....
A324	AME	1.62	1.08	.....
A415	AME	.63	.42	.....
A466	AME	1.32	.88	.....
A467	AME	.69	.46	.....
A473	AME	.75	.50	.....

Type No.	Mfr.	1-9	10-99	100-999
A-600	TI	180.00	139.00	112.00
A-601	TI	260.00	232.00	200.00
A-602	TI	320.00	262.00	200.00
A-610	TI	180.00	139.00	112.00
A-611	TI	260.00	232.00	200.00
A-612	TI	340.00	320.00	262.00
A706-3N	TI	170.00	136.00	125.00
A707-3M	TI	145.00	116.00	106.00
A708-3K	TI	33.00	26.40	24.00
A709-3J	TI	33.00	26.40	24.00
A710-3H	TI	19.00	15.20	14.00
A711-3F	TI	15.00	12.00	11.00
A712-3D	TI	15.00	12.00	11.00
A713-3D	TI	15.00	12.00	11.00

Type No.	Mfr.	1-99	100-999	1000-Up
AC172	AME	.60	.41	.....
AF239	MOT	2.17	1.45	.....
B1B	INT	1.28	.86	.....
B-2M	INT	1.50	1.35	.....
B-3M	INT	1.45	1.15	.....
B10M	INT	6.65	4.55	.....

Type No.	Mfr.	1-24	25-99	100-Up
B6F5	INT	7.97	7.15	.....
B6F10	INT	8.31	7.55	.....
B6F20	INT	12.15	10.60	.....
B6F30	INT	16.10	14.00	.....
B6F40	INT	17.35	14.45	.....
B6F60	INT	19.20	16.00	.....
B6F80	INT	21.45	17.90	.....
B6F100	INT	24.70	20.60	.....
B12F5	INT	8.31	7.55	.....
B12F10	INT	8.75	7.95	.....
B12F20	INT	13.11	11.40	.....
B12F30	INT	14.80	12.35	.....
B12F40	INT	18.65	15.55	.....
B12F50	INT	19.55	16.35	.....
B12F60	INT	20.70	17.20	.....
B12F70	INT	21.75	18.10	.....
B12F80	INT	23.00	19.25	.....
B12F90	INT	24.60	20.55	.....
B12F100	INT	26.60	22.20	.....

Type No.	Mfr.	1-9	10-99	100-Up
B70H5	INT	14.15	12.73	.....
B70H10	INT	16.95	15.25	.....
B70H20	INT	23.00	19.55	.....
B70H30	INT	29.70	25.25	.....
B70H40	INT	36.40	30.95	.....
B70H50	INT	43.00	36.60	.....

Type No.	Mfr.	1-24	25-99	100-Up
B70H60	INT	49.30	42.00	.....
B70H70	INT	55.70	47.40	.....
B70H80	INT	62.10	52.90	.....
B70H90	INT	66.00	56.00	.....
B70H100	INT	70.00	59.50	.....

Type No.	Mfr.	1-99	100-999	1000-4999
BD1	GE	5.00	3.30	.....
BD2	GE	5.00	3.30	.....
C-1B	INT	1.46	1.00	.....
C5A/2N2324	GE	4.05	2.70	.....
C5B/2N2326	GE	7.80	5.20	.....
C5C/2N2328	GE	12.00	8.00	.....
C5F/2N2323	GE	2.47	1.65	.....
C5G/2N2325	GE	5.92	3.95	.....
C5U/2N2322	GE	2.25	1.50	.....
C6A	GE	1.87	1.25	.....
C6B	GE	2.07	1.38	.....
C6F	GE	1.65	1.10	.....
C6G	GE	1.98	1.32	.....
C6U	GE	1.57	1.05	.....
C7A/2N2346	GE	13.35	8.90	.....
C7B/2N2348	GE	18.90	12.60	.....
C7F/2N2345	GE	9.15	6.10	.....
C10A/2N1772A	GE	9.00	6.00	.....
C10B/2N1774A	GE	13.50	9.00	.....
C10C/2N1776A	GE	18.40	12.25	.....
C10D/2N1777A	GE	23.65	15.75	.....
C11G/2N1773	GE	6.97	4.65	.....
C13F	GE	.88	.59	.49
C13Y	GE	.74	.50	.41
C15B	GE	3.75	2.50	.....
C15F	GE	1.87	1.25	.....
C15G	GE	2.17	1.45	.....
C20A	GE	1.92	1.28	.....
C20B	GE	1.98	1.32	.....
C20C	GE	2.64	1.76	.....
C20D	GE	3.00	2.00	.....
C20F	GE	1.77	1.18	.....
C22A	GE	1.62	1.08	.....
C22B	GE	1.68	1.12	.....
C22C	GE	2.34	1.56	.....
C22D	GE	2.70	1.80	.....
C30B	GE	5.49	3.66	.....
C30C	GE	6.39	4.26	.....
C30D	GE	7.20	4.80	.....
C30U	GE	5.99	3.99	.....
C31B	GE	6.98	4.65	.....
C31C	GE	7.86	5.24	.....
C31U	GE	4.23	2.82	.....
C32A	GE	4.95	3.30	.....
C32B	GE	5.85	3.90	.....
C32D	GE	6.66	4.44	.....
C32F	GE	3.75	2.50	.....
C33D	GE	7.33	4.88	.....
C35A	GE	4.72	3.15	.....
C35B	GE	5.92	3.95	.....
C35C	GE	6.75	4.50	.....
C35D	GE	8.25	5.50	.....
C35E	GE	11.17	7.45	.....
C35F	GE	3.60	2.40	.....
C35G	GE	5.48	3.65	.....
C35H	GE	6.30	4.20	.....
C35N	GE	30.60	20.40	.....

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Type No.	Mfr.	1-99	100-999	1000-4999
C35U	GE	3.00	2.00	.....
C36B/2N1846	GE	5.32	3.55	.....
C36H/2N1847	GE	9.75	6.50	.....
C37B	GE	5.32	3.55	.....
C37M	GE	10.65	7.10	.....
C37S	GE	13.42	8.95	.....
C38D	GE	13.50	9.00	.....
C40B	GE	17.40	11.60	.....

Type No.	Mfr.	1-99	100-999	1000-Up
C45B	GE	16.00	9.75	.....
C45U	GE	14.95	11.70	.....

Type No.	Mfr.	1-24	25-99	100-Up
C40B/2N1913	GE	24.00	14.50	.....
C50D/2N1916	GE	36.00	21.50	.....
C50U/2N1909	GE	17.00	10.25	.....
C103A	GE	.75	.50	.40
C103B	GE	.84	.56	.45
C103Y	GE	.69	.46	.37
C103YY	GE	.72	.48	.38
C106A1	GE	.81	.54	.43
C106B1	GE	1.34	.89	.75
C106F1	GE	.78	.52	.42
C106Y1	GE	.75	.50	.40

Type No.	Mfr.	1-99	100-999	1000-Up
C135D/2N3757	GE	15.00	10.00	.....
C135F/2N3753	GE	5.55	3.70	.....
C137M/2N5204	GE	17.85	11.90	.....
C137N/2N5205	GE	26.02	17.35	.....
C140F/2N3649	GE	9.82	6.55	.....
C140A/2N3655	GE	11.25	7.50	.....
C140B/2N3651	GE	16.05	10.70	.....
C140C/2N3652	GE	24.30	16.20	.....
C140D/2N3653	GE	29.47	19.65	.....
C141D/2N3658	GE	30.75	20.50	.....
C140F/2N3649	GE	10.32	6.88	.....
C180E	GE	95.00	57.00	.....
C611A	GE	2.40	1.60	.....
C611F	GE	2.20	1.45	.....
C611G	GE	2.50	1.67	.....
C611U	GE	2.10	1.40	.....
C6131	HOF	12.50	.....	.....
C6132	HOF	12.50	.....	.....
CK735/1N300	RCA	4.55	3.50	.....

Type No.	Mfr.	1-9	10-24	25-Up
CL1050	IR	60.00	51.00	.....
CL1066	IR	130.00	110.00	.....
CL1076	IR	215.00	183.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
CR101	RCA	5.75	5.47	.....
CR102	RCA	7.20	6.85	.....
CR103	RCA	8.15	7.75	.....
CR106	RCA	12.00	11.40	.....
CR110	RCA	16.30	15.50	.....
CR201	RCA	3.10	2.96	.....
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CR204	RCA	5.75	5.47	.....
CR206	RCA	6.95	6.60	.....
CR208	RCA	8.40	8.00	.....
CR210	RCA	10.10	9.60	.....
CR212	RCA	12.00	11.40	.....

Type No.	Mfr.	1-29	30-999	1000-Up
CR401	RCA	28.00	26.60	.....
CR402	RCA	32.00	30.40	.....
CR403	RCA	44.00	41.80	.....
CR404	RCA	30.00	28.50	.....
CR405	RCA	36.00	34.20	.....
CR406	RCA	54.00	51.30	.....
CR407	RCA	40.00	38.00	.....
CR408	RCA	48.00	45.60	.....
CR409	RCA	64.00	60.80	.....
CR501	RCA	40.00	38.00	.....
CR502	RCA	48.00	45.60	.....
CR503	RCA	50.00	47.50	.....
CR504	RCA	62.00	58.90	.....
CR505	RCA	64.00	60.80	.....
CR506	RCA	84.00	79.80	.....

Type No.	Mfr.	1-99	100-Mix	100-999
CS-120	INT	2.35	.....	1.57
CS-120-M6/CS120	INT	2.35	.....	1.57

Type No.	Mfr.	1-9	10-99	100-Up
CS-120-U6	INT	1.95	1.30	.....
CS-120-U16	INT	3.50	2.33	.....

Type No.	Mfr.	1-24	25-99	100-Up
Dual Clip	SAR	.24	.22	.19

Type No.	Mfr.	1-99	100-999	1000-Up
D5E43	GE	1.05	.70	.60
D5E44	GE	.97	.65	.55
D5K2	GE	2.55	1.70	1.40
D14D1/2N4983	GE	1.77	.78	.60
D13E1/2N4993	GE	1.65	1.10	.99
D13T1	GE	.79	.53	.49
D13T2	GE	1.58	1.06	.44
D14A502/L14A502	GE	6.00	4.00	3.60
D16P1	GE	.47	.32	.26
D16P2	GE	.52	.35	.29
D16P4/2N5306	GE	.52	.35	.29
D19RA1/RA1	GE	4.50	3.00	2.70
D26B1	GE	.75	.52	.47
D26B2	GE	.83	.55	.50
D26C1	GE	.76	.51	.46
D26C2	GE	.80	.53	.48
D26C3	GE	.85	.57	.51
D26E1	GE	1.35	.90	.81
D26E5	GE	.93	.62	.56
D26E6	GE	.75	.49	.44
D26G1	GE	1.02	.68	.62
D27C1	GE	1.44	.96	.77
D27C2	GE	1.35	.90	.72
D27C3	GE	1.30	.87	.70
D27C4	GE	1.21	.81	.65
D28A5	GE	.74	.50	.40
D28A6	GE	.84	.55	.45
D28A9	GE	.70	.53	.42
D28A10	GE	1.01	.68	.54
D28A12	GE	.86	.57	.46
D28A13	GE	1.06	.71	.57
D28C1	GE	.93	.63	.50
D28C2	GE	1.01	.68	.54
D28C3	GE	1.15	.76	.61
D28C4	GE	1.06	.71	.57
D28C5	GE	1.17	.78	.63
D28D2	GE	.88	.59	.47
D28D3	GE	1.01	.68	.54
D28D4	GE	.90	.60	.48
D28D5	GE	1.04	.69	.55
D28D7	GE	1.08	.72	.58
D29A4/2N5354	GE	.38	.26	.21
D29A5/2N5355	GE	.43	.29	.24
D29A6/2N5356	GE	.50	.33	.28
D29A7/2N5365	GE	.43	.29	.24
D29A8/2N5366	GE	.47	.32	.20
D29E1	GE	.52	.35	.29
D29E2	GE	.56	.38	.31
D29E4	GE	.47	.32	.26
D29E5	GE	.52	.35	.29
D29E6	GE	.56	.38	.31
D29E7	GE	.63	.42	.35
D29E8	GE	1.01	.68	.56
D29E9	GE	.88	.59	.49
D29E10	GE	.95	.63	.53
D30A1	GE	1.16	.77	.69
D30A2	GE	1.20	.80	.72
D30A3	GE	1.28	.86	.77
D33D1	GE	.51	.34	.....
D33D2	GE	.58	.38	.....

Type No.	Mfr.	1-99	100-999	1000-Up
D33D3	GE	.65	.43	.....
D33D4	GE	.67	.45	.....
D33D5	GE	.74	.50	.....
D33D6	GE	.82	.54	.....
D33D21	GE	.47	.32	.26
D33D22	GE	.52	.35	.29
D33D24	GE	.43	.29	.24
D33D25	GE	.47	.32	.26
D33D26	GE	.52	.35	.29
D33D27	GE	.59	.39	.33
D33D28	GE	.96	.64	.53
D33D29	GE	.83	.55	.46
D33D30	GE	.88	.59	.49
D40C5	GE	1.02	.68	.56
D40C7	GE	1.02	.68	.56
D40D1	GE	.61	.41	.34
D40D2	GE	.77	.51	.42
D40D3	GE	.90	.60	.49
D40D4	GE	.74	.49	.41

Type No.	Mfr.	1-99	100-999	1000-9999
D40D5	GE	.90	.60	.49
D40D7	GE	.82	.54	.45
D40D8	GE	1.02	.68	.56
D41D1	GE	.66	.44	.36
D41D2	GE	.87	.58	.48
D41D3	GE	1.00	.66	.55
D41D4	GE	.79	.53	.43
D41D5	GE	1.00	.66	.55
D41D7	GE	.87	.58	.48
D41D8	GE	1.13	.75	.62
D42C1	GE	.90	.59	.49
D42C2	GE	.95	.63	.52
D42C3	GE	1.00	.65	.55
D42C4	GE	.97	.63	.52
D42C5	GE	1.02	.68	.56
D42C7	GE	1.10	.73	.60
D42C8	GE	1.17	.78	.64
D43C1	GE	1.02	.68	.56
D43C2	GE	1.07	.75	.62
D43C3	GE	1.12	.75	.62
D43C4	GE	1.10	.73	.60
D43C5	GE	1.15	.76	.63
D43C7	GE	1.22	.82	.67
D43C8	GE	1.30	.87	.71

Type No.	Mfr.	1-9	10-99	100-Up
DD-190	INT	.99	.89	.....

Type No.	Mfr.	1-99	100-999	1000-Up
DR303	GE	1.12	.90	.....
DR351	GE	.75	.60	.....
DR352	GE	1.19	.95	.....
DR482	GE	.90	.64	.....
DR498	GE	1.45	1.09	.....
DR2000	RCA	5.50	4.50	2.95
DR2010	RCA	5.75	4.75	3.05
DR2100	RCA	5.75	4.75	3.20

Type No.	Mfr.	1-24	25-99	100-Up
DT420P	RCA	2.44	2.09	1.94
E1/1N4002	SAR	.33	.29	.27
E2/1N4004	SAR	.35	.20	.28
E6/1N4005	SAR	.37	.22	.29
E8/1N4006	SAR	.52	.44	.41
E10/1N4007	SAR	.79	.67	.63
EP-50	INT	3.95	.....	.....
F-2/1N2482	SAR	.33	.29	.27
F-4/1N2483	SAR	.35	.30	.28
F-6/1N2484	SAR	.37	.32	.29
F-8	SAR	.82	.82	.60
F-10	SAR	.90	.90	.65
F-15	SAR	1.25	1.25	1.03
F-20	SAR	1.75	1.75	1.30
F-25	SAR	2.25	2.25	1.70
G01	TI	.85	.85	.66
G02	TI	.60	.60	.49
G/1	SAR	.38	.38	.32
G/2	SAR	.37	.37	.29

Type No.	Mfr.	1-99	100-999	1000-Up
G3.0T5/1N4728A	INT	1.90	1.40	.....
G3.0T10/1N4728	INT	1.25	.93	.....
G3.3T/1N4729A	INT	1.90	1.40	.....
G3.3T10/1N4729	INT	1.25	.93	.....
G3.6T5/1N4730A	INT	1.90	1.40	.....
G3.6T10/1N4730	INT	1.25	.93	.....
G3.9T5/1N4731A	INT	1.90	1.40	.....
G3.9T10/1N4731	INT	1.25	.93	.....
G4	SAR	.43	.35	.....

Type No.	Mfr.	1-99	100-999	1000-Up
G4.3T5/1N4732A	INT	1.90	1.40	
G4.3T10/1N4732	INT	1.25	.93	
G4.7T5/1N4733A	INT	1.90	1.40	
G4.7T10/1N4733	INT	1.25	.93	
G5.1T5/1N4734A	INT	1.90	1.40	
G5.1T10/1N4734	INT	1.25	.93	
G5.6T5/1N4734A	INT	1.90	1.40	
G5.6T10/1N4734	INT	1.25	.93	
G6	SAR	.65	.50	
G6.2T5/1N4736A	INT	1.90	1.40	
G6.2T10/1N4736	INT	1.25	.93	
G6.8T5/1N4737A	INT	1.90	1.40	
G6.8T10/1N4737	INT	1.25	.93	
G7.5T5/1N4738A	INT	1.90	1.40	
G7.5T10/1N4738	INT	1.25	.93	
G8	SAR	.85	.65	
G8.2T5/1N4739A	INT	1.90	1.40	
G8.2T10/1N4739	INT	1.25	.93	
G9.1T5/1N4740A	INT	1.90	1.40	
G9.1T10/1N4740	INT	1.25	.93	
G10	SAR	1.05	.72	
G10T5/1N4741A	INT	1.90	1.40	
G10T10/1N4741	INT	1.25	.93	
G11T5/1N4742A	INT	1.90	1.40	
G11T10/1N4742	INT	1.25	.93	
G12T5/1N4743A	INT	1.90	1.40	
G12T10/1N4743	INT	1.25	.93	
G13T5/1N4744A	INT	1.90	1.40	
G13T10/1N4744	INT	1.25	.93	
G15T5/1N4745A	INT	1.90	1.40	
G15T10/1N4745	INT	1.25	.93	
G16T5/1N4746A	INT	1.90	1.40	
G16T10/1N4746	INT	1.25	.93	
G18T5/1N4747A	INT	1.90	1.40	
G18T10/1N4747	INT	1.25	.93	
G20T5/1N4748A	INT	1.90	1.40	
G20T10/1N4748	INT	1.25	.93	
G22T5/1N4745A	INT	1.90	1.40	
G22T10/1N4749	INT	1.25	.93	
G24T5/1N4749A	INT	1.90	1.40	
G24T10/1N4749	INT	1.25	.93	
G27T5/1N4751A	INT	1.90	1.40	
G27T10/1N4751	INT	1.25	.93	
G30T5/1N4752A	INT	1.90	1.40	
G30T10/1N4752	INT	1.25	.93	
G120	TI	1.00	.75	.30
G222	TI	.75	.64	
GE-1	GE	1.20		
GE-2	GE	1.02		
GE-3	GE	1.78		
GE-4	GE	2.94		
GE-5	GE	1.68		
GE-6	GE	1.83		
GE-7	GE	1.77		
GE-8	GE	1.27		
GE-9	GE	1.27		
GE-9A	GE	1.26		
GE-11	GE	1.20		
GE-12	GE	1.53		
GE-13-MP	GE	2.34		
GE-14	GE	3.56		
GE-15-MP	GE	3.51		
GE-16	GE	7.02		
GE-17	GE	3.15		
GE-18	GE	1.42		
GE-19	GE	1.46		
GE-20	GE	1.10		
GE-21	GE	1.12		
GE-22	GE	1.03		
GE-23	GE	2.52		
GE-24-MP	GE	5.04		
GE-25	GE	7.50		
GE-504A	GE	.66		
GE-509	GE	.79		
GEMR-1	GE	4.80		
GEMR-2	GE	6.90		
GEMR-3	GE	8.60		
GEMR-4	GE	3.80		
GEMR-5	GE	1.40		
GEMR-6	GE	1.42		
GET706	GE	.45	.30	.22
GET708	GE	.42	.28	.26
GET914	GE	.51	.34	.31
GET929	GE	.65	.42	.37
GET930	GE	.69	.46	.41
GET2221	GE	.52	.35	.32
GET2222	GE	.57	.38	.34
GET2369	GE	.59	.39	.33
GET2484	GE	.74	.49	.44
GET3646	GE	.63	.42	.35
GET3638	GE	.46	.31	.28
GET3638A	GE	.60	.40	.36

Type No.	Mfr.	1-99	100-999	1000-Up
GE-FEET-1	GE	2.25		
GEZD-10-4	GE	.90		
GEZD-3-6	GE	1.20		
GEZD-5-1	GE	1.20		
GEZD-5-6	GE	1.20		
GEZD-6-2	GE	1.20		
GEZD-9-1	GE	1.20		
GEZD-12	GE	1.20		
GEZD-15	GE	1.20		
GEZD-18	GE	1.20		
GEZD-20	GE	1.20		
GEZD-27	GE	1.20		
GE-X1	GE	2.60		
GE-X2A	GE	2.80		
GE-X3	GE	4.00		
GE-X4	GE	1.60		
GE-X5	GE	2.30		
GE-X6	GE	1.40		
GE-X7	GE	.80		
GE-X8	GE	.70		
GE-X9	GE	.70		
GE-X10	GE	1.35		
GE-X11	GE	1.80		
GE-X13	GE	1.60		
GE-X16	GE	3.45		
G35	TI	5.00	3.50	2.60
G38	TI	4.00	2.80	2.00
H11	TI	4.00	2.80	2.00
H-60	TI	8.00	5.60	4.70
H-61	TI	9.00	6.25	5.30
H-62	TI	12.50	10.00	8.25
HEK-1	MOT	3.95		
HEP-1	MOT	.89		
HEP-2	MOT	1.25		
HEP-3	MOT	1.25		
HEP-50	MOT	.79		
HEP-51	MOT	1.29		
HEP-52	MOT	.95		
HEP-53	MOT	1.29		
HEP-54	MOT	.95		
HEP-55	MOT	1.15		
HEP-56	MOT	1.08		
HEP-57	MOT	1.20		
HEP-101	MOT	.95		
HEP-102	MOT	1.20		
HEP-103	MOT	1.20		
HEP-104	MOT	1.20		
HEP-105	MOT	1.20		
HEP-151	MOT	.79		
HEP-153	MOT	1.24		
HEP-154	MOT	.36		
HEP-156	MOT	.49		
HEP-157	MOT	.56		
HEP-158	MOT	.66		
HEP-159	MOT	.92		
HEP-160	MOT	1.45		
HEP-161	MOT	1.09		
HEP-162	MOT	1.25		
HEP-165	MOT	.62		
HEP-166	MOT	.60		
HEP-175	MOT	1.49		
HEP-176	MOT	2.05		
HEP-177	MOT	2.25		
HEP-178	MOT	3.05		
HEP-200	MOT	.82		
HEP-230	MOT	.89		
HEP-231	MOT	1.69		
HEP-232	MOT	2.34		
HEP-233	MOT	4.20		
HEP-240	MOT	2.05		
HEP-245	MOT	1.99		
HEP-250	MOT	.79		
HEP-251	MOT	.89		
HEP-252	MOT	.89		
HEP-253	MOT	.95		
HEP-254	MOT	.89		
HEP-300	MOT	2.29		
HEP-302	MOT	2.69		
HEP-304	MOT	4.35		
HEP-305	MOT	4.60		
HEP-306	MOT	5.90		
HEP-307	MOT	6.20		
HEP-310	MOT	1.49		
HEP-450	MOT	.30		
HEP-451	MOT	1.49		
HEP-452	MOT	.32		
HEP-500	MOT	2.35		
HEP-501	MOT	2.35		
HEP-600	MOT	1.11		
HEP-601	MOT	1.11		
HEP-602	MOT	1.84		
HEP-603	MOT	1.84		

Type No.	Mfr.	1-99	100-999	1000-Up
HEP-605	MOT	1.84		
HEP-606	MOT	1.84		
HEP-607	MOT	1.84		
HEP-609	MOT	2.49		
HEP-610	MOT	2.49		
HEP-611	MOT	2.49		
HEP-612	MOT	2.49		
HEP-613	MOT	3.65		
HEP-620	MOT	4.40		
HEP-621	MOT	5.25		
HEP-622	MOT	5.10		
HEP-623	MOT	2.20		
HEP-625	MOT	7.10		
HEP-626	MOT	6.35		
HEP-627	MOT	5.20		
HEP-628	MOT	2.20		
HEP-629	MOT	2.10		
HEP-630	MOT	2.20		
HEP-631	MOT	2.10		
HEP-633	MOT	1.84		
HEP-634	MOT	2.20		
HEP635	MOT	1.32		
HEP636	MOT	1.12		
HEP637	MOT	1.84		
HEP638	MOT	2.33		
HEP640	MOT	1.73		
HEP644	MOT	8.50		
HEP701	MOT	2.49		
HEP703	MOT	2.75		
HEP704	MOT	3.65		
HEP705	MOT	4.20		
HEP706	MOT	3.10		
HEP707	MOT	.90		
HEP708	MOT	1.20		
HEP709	MOT	6.55		
HEP710	MOT	1.20		
HEP712	MOT	3.30		
HEP713	MOT	2.45		
HEP714	MOT	3.10		
HEP715	MOT	.95		
HEP717	MOT	1.60		
HEP718	MOT	1.40		
HEP719	MOT	1.49		
HEP720	MOT	1.55		
HEP722	MOT	1.05		
HEP725	MOT	1.05		
HEP732	MOT	1.39		
HEP733	MOT	1.20		
HEP734	MOT	1.40		
HEP736	MOT	1.28		
HEP737	MOT	1.39		
HEP738	MOT	1.25		
HEP740	MOT	10.90		
HEP801	MOT	3.39		
HEP802	MOT	1.59		
HEPF0021	MOT	1.89		
HEPF1035	MOT	1.29		
HEPR2001	MOT	1.29		
HEPF2004	MOT	2.50		
HEPF2005	MOT	2.90		
HEPR2021	MOT	1.19		
HEPS3001	MOT	3.75		
HEPS9001	MOT	1.45		
HEPS9100	MOT	.79		
HEPS9120	MOT	.89		
HEPZ0212S	MOT	.70		

Type No.	Mfr.	1-24	25-99	100-Up
HVC180	SAR	3.35	2.86	2.66
HVC240	SAR	3.60	2.08	2.87
HVC300	SAR	3.85	3.28	3.07
HVC400	SAR	4.00	3.44	3.20
HVC500	SAR	4.15	3.67	3.34
HVC600	SAR	4.55	3.92	3.66
HVC650	SAR	5.00	4.29	4.00
HVC750	SAR	5.40	4.64	4.34
HVC840	SAR	5.85	5.00	4.66
HVC1000	SAR	7.10	6.07	5.66
HVC1200	SAR	8.35	7.15	6.66
HVC1500	SAR	10.40	8.94	8.34

Type No.	Mfr.	1-99	100-Mix	100-999
HVC180	SAR	3.35	2.86	2.66
HVC240	SAR	3.60	3.08	2.87
HVC300	SAR	3.85	3.28	3.07
HVC400	SAR	4.00	3.44	3.20
HVC500	SAR	4.15	3.67	3.34
HVC600	SAR	4.55	3.92	3.66
HVC650	SAR	5.00	4.29	4.00

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SPECIFY MANUFACTURER AND TYPE NO.

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Type No.	Mfr.	1-99	100-Mix	100-999
HVC750	SAR	5.40	4.64	4.34
HVC840	SAR	5.85	5.00	4.66
HVC1000	SAR	7.10	6.07	5.66
HVC1200	SAR	8.35	7.15	6.66
HVC1500	SAR	10.40	8.94	8.34

Type No.	Mfr.	1-99	100-999	1000-Up
IR106A-1	INT	1.18	.79	
IR106B-1	INT	1.34	.89	
IR106C-1	INT	1.70	1.15	
IR106F-1	INT	1.10	.73	
IR106Y-1	INT	.94	.63	

Type No.	Mfr.	1-24	25-99	100-Up
J29B04	INT	1.70	1.40	
J29B1	INT	2.40	2.10	
J29B5	INT	7.00	5.90	
J29B8	INT	10.20	8.20	
J29B17	INT	15.30	12.90	
J58B5	INT	13.90	11.80	
J58B8	INT	19.30	16.40	
J11B04	INT	6.00	5.15	
J116B1	INT	8.90	7.50	
J116B5	INT	26.40	22.40	
J29D2	INT	3.05	2.00	
JD29D2	INT	2.50	2.12	
J58D2	INT	6.05	3.95	
J58D7	INT	14.20	12.00	
J58D13	INT	19.80	16.80	

Type No.	Mfr.	1-99	100-999	1000-Up
KSA1DAF	INT	1.35	1.01	
KSA2DAF	INT	1.55	1.16	
KSA5DAF	INT	2.15	1.61	
KSA6DBF	INT	2.35	1.76	
KSA8BAF	INT	3.74	3.08	
KSA9DBF	INT	2.95	2.21	
KSA10DBF	INT	3.15	2.36	
KSL5DAF	INT	6.90	5.20	
KSL11DBF	INT	13.50	10.18	
KY5DPF	INT	.83	.63	
KY6DPF	INT	.93	.84	
KZ5DPF	INT	1.10	.81	
KZ6DPF	INT	1.23	1.11	
L1V/1ASCS	GE	3.15	2.10	1.89
L8A	GE	7.00	4.65	
L8F	GE	4.90	3.25	
L8U	GE	4.50	3.00	
L9A	GE	7.65	5.10	
L9B	GE	13.05	8.70	
L9G	GE	10.45	6.95	
L9F	GE	5.40	3.60	
L9U	GE	4.95	3.30	
L14A502/D14A502	GE	6.00	4.00	3.60
L811A	GE	8.50	5.45	
L811B	GE	13.35	8.65	
L811F	GE	3.15	2.10	1.89
L811G	GE	10.95	7.05	
L811U	GE	6.00	3.75	
L911A	GE	9.15	5.85	
L911B	GE	14.55	9.45	
L911G	GE	11.95	7.70	
L911U	GE	6.45	4.05	
LASC/L1V	GE	3.15	2.10	1.89

Type No.	Mfr.	1-24	25-99	100-Up
LDA401	AME	1.47	1.47	.98
LDA402	AME	1.26	1.26	.84
LDA405	AME	1.66	1.66	1.11
LDA451	AME	1.66	1.66	1.11
LDD5	AME	1.10	1.10	.73
LDD10	AME	1.19	1.19	.79
LDD201	AME	1.36	1.36	.91

Type No.	Mfr.	1-99	100-999	1000-Up
LS-400	TI	6.80	5.20	4.70
LS-600	TI	3.20	2.15	1.92
LSX515	TI	14.95	11.30	
LSX900	TI	8.85	5.90	6.80
M1B	INT	1.72	1.03	
M1H	INT	.56	.34	

Type No.	Mfr.	1-24	25-99	100-Up
M4L20-8	MOT	4.05	3.60	2.70
M4L20-28	MOT	3.60	3.20	2.40
M4L29A	MOT	2.70	2.40	1.80
M4L20M-3	MOT	14.25	12.65	9.50
M4L20M-8	MOT	9.00	8.00	6.00
M4L20M-28	MOT	9.00	8.00	6.00
M4L30-3	MOT	5.25	4.65	3.50
M4L30-8	MOT	4.05	3.60	2.70
M4L30M-28	MOT	3.60	3.20	2.40
M4L30A	MOT	2.70	2.40	1.80
M4L30M-3	MOT	12.75	11.30	8.50
M4L30M-8	MOT	9.00	8.00	6.00
M4L30M-28	MOT	9.00	8.00	6.00
M4L40-3	MOT	5.25	4.65	3.50
M4L40-8	MOT	4.05	3.60	2.70
M4L40A	MOT	2.70	2.40	1.80
M4L40M-3	MOT	12.75	11.30	8.50
M4L40M-8	MOT	9.00	8.00	6.00
M4L40M-28	MOT	9.00	8.00	6.00
M4L50-8	MOT	4.05	3.60	2.70
M4L50-28	MOT	3.60	3.20	2.40
M4L50A	MOT	2.70	2.40	1.80
M4L50M-3	MOT	12.75	11.30	8.50
M4L50M-8	MOT	9.00	8.00	6.00
M4L50M-28	MOT	9.00	8.00	6.00
M4L3052/1N5158	MOT	3.75	2.25	2.50
M4L3053/1N5159	MOT	3.38	2.90	2.25
M4L3054/1N5160	MOT	3.75	3.25	2.50
M-150	SAR	.65	.57	.53
M-150 KIT	SAR	.94	.85	.77
M-500 KIT	SAR	2.80	2.52	2.24

Type No.	Mfr.	1-99	100-999	1000-Up
MA100	MOT	1.00	.67	
MA200	MOT	.58	.39	
MA201	MOT	.67	.45	
MA202	MOT	.67	.45	
MA206	MOT	.60	.40	
MA882	MOT	.80	.52	
MA883	MOT	.89	.59	
MA885	MOT	.50	.33	
MA886	MOT	.59	.39	
MA888	MOT	.75	.50	
MA1703	MOT	1.17	.78	
MA1704	MOT	1.34	.89	
MAC/1-2	MOT	1.98	1.32	
MAC/1-4	MOT	3.30	2.20	
MAC/1-6	MOT	5.25	3.50	
MAC/2-2	MOT	2.20	1.47	
MAC/2-4	MOT	3.52	2.35	
MAC2-6	MOT	5.47	3.65	
MAC3-2	MOT	2.13	1.42	
MAC3-4	MOT	3.45	2.30	
MAC3-6	MOT	5.40	3.60	
MAC36-5	MOT	8.75	5.85	
MAC36-6	MOT	11.10	7.40	
MAC36-7	MOT	16.35	10.90	

Type No.	Mfr.	1-24	25-99	100-Up
MC15-482L	MOT	12.30	10.25	8.20
MC17-482L	MOT	7.20	6.00	4.80
MC17-482P	MOT	3.90	3.90	1.95
MC25-482L	MOT	12.30	10.25	8.20
MC27-482L	MOT	7.20	6.00	4.80
MC27-482P	MOT	3.90	3.90	1.95

Type No.	Mfr.	1-99	100-999	1000-Up
MCA1911N	MOT	4.50	3.00	
MCA1911P	MOT	4.50	3.00	
MCA1912N	MOT	7.95	5.30	
MCA1912P	MOT	7.95	5.30	
MCA1913N	MOT	14.10	9.40	
MCA1913P	MOT	14.10	9.40	
MCA1914N	MOT	23.40	15.60	
MCA1914P	MOT	23.40	15.60	
MCA1921N	MOT	7.95	5.30	
MCA1921P	MOT	7.95	5.30	
MCA1922N	MOT	14.10	9.40	
MCA1922P	MOT	14.10	9.40	
MCA1923N	MOT	22.50	15.00	
MCA1923P	MOT	22.50	15.00	
MCA1924N	MOT	45.00	29.00	
MCA1924P	MOT	45.00	29.00	
MCA1931N	MOT	8.25	5.50	
MCA1931P	MOT	8.25	5.50	
MCA1932N	MOT	14.10	9.40	
MCA1932P	MOT	14.10	9.40	
MCA1933N	MOT	23.40	15.60	
MCA1933P	MOT	23.40	15.60	
MCA1934N	MOT	49.50	33.00	
MCA1934P	MOT	49.50	33.00	
MCA2011N	MOT	4.50	3.00	
MCA2011P	MOT	4.50	3.00	
MCA2012N	MOT	7.95	5.30	
MCA2012P	MOT	7.95	5.30	
MCA2013N	MOT	14.10	9.40	
MCA2013P	MOT	14.10	9.40	
MCA2014N	MOT	23.40	15.60	
MCA2014P	MOT	23.40	15.60	
MCA2021N	MOT	7.95	5.30	
MCA2021P	MOT	7.95	5.30	
MCA2022N	MOT	14.10	9.40	
MCA2022P	MOT	14.10	9.40	
MCA2023N	MOT	22.50	15.00	
MCA2023P	MOT	22.50	15.00	
MCA2024N	MOT	45.00	29.00	
MCA2024P	MOT	45.00	29.00	
MCA2031N	MOT	8.25	5.50	
MCA2031P	MOT	8.25	5.50	
MCA2032N	MOT	14.10	9.40	
MCA2032P	MOT	14.10	9.40	
MCA2033N	MOT	23.40	15.60	
MCA2033P	MOT	23.40	15.60	
MCA2034N	MOT	29.50	23.00	
MCA2034P	MOT	29.50	23.00	
MCA2111N	MOT	5.25	3.95	
MCA2111P	MOT	5.25	3.95	
MCA2112N	MOT	7.95	5.30	
MCA2112P	MOT	7.95	5.30	
MCA2114N	MOT	23.40	15.60	
MCA2114P	MOT	23.40	15.60	
MCA2121N	MOT	7.95	5.30	
MCA2121P	MOT	7.95	5.30	

Type No.	Mfr.	1-24	25-99	100-999
MCA2222N	MOT	14.10	14.10	9.40
MCA2222P	MOT	14.10	14.10	9.40
MCA2223N	MOT	22.50	22.50	15.00
MCA2223P	MOT	22.50	22.50	15.00
MCA2224N	MOT	45.00	45.00	29.00
MCA2224P	MOT	45.00	45.00	29.00
MCA2231N	MOT	8.25	8.25	5.50
MCA2231P	MOT	8.25	8.25	5.50
MCA2232N	MOT	14.10	14.10	9.40
MCA2232P	MOT	14.10	14.10	9.40
MCA2233N	MOT	23.40	23.40	15.60
MCA2233P	MOT	23.40	23.40	15.60
MCA2234N	MOT	49.50	49.50	33.00
MCA2234P	MOT	49.50	49.50	33.00
MCL1300	MOT	3.90	3.40	2.95
MCL1301	MOT	3.90	3.40	2.95
MCL1302	MOT	3.90	3.40	2.95
MCL1303	MOT	3.90	3.40	2.95
MCL1304	MOT	3.90	3.40	2.95
MCR406-1	MOT	.90	.90	.60
MCR406-2	MOT	1.05	1.05	.70
MCR406-3	MOT	1.12	1.12	.75
MCR406-4	MOT	1.27	1.27	.85
MCR407-1	MOT	.82	.82	.55
MCR407-2	MOT	.97	.97	.65
MCR407-3	MOT	1.05	1.05	.70
MCR407-4	MOT	1.20	1.20	.80
MCR649-1	MOT	3.10	3.10	2.05
MCR649-2	MOT	3.45	3.45	2.30
MCR649-3	MOT	3.90	3.90	2.60
MCR649-4	MOT	5.25	5.25	3.50
MCR649-5	MOT	9.90	9.90	6.60
MCR649-6	MOT	11.50	11.50	7.70
MCR647-7	MOT	13.70	13.70	9.15
MCR649AP2	MOT	3.90	3.90	2.60
MCR729-5	MOT	18.75	16.60	12.50
MCR729-6	MOT	26.25	23.30	17.50
MCR729-7	MOT	30.00	26.60	20.00
MCR729-8	MOT	40.50	35.90	27.00
MCR729-9	MOT	48.00	42.55	32.00
MCR729-10	MOT	60.00	53.20	40.00

Type No.	Mfr.	1-24	25-99	100-Up
MCR1336-5	MOT	20.60	18.30	13.75
MCR1336-6	MOT	28.85	25.60	19.25
MCR1336-7	MOT	33.75	29.90	22.50
MCR1336-8	MOT	44.45	39.50	29.70
MCR1336-9	MOT	52.85	46.90	25.25

Type No.	Mfr.	1-24	25-99	100-Up
MCR1336-10	MOT	66.75	59.20	44.50
MCR1718-5	MOT	25.50	22.60	17.00
MCR1718-6	MOT	30.00	26.60	20.00
MCR1718-7	MOT	37.50	33.25	25.00
MCR1718-8	MOT	45.00	39.90	30.00

Type No.	Mfr.	1-99	100-999	1000-Up
MCR1906-1	MOT	1.57	1.05	
MCR1906-2	MOT	1.65	1.10	
MCR1906-3	MOT	1.87	1.25	
MCR1906-4	MOT	1.98	1.35	
MCR1907-1	MOT	9.00	6.00	
MCR1907-2	MOT	9.75	6.50	
MCR1907-3	MOT	11.25	7.50	
MCR1907-4	MOT	16.20	10.80	
MCR1907-5	MOT	24.45	16.30	
MCR1907-6	MOT	29.25	19.50	
MCR2304-1/ 2N4151	MOT	1.45	1.05	
MCR2304-2/ 2N4152	MOT	1.60	1.10	
MCR2304-3/ 2N4153	MOT	1.75	1.25	
MCR2304-4/ 2N4154	MOT	1.95	1.35	
MCR2304-5/ 2N4155	MOT	2.40	1.60	
MCR2304-6/ 2N4156	MOT	2.80	1.85	
MCR2304-7/ 2N4157	MOT	5.00	3.35	
MCR2304L-1/ 2N4159	MOT	6.75	4.50	
MCR2304L-2/ 2N4160	MOT	1.60	1.10	
MCR2304L-3/ 2N4161	MOT	1.75	1.25	
MCR2304L-4/ 2N4162	MOT	1.95	1.35	
MCR2304L-5/ 2N4163	MOT	2.40	1.60	
MCR2304L-6/ 2N4164	MOT	2.80	1.85	
MCR2304L-7/ 2N4165	MOT	5.00	3.35	
MCR2304L-8/ 2N4166	MOT	6.75	4.50	
MCR2305-2/ 2N4168	MOT	1.75	1.25	
MCR2305-3/ 2N4169	MOT	1.90	1.40	
MCR2305-4/ 1N4170	MOT	2.10	1.50	
MCR2305-5/ 2N4171	MOT	2.55	1.75	
MCR2305-6/ 2N4172	MOT	2.95	2.00	
MCR2305-7/ 2N4173	MOT	5.15	3.50	
MCR2305-8/ 2N4174	MOT	6.90	4.65	
MCR2305L-1/ 2N4175	MOT	1.60	1.20	
MCR2305L-2/ 2N4176	MOT	1.75	1.25	
MCR2305L-3/ 2N4177	MOT	1.90	1.40	
MCR2305L-4/ 2N4178	MOT	2.10	1.50	
MCR2305L-5/ 2N4179	MOT	2.55	1.75	
MCR2305L-6/ 2N4180	MOT	2.95	2.00	
MCR2305L-7/ 2N4181	MOT	5.15	3.50	
MCR2305L-8/ 2N4182	MOT	6.90	4.65	
MCR2604-1	MOT	1.55	1.15	
MCR2604-2	MOT	1.70	1.20	
MCR2604-3	MOT	1.85	1.35	
MCR2604-4	MOT	2.05	1.45	
MCR2604-5	MOT	2.50	1.70	
MCR2604-6	MOT	2.90	1.95	
MCR2604-8	MOT	6.85	4.60	
MCR2604L-1/ 2N4183	MOT	1.59	1.19	
MCR2604L-2/ 2N4184	MOT	1.74	1.24	
MCR2604L-3/ 2N4185	MOT	1.89	1.39	
MCR2604L-4/ 2N4186	MOT	2.09	1.49	
MCR2604L-5/ 2N4187	MOT	2.54	1.74	
MCR2604L-6/ 2N4188	MOT	2.94	1.99	
MCR2604L-7/ 2N4189	MOT	5.14	3.49	
MCR2604L-8/ 2N4190	MOT	6.89	4.64	
MCR2605-1	MOT	1.55	1.15	
MCR2605-2	MOT	1.70	1.20	
MCR2605-3	MOT	1.85	1.35	
MCR2605-4	MOT	2.05	1.45	
MCR2605-5	MOT	2.50	1.70	
MCR2605-6	MOT	2.90	1.95	
MCR2605-7	MOT	5.10	3.45	
MCR2605-8	MOT	6.85	4.60	
MCR2605L-1/ 2N4191	MOT	1.59	1.19	
MCR2605L-2/ 2N4192	MOT	1.74	1.24	
MCR2605L-3/ 2N4193	MOT	1.89	1.39	
MCR2605L-4/ 2N4194	MOT	2.09	1.49	
MCR2605L-5/ 2N4195	MOT	2.54	1.74	
MCR2605L-6/ 2N4196	MOT	2.94	1.99	
MCR2605L-7/ 2N4197	MOT	5.14	3.49	
MCR2605L-8/ 2N4198	MOT	6.89	4.64	
MCR3818-1	MOT	3.00	2.00	
MCR3818-2	MOT	3.30	2.20	
MCR3818-3	MOT	3.75	2.50	
MCR3818-4	MOT	4.65	3.10	
MCR3818-5	MOT	5.55	3.70	
MCR3818-6	MOT	6.45	4.30	
MCR3818-7	MOT	8.85	5.90	
MCR3818-8	MOT	9.75	6.50	
MCR3818R-4	MOT	9.30	6.20	
MCR3835-1	MOT	3.75	2.50	
MCR3835-2	MOT	4.50	3.00	
MCR3835-3	MOT	4.85	3.25	
MCR3835-4	MOT	5.85	3.90	
MCR3835-5	MOT	7.20	4.80	
MCR3835-6	MOT	8.25	5.50	
MCR3835-7	MOT	10.65	7.10	
MCR3835-8	MOT	12.35	8.25	
MCR3918-1	MOT	3.40	2.25	
MCR3918-2	MOT	3.70	2.45	
MCR3918-3	MOT	4.10	2.75	
MCR3918-4	MOT	5.00	3.35	
MCR3918-5	MOT	5.90	3.95	
MCR3918-6	MOT	6.80	4.55	
MCR3918-7	MOT	9.20	6.15	
MCR3918R-7	MOT	10.10	6.75	
MCR3935-1	MOT	4.10	2.75	
MCR3935-2	MOT	4.85	3.25	
MCR3935-3	MOT	5.25	3.50	
MCR3935-4	MOT	6.20	4.15	
MCR3935-5	MOT	7.55	5.05	
MCR3935-6	MOT	8.60	5.75	
MCR3935-7	MOT	11.00	7.35	
MCR3935-8	MOT	12.75	8.50	
MD708	MOT	4.35	2.90	
MD708A	MOT	6.75	4.50	
MD708AF	MOT	15.75	10.50	
MD708B	MOT	4.80	3.20	
MD708BF	MOT	12.30	8.20	
MD708F	MOT	8.85	5.90	
MD918	MOT	8.25	5.50	
MD918A	MOT	15.75	10.50	
MD918AF	MOT	24.75	10.50	
MD918B	MOT	13.20	8.80	
MD918BF	MOT	20.25	13.50	
MD918F	MOT	12.75	8.50	
MD986	MOT	18.90	12.60	
MD2218	MOT	6.75	4.50	
MD2219	MOT	7.95	5.30	
MD2219A	MOT	13.20	8.80	
MD2219AF	MOT	17.70	11.80	
MD2369	MOT	5.85	3.90	
MC2369A	MOT	11.25	7.50	
MD2369B	MOT	8.70	5.80	
MD2905	MOT	7.95	5.30	
MD3251	MOT	11.60	7.75	
MD3251A	MOT	23.25	15.50	
MD3251F	MOT	19.10	12.75	
MD5000	MOT	11.25	7.50	
MD5000A	MOT	18.75	12.50	
MD6001	MOT	10.80	7.50	
MD6002	MOT	13.50	9.00	
MF3304	MOT	6.75	4.50	

Type No.	Mfr.	1-99	100-999	1000-Up
MFE2000	MOT	1.95	1.30	1.17
MFE2001	MOT	1.72	1.15	.80
MFE2004	MOT	2.25	1.50	1.30
MFE2004	MOT	2.25	1.50	1.30
MFE2005	MOT	1.85	1.25	1.00
MFE2006	MOT	2.70	1.80	1.60
MFE2007	MOT	3.65	2.45	2.20
MFE2008	MOT	4.20	2.80	2.50
MFE2009	MOT	4.50	3.00	2.70
MFE2010	MOT	4.80	3.20	2.85
MFE2011	MOT	5.25	3.50	3.15
MFE2012	MOT	6.00	4.00	3.60
MFE2093	MOT	2.10	1.40	1.20
MFE2094	MOT	2.10	1.40	1.20
MFE2095	MOT	2.10	1.40	1.20
MFE2097	MOT	7.35	4.90	3.00
MFE2098	MOT	7.35	4.90	3.00
MFE2133	MOT	6.35	4.25	3.00
MFE3001	MOT	2.25	1.50	1.35
MFE3002	MOT	3.35	2.25	1.75
MFE3003	MOT	3.00	2.00	1.60
MFE3004	MOT	1.80	1.20	1.08
MFE3005	MOT	6.75	4.50	3.60
MFE3006	MOT	1.50	1.00	.90
MFE3007	MOT	1.65	1.10	.99
MFE3008	MOT	1.29	.86	.78
MFE4001	MOT	11.10	7.40	
MFE4002	MOT	6.45	4.30	
MFE4003	MOT	8.10	5.40	
MFE4004	MOT	11.85	7.90	
MFE4005	MOT	7.20	4.80	
MFE4007	MOT	4.05	2.70	2.43
MFE4008	MOT	3.20	2.15	1.94
MFE4009	MOT	2.90	1.95	1.75
MFE4010	MOT	2.75	1.85	1.60
MFE4011	MOT	2.90	1.95	1.75
MFE4012	MOT	3,20	2.15	1.94

Type No.	Mfr.	1-24	25-99	100-Up
MHO-AMP	RAY	100.00	85.00	65.00

Type No.	Mfr.	1-99	100-999	1000-Up
MJ400	MOT	1.65	1.10	
MJ413	MOT	6.50	4.82	
MJ420	MOT	1.39	1.03	
MJ421	MOT	1.63	1.21	
MJ423	MOT	8.00	5.93	
MJ431	MOT	17.30	11.50	
MJ440	MOT	1.55	1.05	
MJ450	MOT	9.50	6.35	
MJ480	MOT	1.93	1.29	
MJ481	MOT	2.45	1.64	
MJ490	MOT	2.02	1.50	
MJ491	MOT	2.48	1.78	
MJ802	MOT	7.65	5.10	
MJ901	MOT	3.66	2.71	
MJ1000	MOT	2.12	1.57	
MJ2249	MOT	2.02	1.35	
MJ2250	MOT	2.15	1.45	
MJ2251	MOT	1.87	1.25	
MJ2252	MOT	2.02	1.35	
MJ2253	MOT	1.93	1.43	
MJ2254	MOT	2.16	1.60	
MJ2255	MOT	2.70	1.80	
MJ2256	MOT	3.05	2.05	
MJ2257	MOT	4.40	2.95	
MJ2267	MOT	4.95	3.30	
MJ2278	MOT	5.45	3.65	
MJ2501	MOT	5.30	4.05	
MJ2801	MOT	2.85	1.90	
MJ2802	MOT	3.75	2.50	
MJ2840	MOT	4.50	3.00	
MJ2841	MOT	6.35	4.25	
MJ2901	MOT	3.75	2.50	
MJ2940	MOT	10.20	6.80	
MJ2941	MOT	10.85	7.25	
MJ3001	MOT	4.50	3.45	
MJ3029	MOT	6.00	4.44	
MJ3030	MOT	9.00	6.67	
MJ3101	MOT	1.95	1.30	
MJ3201	MOT	1.72	1.15	
MJ3202	MOT	1.87	1.25	
MJ3701	MOT	1.63	1.21	
MJ3702/2N4898	MOT	1.63	1.21	
MJ3703/2N4899	MOT	2.02	1.50	
MJ3704/2N4900	MOT	2.26	1.67	
MJ4101	MOT	1.57	1.09	
MJ4502	MOT	8.25	5.50	
MJE101	MOT	2.10	1.40	

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Type No.	Mfr.	1-99	100-999	1000-Up
MJE102	MOT	2.70	1.80	.....
MJE103	MOT	2.40	1.60	.....
MJE104	MOT	2.85	1.90	.....
MJE105	MOT	2.33	1.55	.....
MJE201	MOT	1.75	1.15	.....
MJE202	MOT	2.35	1.55	.....
MJE203	MOT	2.05	1.35	.....
MJE204	MOT	2.40	1.60	.....
MJE205	MOT	1.92	1.25	.....
MJE340	MOT	1.06	.71	.....
MJE344	MOT	1.07	.67	.....
MJE370	MOT	1.07	.82	.....
MJE371	MOT	1.96	1.31	.....
MJE520	MOT	.94	.72	.....
MJE521	MOT	1.68	1.12	.....
MJE1100	MOT	1.82	1.40	.....
MJE2801	MOT	1.50	1.19	.....
MJE2901	MOT	2.95	1.95	.....
MJE2955	MOT	2.95	1.95	.....
MJE3055	MOT	1.50	1.19	.....
MK10	MOT	.25	.....	.....
MK15	MOT	.25	.....	.....
MK20	MOT	.30	.....	.....
MK25	MOT	.25	.....	.....
MK380	MOT	1.26	.84	.....
MK487/2N2218	MOT	.75	.50	.....
MK488/2N2219	MOT	1.05	.70	.....
MK512/2N2221	MOT	.75	.50	.....
MK513/2N2222	MOT	1.05	.70	.....

Type No.	Mfr.	1-99	100-499	500-999
MM719	MOT	4.50	.65	.55
MM801/2N2950	MOT	11.25	7.50	.....
MM1139	MOT	1.35	.90	.....
MM1151/2N3279	MOT	4.50	3.00	.....
MM1152/2N3280	MOT	4.10	2.75	.....
MM1154/2N3282	MOT	2.15	1.45	.....
MM1500	MOT	42.00	28.00	.....
MM1510	MOT	27.00	18.00	.....
MM1605	MOT	13.50	9.00	8.10
MM1606	MOT	11.25	7.50	6.75
MM1607	MOT	8.25	5.55	5.00
MM1736/2N3634	MOT	13.20	8.80	.....
MM1737/2N3635	MOT	14.40	9.60	.....
MM1738/2N3636	MOT	19.40	12.95	.....
MM1739/2N3637	MOT	21.30	14.20	.....
MM1748	MOT	.53	.35	.....
MM1749	MOT	.53	.35	.....

Type No.	Mfr.	1-99	100-999	1000-Up
MM1803	MOT	11.70	7.80	7.00
MM1812	MOT	3.75	2.50	.....
MM1941	MOT	1.95	1.30	.....
MM2090/3N124	MOT	3.00	2.00	1.70
MM2091/3N125	MOT	3.00	2.00	1.70
MM2092/3N126	MOT	3.00	2.00	1.70
MM2258	MOT	3.90	2.60	.....
MM2259	MOT	4.20	2.80	.....
MM2260	MOT	4.50	3.00	.....
MM2261	MOT	3.35	2.25	.....
MM2263	MOT	5.15	3.45	.....
MM2400/2N3959	MOT	10.50	7.00	6.30
MM2410/2N3960	MOT	13.10	8.75	7.90
MM2483	MOT	3.15	2.10	.....
MM2500/2N3783	MOT	30.00	20.00	.....
MM2502/2N3785	MOT	6.75	4.50	.....

Type No.	Mfr.	1-99	100-999	1000-Up
MM2894	MOT	1.80	1.20	.....
MM3000	MOT	1.25	.85	.....
MM3001	MOT	1.40	.93	.....
MM3002	MOT	1.65	1.10	.....
MM3003	MOT	1.90	1.25	.....
MM3005	MOT	1.60	1.05	.....
MM3724	MOT	5.25	3.50	.....
MM3725	MOT	5.60	3.75	.....
MM3726	MOT	6.75	4.50	.....
MM4000	MOT	1.24	.83	.....
MM4001	MOT	1.39	.93	.....
MM4002	MOT	1.65	1.10	.....
MM4005	MOT	1.85	1.25	.....
MM4048	MOT	4.10	2.75	.....
MM4430	MOT	26.00	19.00	.....
MM4545	MOT	9.00	6.00	.....
MM4546	MOT	10.50	7.00	.....
MM4547	MOT	15.00	10.00	.....
MM5000	MOT	4.40	2.95	.....
MM5001	MOT	3.15	2.10	.....
MM5002	MOT	2.25	1.50	.....
MM5043	MOT	9.75	6.50	.....
MM5044	MOT	6.00	4.00	.....
MM8000	MOT	3.30	2.20	1.80
MM8001	MOT	3.75	2.55	2.09
MM8003	MOT	10.65	7.10	.....
MM8008	MOT	22.00	17.50	15.00
MM8009	MOT	8.45	6.50	.....
MM8010	MOT	16.00	12.00	10.00
MM8011	MOT	9.23	7.10	5.82
MMD6050	MOT	1.20	.80	.....
MMD6100	MOT	2.10	1.40	.....
MMD6150	MOT	2.40	1.60	.....
MMD7000	MOT	2.55	1.70	.....
MMF1	MOT	23.25	15.50	13.95
MMF2	MOT	23.25	15.50	13.95
MMF3	MOT	15.75	10.50	9.45
MMF4	MOT	15.75	10.50	9.45
MMF5	MOT	12.75	8.50	7.65
MMF6	MOT	12.75	8.50	7.65
MMT918	MOT	3.30	2.20	.....
MMT930	MOT	3.60	2.40	.....
MMT2222	MOT	2.85	1.90	.....
MMT2369	MOT	1.95	1.30	.....
MMT2484	MOT	5.90	3.95	.....
MMT2857	MOT	5.45	3.65	.....
MMT2907	MOT	3.50	2.35	.....
MMT3546	MOT	6.15	4.10	.....
MMT3798	MOT	4.40	2.95	.....
MMT3799	MOT	5.55	3.70	.....
MMT3903	MOT	2.40	1.60	1.45
MMT3904	MOT	3.00	2.00	.....
MMT3905	MOT	2.40	1.60	1.45
MMT3906	MOT	3.00	2.00	.....
MMT3960A	MOT	10.35	6.90	.....
MN-21/2N375	MOT	2.20	1.65	.....
MN-28/2N554	MOT	.60	.40	.....
MN-29/2N555	MOT	.75	.50	.....
MN-49/2N618	MOT	2.45	1.82	.....
MN62A	MOT	3.35	2.25	.....
MP110	MOT	1.67	1.12	.....
MP110B	MOT	3.75	2.50	.....
MP500	MOT	5.70	3.80	.....
MP500A	MOT	7.10	4.75	.....
MP501	MOT	9.00	6.60	.....
MP502	MOT	12.00	8.00	.....
MP504	MOT	6.00	4.40	.....
MP505	MOT	10.20	6.80	.....
MP506	MOT	13.85	9.25	.....
MP506A	MOT	16.85	11.25	.....
MP525	MOT	1.00	.75	.....
MP601	MOT	2.25	1.50	.....
MP602	MOT	3.00	2.00	.....
MP603	MOT	3.65	2.45	.....
MP732/2N2492	MOT	3.38	2.50	.....
MP733/2N2493	MOT	6.00	4.45	.....
MP800	MOT	51.00	46.00	.....
MP801	MOT	42.00	37.75	.....
MP900	MOT	110.00	100.00	.....
MP901	MOT	132.00	120.00	.....
MP1612	MOT	3.55	2.65	.....
MP1612A	MOT	3.90	2.90	.....
MP1612B	MOT	4.20	3.10	.....
MP1613	MOT	1.35	1.00	.....
MP2000A	MOT	1.75	1.15	.....
MP2060-4	MOT	1.05	.75	.....
MP2061-3	MOT	1.15	.85	.....
MP2062	MOT	1.35	1.00	.....
MP2063	MOT	1.65	1.25	.....
MP2100A	MOT	2.15	1.45	.....
MP2200A	MOT	2.75	1.85	.....

Type No.	Mfr.	1-99	100-999	1000-Up
MP2300A	MOT	4.40	2.95	.....
MP2400A	MOT	7.85	5.25	.....
MP3730	MOT	1.58	1.05	.....
MP3731	MOT	2.10	1.40	.....

Type No.	Mfr.	1-24	25-99	100-Up
MPC-1A	TI	4.75	4.10	3.24
MPC-2	TI	6.50	6.00	5.40
MPC-4	TI	3.50	2.60	2.25
MPC-5A	TI	3.50	2.60	2.25
MPC-5B	TI	5.25	4.25	3.40

Type No.	Mfr.	1-99	100-999	1000-Up
MPD200	GE	1.21	.81	.38
MPD400	GE	1.62	1.08	.....
MPF102	MOT	.60	.40	.32
MPF103	MOT	.80	.54	.43
MPF104/2N5458	MOT	.73	.49	.39
MPF105/2N5459	MOT	.80	.54	.43
MPF106/2N5485	MOT	1.05	.70	.56
MPF107/2N5486	MOT	1.05	.70	.56
MPF108	MOT	.97	.65	.52
MPF109	MOT	.75	.50	.40
MPF121	MOT	.71	.53	.....
MPF151/2N5460	MOT	.90	.60	.48
MPF152/2N5461	MOT	.67	.45	.36
MPF153/2N5462	MOT	.90	.60	.48
MPF154/2N5463	MOT	1.35	.90	.72
MPF155/2N5464	MOT	1.08	.72	.58
MPF156/2N5465	MOT	1.35	.90	.72
MPF160	MOT	4.15	2.75	.....
MPF161	MOT	.67	.45	.36
MPM5006	MOT	.99	.66	.50
MP010ABA	WES	2.00	1.80	.....
MP010ABB	WES	1.40	1.15	.....
MP010ABC	WES	2.35	2.15	.....
MP010ABD	WES	1.55	1.25	.....
MP010ABF	WES	1.65	1.30	.....
MP010ABH	WES	1.75	1.40	.....
MP010ABK	WES	1.90	1.50	.....
MP010ABM	WES	2.15	1.70	.....
MP010ABP	WES	2.50	2.00	.....
MP010ABS	WES	2.90	2.35	.....
MP010ABV	WES	3.50	2.80	.....
MP010ABZ	WES	4.10	3.30	.....
MP011BBA	WES	2.40	2.05	.....
MP011BBB	WES	1.75	1.40	.....
MP011BBC	WES	3.05	2.60	.....
MP011BBD	WES	1.90	1.50	.....
MP011BBF	WES	1.95	1.55	.....
MP011BBH	WES	2.05	1.65	.....
MP011BBK	WES	2.35	1.85	.....
MP011BBM	WES	2.50	2.00	.....
MP011BBP	WES	2.95	2.35	.....
MP011BBS	WES	3.30	2.65	.....
MP011BBV	WES	3.90	3.10	.....
MP011BBZ	WES	4.50	3.60	.....
MP012FBA	WES	2.55	2.15	.....
MP012FBB	WES	2.75	2.35	.....
MP012FBC	WES	3.05	2.65	.....
MP012FBD	WES	3.20	2.80	.....
MP012FBF	WES	3.60	3.20	.....
MP012FBH	WES	4.20	3.80	.....
MP012FBK	WES	4.70	4.30	.....
MP012FBM	WES	5.20	4.80	.....
MP012FBP	WES	5.70	5.30	.....
MP012FBS	WES	3.90	3.15	.....
MP012FBV	WES	4.50	3.60	.....
MP012FBZ	WES	5.25	4.25	.....
MP012HBA	WES	3.15	2.75	.....
MP012HBB	WES	3.35	3.00	.....
MP012HBC	WES	3.85	3.50	.....
MP012HBD	WES	2.95	2.35	.....
MP012HBF	WES	3.10	2.50	.....
MP012HBH	WES	3.20	2.55	.....
MP012HBK	WES	3.25	2.60	.....
MP012HBM	WES	3.35	2.70	.....
MP012HBP	WES	4.30	3.45	.....
MP012HBS	WES	4.80	3.80	.....
MP012HBV	WES	5.25	4.25	.....
MP020UHM	WES	6.80	5.45	.....
MP020UHP	WES	7.50	6.00	.....
MP020UHS	WES	8.75	8.25	.....
MP020UHV	WES	9.10	7.30	.....
MPR10	GE	.80	.55	.44
MPR12	GE	1.00	.72	.46
MPR15	GE	1.45	.94	.63
MPS-A10	MOT	.29	.19	.14
MPS-A12	MOT	.67	.45	.34
MPS-U01	MOT	1.15	.77	.58
MPS-U02	MOT	.99	.66	.49

Type No.	Mfr.	1-99	100-999	1000-Up
MPS-U03	MOT	1.41	.94	.70
MPS-U04	MOT	1.62	1.08	.81
MPS-U51	MOT	1.33	.89	.67
MPS-U52	MOT	1.15	.77	.58
MPS404	MOT	.37	.25	.19
MPS404A	MOT	.45	.30	.23
MPS706	MOT	.45	.30	.23
MPS706A	MOT	.63	.42	.32
MPS834	MOT	.70	.46	.....
MPS835	MOT	.60	.40	.30
MPS918	MOT	.83	.55	.41
MPS2369	MOT	.53	.35	.26
MPS2711	MOT	.34	.23	.19
MPS2712	MOT	.32	.21	.18
MPS2713	MOT	.41	.27	.23
MPS2716	MOT	.60	.40	.30
MPS2923	MOT	.32	.21	.18
MPS2924	MOT	.32	.21	.18
MPS2925	MOT	.41	.27	.23
MPS2926	MOT	.29	.19	.17
MPS3392	MOT	.32	.21	.18
MPS3393	MOT	.32	.21	.18
MPS3394	MOT	.27	.18	.15
MPS3395	MOT	.45	.30	.25
MPS3396	MOT	.45	.30	.25
MPS3397	MOT	.43	.29	.24
MPS3398	MOT	.41	.27	.23
MPS3563	MOT	.38	.25	.21
MPS3538	MOT	.45	.30	.20
MPS3538A	MOT	.59	.39	.35
MPS3639	MOT	.34	.23	.20
MPS3640	MOT	.44	.29	.26
MPS3646	MOT	.42	.34	.31
MPS3693	MOT	.44	.29	.26
MPS3694	MOT	.44	.29	.26
MPS3702	MOT	.37	.31	.24
MPS3703	MOT	.39	.26	.20
MPS3704	MOT	.34	.29	.22
MPS3705	MOT	.29	.25	.23
MPS3706	MOT	.27	.24	.21
MPS3707	MOT	.34	.29	.22
MPS3708	MOT	.27	.24	.21
MPS3709	MOT	.29	.25	.23
MPS3710	MOT	.29	.25	.22
MPS3711	MOT	.29	.25	.22
MPS3721	MOT	.34	.23	.17

Type No.	Mfr.	1-99	100-999	1000-4999
MPS5172	MOT	.21	.14	.11
MPS6507	MOT	.53	.35	.30
MPS6511	MOT	.68	.45	.84
MPS6512	MOT	.54	.36	.27
MPS6513	MOT	.57	.38	.28
MPS6514	MOT	.60	.40	.30
MPS6515	MOT	.64	.43	.32
MPS6516	MOT	.60	.40	.30
MSP6517	MOT	.63	.42	.31
MPS6518	MOT	.67	.45	.34
MPS6519	MOT	.75	.50	.37
MPS6520	MOT	.82	.55	.41
MPS6521	MOT	.90	.60	.45
MPS6522	MOT	.90	.60	.45
MPS6523	MOT	.97	.65	.49
MPS6530	MOT	.64	.43	.32
MPS6531	MOT	.75	.50	.37
MPS6532	MOT	.54	.36	.27
MPS6533	MOT	.71	.47	.35
MPS6534	MOT	.81	.54	.40
MPS6535	MOT	.60	.40	.30
MPS6539	MOT	.60	.40	.34
MPS6540	MOT	.63	.42	.36
MPS6542	MOT	1.20	.80	.60
MPS6543	MOT	1.32	.88	.66
MPS6544	MOT	.54	.36	.31
MPS6545	MOT	.84	.56	.46
MPS6546	MOT	1.24	.83	.62
MPS6547	MOT	1.35	.90	.67
MPS6548	MOT	.90	.60	.45
MPS6560	MOT	.48	.32	.27
MPS6561	MOT	.45	.30	.26
MPS6562	MOT	.54	.36	.31
MPS6563	MOT	.51	.34	.29
MPS6564	MOT	.75	.50	.37
MPS6565	MOT	.52	.35	.26
MPS6566	MOT	.57	.38	.28
MPS6567	MOT	1.00	.67	.50
MPS6568	MOT	1.50	1.00	.75
MPS6568A	MOT	.70	.47	.40
MPS6569	MOT	1.11	.74	.55
MPS6570	MOT	.96	.64	.48
MPS6571	MOT	.60	.40	.30
MPSA05	MOT	.53	.35	.26

Type No.	Mfr.	1-99	100-999	1000-4999
MPSA06	MOT	.60	.40	.30
MPSA09	MOT	.54	.36	.27
MPSA13	MOT	.47	.32	.24
MPSA14	MOT	.54	.36	.27
MPSA55	MOT	.59	.39	.29
MPSA56	MOT	.66	.44	.33
MPSA65	MOT	.57	.38	.29
MPSA66	MOT	.63	.42	.32
MPSK300	MOT	49.50	.....	.....
MPSL01	MOT	.59	.39	.35
MPSL07	MOT	.43	.29	.26
MPSL08	MOT	.57	.38	.34
MPSL51	MOT	.61	.42	.38
MPSU05	MOT	1.16	.77	.58
MPSU06	MOT	1.34	.89	.67
MPSU10	MOT	1.50	1.00	.90
MPSU55	MOT	1.34	.89	.67
MPSU56	MOT	1.50	1.00	.75
MPT20	MOT	.67	.45	.38
MPT28	MOT	.67	.45	.38
MPT32	MOT	.67	.45	.38

Type No.	Mfr.	1-99	100-Mix	100-999
MPZ5/16A	MOT	24.75	21.40	18.60
MPZ5/16B	MOT	44.30	38.30	33.30
MPZ5/32A	MOT	17.70	15.30	13.30
MPZ5/32B	MOT	26.75	22.90	19.90
MPZ5/32C	MOT	44.30	38.30	33.30
MPZ5/180A	MOT	26.45	22.90	19.90
MPZ5/180B	MOT	44.30	38.30	33.30
MPZ5/180C	MOT	61.85	53.45	46.50
MQ3467	MOT	44.25	.....	29.50
MQ3725	MOT	4.50	.....	3.75
MQ3762	MOT	47.60	.....	31.75
MQ3799	MOT	42.75	.....	28.50
MQ3799A	MOT	79.50	.....	53.00
MR312/1N3208	MOT	1.29	.....	.86
MR313/1N3209	MOT	1.42	.....	.95
MR314/1N3210	MOT	1.87	.....	1.25
MR315/1N3211	MOT	2.30	.....	1.55
MR316/1N3212	MOT	2.55	.....	1.70
MR322/1N3491	MOT	.67	.....	.45
MR322R/1N3491R	MOT	.67	.....	.45
MR323/1N3492	MOT	.76	.....	.51
MR323R/1N3492R	MOT	.76	.....	.51
MR324/1N3493	MOT	1.11	.....	.74
MR324R/1N3493R	MOR	1.11	.....	.74
MR325/1N3494	MOT	1.27	.....	.85
MR325R/1N3494R	MOT	1.27	.....	.85
MR326/1N3495	MOT	1.48	.....	.99
MR326R/1N3495R	MOT	1.48	.....	.99
MR327	MOT	2.40	.....	1.60

Type No.	Mfr.	1-99	100-999	1000-4999
MR327R	MOT	2.40	1.60	1.45
MR328	MOT	3.35	2.25	2.00
MR328R	MOT	3.35	2.25	2.00
MR330	MOT	6.75	4.50	4.05
MR330R	MOT	3.35	2.25	2.00
MR331	MOT	9.75	6.50	5.85
MR331R	MOT	9.75	6.50	5.85
MR751	MOT	.68	.45	.....
MR752	MOT	.74	.49	.....
MR754	MOT	.93	.62	.....
MR756	MOT	1.35	.90	.....
MR810	MOT	.67	.45	.....
MR811	MOT	.75	.50	.....
MR812	MOT	.97	.65	.....
MR814	MOT	1.27	.85	.....
MR816	MOT	2.40	1.60	.....
MR830	MOT	2.40	1.60	.....
MR831	MOT	2.75	1.85	.....
MR832	MOT	3.35	2.25	.....
MR834	MOT	5.60	3.75	.....
MR836	MOT	9.35	6.25	.....
MR840	MOT	1.27	.85	.....
MR841	MOT	1.42	.95	.....
MR842	MOT	1.80	1.20	.....
MR844	MOT	2.55	1.70	.....
MR846	MOT	5.60	3.75	.....
MR880	MOT	2.10	1.40	.....
MR881	MOT	2.45	1.65	.....
MR882	MOT	3.30	2.20	.....
MR884	MOT	5.25	3.50	.....
MR886	MOT	6.75	4.50	.....
MR890	MOT	3.75	2.50	.....
MR891	MOT	4.20	2.80	.....
MR892	MOT	5.15	3.45	.....
MR894	MOT	10.35	6.90	.....
MR896	MOT	14.95	9.95	.....
MR990	MOT	1.42	.95	.....

Type No.	Mfr.	1-99	100-999	1000-4999
MR990A	MOT	.75	.50	.....
MR991	MOT	2.10	1.40	.....
MR991A	MOT	.82	.55	.....
MR992	MOT	4.95	3.30	.....
MR992A	MOT	.90	.60	.....
MR993	MOT	6.60	4.40	.....
MR993A	MOT	.97	.65	.....
MR994	MOT	7.85	5.25	.....
MR994A	MOT	1.05	.70	.....
MR995A	MOT	1.20	.80	.....
MR996A	MOT	1.35	.90	.....
MR1030A/1N4719	MOT	.66	.44	.42
MR1030B/1N4997	MOT	.66	.44	.42
MR1031A/1N4720	MOT	.73	.49	.46
MR1031B/1N4998	MOT	.73	.49	.46
MR1032A/1N4721	MOT	.82	.55	.52
MR1032B/1N4999	MOT	.82	.55	.52
MR1033A	MOT	.93	.62	.59
MR1033B	MOT	.93	.62	.59
MR1034A/1N4722	MOT	1.12	.75	.71
MR1034B/1N5000	MOT	1.12	.75	.71
MR1035A	MOT	1.32	.88	.84
MR1035B	MOT	1.32	.88	.84
MR1036A/1N4723	MOT	1.50	1.00	.95
MR1036B/1N5001	MOT	1.50	1.00	.95
MR1038A/1N4724	MOT	2.25	1.50	1.40
MR1038B/1N5002	MOT	2.25	1.50	1.40
MR1040A/1N4725	MOT	3.35	2.25	2.15
MR1120	MOT	1.14	.76	.....
MR1121	MOT	1.23	.82	.....
MR1122	MOT	1.32	.88	.....
MR1123	MOT	1.48	.99	.....
MR1124	MOT	1.65	1.10	.....
MR1126	MOT	2.45	1.65	.....
MR1126R	MOT	2.45	1.65	.....
MR1128	MOT	5.60	3.75	.....
MR1130	MOT	7.85	5.25	.....

Type No.	Mfr.	1 24	25-99	100-Up
MR1200FL	MOT	4.00	3.60	.....
MR1201FL	MOT	4.10	3.70	3.10
MR1202FL	MOT	5.60	5.05	4.20
MR1204FL	MOT	6.40	5.75	4.80
MR1205FL	MOT	6.40	5.75	4.80
MR1210SB	MOT	5.20	4.70	.....
MR1210SL	MOT	5.00	4.50	.....
MR1211SL	MOT	5.45	4.90	.....
MR1212SB	MOT	7.00	6.30	5.25
MR1212SL	MOT	6.60	5.95	.....
MR1212SLR	MOT	6.60	5.95	.....
MR1214SB	MOT	8.15	7.40	6.15
MR1217SL	MOT	9.95	9.00	7.50
MR1227SB	MOT	17.95	16.20	13.50
MR1242SB	MOT	25.25	22.80	19.00
MR1263FL	MOT	55.20	49.80	41.50
MR1267FL	MOT	67.85	61.20	51.00
MR1293	MOT	76.50	69.00	.....
MR1297	MOT	98.50	88.75	.....

Type No.	Mfr.	1-99	100-999	1000-Up
MR1337-1	MOT	3.35	2.25	.....
MR1337-2	MOT	4.95	3.30	.....
MR1337-3	MOT	6.75	4.50	.....
MR1337-4	MOT	9.00	6.00	.....
MR1337-5	MOT	12.00	8.00	.....
MR1366	MOT	12.00	8.00	.....
MR1376	MOT	15.00	10.00	.....
MR1386	MOT	18.75	12.50	.....
MR1396	MOT	24.00	16.00	.....

Type No.	Mfr.	1-24	25-99	100-Up
MR1810SB	MOT	5.45	4.90	4.10
MR1810SL	MOT	5.05	4.55	3.80
MR1813SB	MOT	7.65	6.90	5.75

Type No.	Mfr.	1-99	100 999	1000-4999
MR2064	MOT	.38	.25	.20
MR2065	MOT	.41	.27	.22
MR2066	MOT	.45	.30	.24
MR2067	MOT	.53	.35	.28
MR2068	MOT	.60	.40	.32
MR2069	MOT	.60	.40	.....
MR2070	MOT	.67	.45	.....
MR2071	MOT	.76	.51	.....
MR2072	MOT	.87	.58	.....
MR2073	MOT	1.06	.71	.....
MR2074	MOT	1.26	.84	.....
MR2075	MOT	1.44	.96	.....

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SPECIFY MANUFACTURER AND TYPE NO.

Please be sure to specify the name of manufacturer and the type number of the device on your order. As new types are released, Newark will stock them.

Type No.	Mfr.	1-24	25-99	100-999
MR2080HA	MOT	49.20	44.40	37.00
MR2081HA	MOT	49.20	44.40	37.00
MR2082HA	MOT	57.85	52.20	43.50
MR2083HA	MOT	63.85	57.60	48.00
MR2084HA	MOT	71.95	64.20	53.50
MR2100HA	MOT	59.85	54.00	45.00
MR2101HA	MOT	66.50	60.00	50.00
MR2102HA	MOT	76.45	69.00	57.50
MR2103HA	MOT	87.80	79.20	66.00
MR2104HA	MOT	98.40	88.80	74.00

Type No.	Mfr.	1-99	100-999	1000-Up
MR2266	MOT	1.08	.72	.....
MR2271	MOT	1.68	1.12	.....
MR2272	MOT	.57	.38	.....
MR2273	MOT	.48	.32	.....
MR2360/MZ2360	MOT	.28	.19	.....
MR2361/MZ2361	MOT	.57	.38	.....

Type No.	Mfr.	1-24	25-99	100-999
MRA130	MOT	19.30	17.40	14.50
MRA130B	MOT	45.20	40.80	34.00
MRA131	MOT	21.95	19.80	16.50
MRA131B	MOT	50.55	45.60	38.00
MRA132	MOT	27.25	24.60	20.50
MRA132B	MOT	61.20	55.20	46.00
MRA133	MOT	31.25	28.20	23.50
MRA133B	MOT	67.85	61.20	51.00
MRA134	MOT	36.55	33.00	27.50
MRA134B	MOT	77.15	69.60	58.00
MRA160	MOT	35.25	31.80	26.50
MRA160B	MOT	77.15	69.60	58.00
MRA161	MOT	37.90	34.20	28.50
MRA161B	MOT	82.45	74.40	62.00
MRA162	MOT	44.55	40.20	33.50
MRA162B	MOT	97.75	86.40	72.00
MRA163	MOT	48.55	43.80	36.50
MRA163B	MOT	102.40	92.40	77.00
MRA164	MOT	56.50	51.00	42.50
MRA164B	MOT	117.05	105.60	88.00
MRA330	MOT	20.60	18.60	15.50
MRA330B	MOT	47.90	43.20	36.00
MRA331	MOT	22.95	20.70	17.25
MRA331B	MOT	52.55	47.40	39.50
MRA332	MOT	28.25	25.50	21.25
MRA332B	MOT	62.50	56.40	47.00
MRA333	MOT	32.60	29.40	24.50
MRA333B	MOT	69.15	62.40	52.00
MRA334	MOT	37.55	33.90	28.25
MRA334B	MOT	78.45	70.80	59.00
MRA360	MOT	36.55	33.00	27.50
MRA360B	MOT	79.80	72.00	60.00
MRA361	MOT	39.25	35.40	29.50
MRA361B	MOT	85.10	76.80	64.00
MRA361R	MOT	39.25	35.40	29.50
MRA362	MOT	45.90	41.40	34.50
MRA362B	MOT	98.40	88.80	74.00
MRA363	MOT	49.85	45.00	37.50
MRA363B	MOT	105.05	94.80	79.00
MRA364	MOT	57.84	52.20	43.50
MRA364B	MOT	119.70	108.00	90.00

Type No.	Mfr.	1-99	100-999	1000-Up
MRD100	MOT	1.50	1.00	.....
MRD150	MOT	1.20	.80	.....

Type No.	Mfr.	1-24	25-99	100-999
MRD200	MOT	3.90	2.60	.....
MRD210	MOT	3.45	2.30	.....
MRD250	MOT	9.40	8.30	6.25
MRD300	MOT	10.50	9.10	7.00
MRD310	MOT	5.90	3.95	.....

Type No.	Mfr.	1-99	100-999	1000-Up
MRD450	MOT	1.50	1.00	.....

Type No.	Mfr.	1-24	25-99	100-999
MRD600	MOT	3.15	2.10	.....
MRK200	MOT	94.50 (KIT)		
MS10	MOT	(1-UP) 2.00		
MS15	MOT	(1-UP) 2.00		

Type No.	Mfr.	1-99	100-999	1000-4999
MSD6100	MOT	.36	.24	.18
MSD6101	MOT	.40	.27	.20
MSD6102	MOT	.30	.20	.15
MSD6150	MOT	.37	.25	.19
MSS1000	MOT	.20	.15	.....
MU851	MOT	3.45	2.30	.....
MU892	MOT	1.23	.82	.70
MU893	MOT	.96	.64	.54
MU489	MOT	.90	.60	.50
MU4892	MOT	1.15	.77	.65
MV830	MOT	1.35	.90	.....
MV831	MOT	1.35	.90	.....
MV832	MOT	1.35	.90	.....
MV833	MOT	1.35	.90	.....
MV834	MOT	1.35	.90	.....
MV835	MOT	1.35	.90	.....
MV836	MOT	1.35	.90	.....
MV837	MOT	1.35	.90	.....
MV838	MOT	1.35	.90	.....
MV839	MOT	1.35	.90	.....
MV840	MOT	1.35	.90	.....
MV1401	MOT	8.95	5.95	.....
MV1403	MOT	8.95	5.95	.....
MV1404	MOT	8.95	5.95	.....
MV1405	MOT	8.95	5.95	.....
MV1620	MOT	1.42	.95	.....
MV1622	MOT	1.42	.95	.....
MV1624	MOT	1.42	.95	.....
MV1626	MOT	1.42	.95	.....
MV1628	MOT	1.42	.95	.....
MV1630	MOT	1.42	.95	.....
MV1632	MOT	1.42	.95	.....
MV1634	MOT	1.42	.95	.....
MV1636	MOT	1.42	.95	.....
MV1638	MOT	1.42	.95	.....
MV1640	MOT	1.42	.95	.....
MV1642	MOT	1.42	.95	.....
MV1644	MOT	1.42	.95	.....
MV1646	MOT	1.42	.95	.....
MV1648	MOT	1.42	.95	.....

Type No.	Mfr.	1-24	25-99	100-Up
MV1650	MOT	1.42	.95	.....
MV1652	MOT	3.60	2.40	.....
MV1654	MOT	3.60	2.40	.....
MV1656	MOT	3.60	2.40	.....
MV1658	MOT	3.60	2.40	.....
MV1660	MOT	3.60	2.40	.....
MV1662	MOT	3.60	2.40	.....
MV1664	MOT	3.60	2.40	.....
MV1666	MOT	3.60	2.40	.....

Type No.	Mfr.	1-9	10-99	100-999
MV1804/1N4387	MOT	42.00	35.00	28.00
MV1805C	MOT	42.00	28.00	.....
MV1806/1N4388	MOT	42.00	35.00	.....
MV1806C/1N5149	MOT	27.00	18.00	.....
MV1807C/1N5150	MOT	42.00	28.00	.....
MV1808A/1N5151	MOT	42.00	28.00	.....
MV1808C/1N5153	MOT	42.00	28.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
MV1809C	MOT	42.00	28.00	.....
MV1809C1	MOT	47.00	31.00	.....
MV1810A/1N5154	MOT	42.00	28.00	.....
MV1810B/1N5155	MOT	42.00	28.00	.....
MV1811C	MOT	42.00	28.00	.....
MV1816B	MOT	42.00	28.00	.....
MV1816B1	MOT	47.00	31.00	.....
MV1817B	MOT	42.00	28.00	.....
MV1817B1	MOT	47.00	31.00	.....
MV1858D	MOT	12.00	8.00	.....
MV1860D	MOT	12.00	8.00	.....
MV1862D	MOT	12.00	8.00	.....
MV1864D	MOT	12.00	8.00	.....

Type No.	Mfr.	1-99	100-Mix	100-999
MV1866	MOT	10.50	7.00	.....
MV1866D	MOT	12.00	.....	8.00

Type No.	Mfr.	1-99	100-Mix	100-999
MV1868	MOT	10.50	.....	7.00
MV1868D	MOT	12.00	.....	8.00
MV1870	MOT	10.50	7.00	.....
MV1870D	MOT	12.00	.....	8.00
MV1871	MOT	10.50	7.00	.....
MV1872	MOT	10.50	7.00	.....
MV1874	MOT	10.50	7.00	.....
MV1876	MOT	10.50	7.00	.....
MV1877	MOT	10.50	7.00	.....
MV1878	MOT	10.50	7.00	.....
MV2101	MOT	.90	.....	.60
MV2102	MOT	.90	.....	.60
MV2103	MOT	.90	.....	.60
MV2104	MOT	.90	.....	.60
MV2105	MOT	.90	.....	.60
MV2106	MOT	.90	.....	.60
MV2107	MOT	.90	.....	.60
MV2108	MOT	.90	.....	.60
MV2109	MOT	.90	.....	.60
MV2110	MOT	.90	.....	.60
MV2111	MOT	.90	.....	.60
MV2112	MOT	.90	.....	.60
MV2113	MOT	.90	.....	.60
MV2114	MOT	.90	.....	.60
MV2115	MOT	.90	.....	.60
MV2201	MOT	.53	.....	.35
MV2203	MOT	.53	.....	.35
MV2205	MOT	.53	.....	.35
MV2209	MOT	.53	.....	.35
MZ4.7T10/1N1508	MOT	2.75	2.45	2.10
MZ5.6T10/1N1509	MOT	2.75	2.45	2.10
MZ6.8T10/1N1510	MOT	2.75	2.45	2.10
MZ10T5/1N1512A	INT	3.45	3.05	2.65
MZ10T10/1N1512	INT	2.75	2.45	2.10
MZ12T5/1N1513A	INT	3.45	3.05	2.65
MZ12T10/1N1513	INT	2.75	2.45	2.10
MZ13T5	INT	3.45	3.05	2.65
MZ15T5/1N1514	INT	3.45	3.05	2.65
MZ15T10/1N1514	INT	2.75	2.45	2.10
MZ500-1	MOT	.57	.....	.38
MZ500-2	MOT	.57	.....	.38
MZ500-3	MOT	.57	.....	.38
MZ500-4	MOT	.57	.....	.38
MZ500-5	MOT	.57	.....	.38
MZ500-6	MOT	.57	.....	.38
MZ500-7	MOT	.57	.....	.38
MZ500-8	MOT	.57	.....	.38
MZ500-9	MOT	.57	.....	.38
MZ500-10	MOT	.57	.....	.38
MZ500-11	MOT	.57	.....	.38
MZ500-12	MOT	.57	.....	.38
MZ500-13	MOT	.57	.....	.38
MZ500-14	MOT	.57	.....	.38
MZ500-15	MOT	.57	.....	.38
MZ500-16	MOT	.57	.....	.38
MZ500-17	MOT	.57	.....	.38
MZ500-18	MOT	.57	.....	.38
MZ500-19	MOT	.57	.....	.38
MZ500-20	MOT	.57	.....	.38
MZ500-21	MOT	.57	.....	.38
MZ500-22	MOT	.57	.....	.38
MZ500-23	MOT	.57	.....	.38
MZ500-24	MOT	.57	.....	.38
MZ500-25	MOT	.57	.....	.38
MZ500-26	MOT	.57	.....	.38
MZ500-27	MOT	.57	.....	.38
M1500-28	MOT	.57	.....	.38
MZ500-29	MOT	.57	.....	.38
MZ500-30	MOT	.57	.....	.38
MZ500-31	MOT	.57	.....	.38
MZ500-32	MOT	.57	.....	.38
MZ500-33	MOT	.57	.....	.38
MZ500-34	MOT	.57	.....	.38
MZ500-35	MOT	.57	.....	.38
MZ500-36	MOT	.57	.....	.38
MZ500-37	MOT	.57	.....	.38
MZ500-38	MOT	.57	.....	.38
MZ500-39	MOT	.57	.....	.38
MZ500-40	MOT	.57	.....	.38
MZ2360/MR2360	MOT	.57	.....	.38
MZ2361/MR2361	MOT	.57	.....	.38
MZ4614	MOT	3.85	3.35	2.90
MZ4615	MOT	3.85	3.35	2.90
MZ4616	MOT	3.85	3.35	2.90
MZ4617	MOT	3.85	3.35	2.90
MZ4618	MOT	3.85	3.35	2.90
MZ4619	MOT	3.85	3.35	2.90
MZ4620	MOT	3.85	3.35	2.90
MZ4621	MOT	3.85	3.35	2.90

Type No.	Mfr.	1-99	100-Mix	100-999
MZ4622	MOT	3.85	3.35	2.90
MZ4623	MOT	3.85	3.35	2.90
MZ4624	MOT	3.85	3.35	2.90

Type No.	Mfr.	1-99	100-Mix	100-Up
MZ4625	MOT	3.85	3.35	2.90
MZ4626	MOT	3.85	3.35	2.90
MZ4627	MOT	3.85	3.35	2.90

Type No.	Mfr.	1-24	25-99	100-Up
NE506K	SPR	26.25	21.00	18.50
NE518K	SPR	11.25	9.00	7.90

Type No.	Mfr.	1-99	100-Mix	100-Up
OCP-70	AME	5.00		3.30
OCP-71	AME	5.55		3.70

Type No.	Mfr.	1-24	25-99	100-Up
OM-200	AME	1.91	3.94	3.54

Type No.	Mfr.	1-99	100-999	1000-9999
P1027	TEL	3.30	2.20	
P1028	TEL	3.70	2.45	
P1029	TEL	9.95	6.45	
P1086	TEL	1.60	1.15	
P1087	TEL	1.50	1.00	

Type No.	Mfr.	1-9	10-99	100-999
PA107/4JPA107	GE	95.60	63.75	42.50
PA113/4JPA113	GE	15.15	10.10	6.75
PADT-20	AME	.84	.56	

Type No.	Mfr.	1-99	100-999	1000-Up
Q1B	INT	.41	.33	
Q1H	INT	.29	.23	
Q4B	INT	1.56	.94	

Type No.	Mfr.	1-9	10-99	100-Up
R210	INT	1.17	1.04	.94

Type No.	Mfr.	1-99	100-999	1000-Up
RA1/D19RA1	GE	4.50	3.00	2.70
RA1A	GE	7.95	5.30	4.75
RA1B	GE	14.10	9.40	8.45
RA2	GE	7.95	5.30	2.75
RA2A	GE	22.50	15.00	13.50

Type No.	Mfr.	1-99	100-Mix	100-999
S-1M	INT	2.25	2.00	
S-3M	INT	3.95	3.51	

Type No.	Mfr.	1-9	10-99	100-999
S-4M	INT	3.95	3.51	
S-5M	INT	4.95	4.40	4.40

Type No.	Mfr.	1-99	100-999	1000-Up
S-5W5P-AC	INT	2.90	2.10	

Type No.	Mfr.	1-99	100-999	100-Up
S-26	GE	9.95		

Type No.	Mfr.	1-24	25-99	100-Up
S-50M	SAR	12.00	10.30	

Type No.	Mfr.	1-9	10-99	100-999
S-100A1	GE	6.90		
S-100A3	GE	7.45		
S-100A4	GE	9.85		
S-100A5	GE	9.50		
S-100B1	GE	7.80		
S-100B3	GE	8.35		
S-100B4	GE	10.70		
S-100C1	GE	8.80		
S-100C3	GE	9.30		
S-100C4	GE	11.70		
S-100D1	GE	8.20		
S-100D3	GE	8.70		
S-100D4	GE	11.20		
S-100E1	GE	8.80		
S-100E3	GE	9.30		
S-100E4	GE	11.70		
S-100F1	GE	8.20		
S-100F3	GE	8.70		
S-100F4	GE	11.20		
S-100G1	GE	5.70		
S-100G3	GE	6.25		
S-100G4	GE	8.65		

Type No.	Mfr.	1-9	10-99	100-999
S-200A1	GE	18.00		
S-200A2	GE	23.20		
S-200A3	GE	24.40		
S-200A4	GE	26.10		
S-200A21	GE	24.00		
S-299A41	GE	27.15		
S-300A1	GE	23.30		
S-300A2	GE	23.30		
S-300A3	GE	23.30		
S-300A4	GE	23.90		
S-300A5	GE	25.30		
S-300A6	GE	26.60		

Type No.	Mfr.	1-99	10-999	100-Up
S-400A1	GE	7.15	5.35	
S-400A1S	GE	8.15	6.10	
S-400A1SC	GE	8.80	6.60	

Type No.	Mfr.	1-9	10-99	100-999
S-488	SAR	1.67	1.50	1.02
S-490	SAR	2.39	2.15	1.41
S-491	SAR	2.75	2.39	
S-492	SAR	3.11	2.80	1.80
S-493	SAR	3.83	3.45	2.18
S-494	SAR	4.55	4.10	2.56
S-495	SAR	5.27	4.75	.72
S-591	SAR	.83	.75	
S-594	SAR	5.03	4.53	4.03
S-102E4PL	INT	1.95	1.75	
S-102E6PL	INT	2.50	2.20	
S-1020E8PL	INT	3.45	2.90	

Type No.	Mfr.	1-24	25-99	100-Up
S-5017/1N1237	SAR	5.25	4.69	
S-5018/1N1238	SAR	5.25	4.69	
S-5019/1N1239	SAR	7.77	6.94	
S-5130	SAR	9.65	8.65	
S-5251/1N2389	SAR	5.25	4.69	
S-5343	SAR	8.33	7.33	
S-5745	SAR	12.43	10.64	9.90
S-5745-1	SAR	12.69	10.87	10.11
S-5745-2	SAR	12.96	11.10	10.32
S-5745-3	SAR	13.76	11.78	10.96
S-5745-4	SAR	14.36	12.30	11.44
S-5745-5	SAR	15.77	13.50	12.56
S-5959	SAR	1.94	1.66	1.54
S-5959-1	SAR	2.22	1.00	1.77
S-5959-2	SAR	2.44	2.09	1.94
S-5959-3	SAR	3.06	2.62	2.43
S-5959-4	SAR	4.71	4.03	3.75
S-5959-5	SAR	3.50	3.00	2.80
S-6121	SAR	4.01	3.43	3.19
S-6121-1	SAR	4.21	3.60	3.35
S-6121-2	SAR	4.36	3.73	3.47
S-6121-3	SAR	4.41	3.78	3.51
S-6211	SAR	2.12	1.82	1.69
S-6211-1	SAR	2.34	2.00	1.86
S-6211-2	SAR	2.56	2.19	2.04
S-6211-3	SAR	3.21	2.75	2.55
S-6211-4	SAR	4.94	4.23	3.94

Type No.	Mfr.	1-99	100-999	1000-Up
SC35A	GE	2.52	1.68	
SC35B	GE	2.70	1.80	
SC35D	GE	3.39	2.26	
SC35F	GE	2.36	1.57	
SC36A	GE	2.07	1.38	
SC36B	GE	2.25	1.50	
SC36D	GE	2.94	1.96	
SC36F	GE	1.91	1.27	
SC40A	GE	2.84	1.89	
SC40B/ZJ25B	GE	3.03	2.02	
SC40D	GE	3.86	2.57	
SC40E	GE	4.31	2.87	
SC40F	GE	2.65	1.76	
SC41A	GE	2.39	1.59	
SC41B/ZJ285B	GE	2.58	1.72	
SC41E	GE	3.85	2.57	
SC41F	GE	2.19	1.46	
SC45A	GE	3.65	2.43	
SC45B/ZJ290B	GE	3.93	2.62	
SC45D	GE	4.98	3.32	
SC45D/ZJ290B	GE	3.93	2.62	
SC45E	GE	5.64	3.76	
SC45F	GE	3.48	2.32	
SC46A	GE	4.53	3.02	
SC45B/ZJ291B	GE	5.19	3.46	
SC46D	GE	2.93	1.95	
SC46E	GE	3.75	2.50	
SC46F	GE	4.02	2.68	

Type No.	Mfr.	1-99	100-999	1000-Up
SC50A	GE	5.82	3.88	
SC50B	GE	8.50	5.67	
SC50D	GE	3.50	2.33	
SC50E	GE	3.50	2.33	
SC50F	GE	3.57	2.38	
SC51A	GE	5.38	3.58	
SC51B	GE	8.05	5.37	
SC51D	GE	3.05	2.03	
SC51E	GE	1.50	1.00	
SC51F	GE	1.95	1.30	
SC60B	GE	6.85	4.56	
SC60D	GE	9.50	6.34	
SC61B	GE	6.30	4.20	
SC61D	GE	8.98	5.98	
SC141B	GE	1.50	1.00	
SC141D	GE	2.08	1.39	
SC146B	GE	1.95	1.30	
SC146D	GE	2.72	1.81	
SCH51	SCH	24.50		
SD-92A	INT	.68	.46	
SD-94	INT	.89	.60	
SD-94A	INT	.96	.64	
SD-95	INT	.99	.67	
SD-95A	INT	1.06	.71	
SD150/1N3604	GE	.83	.56	.32

Type No.	Mfr.	1-4	5-99	100-249
SD500	INT	.67	.59	.63

Type No.	Mfr.	1-99	100-999	1000-Up
SDA1020E6	INT	5.40	4.30	
SDA1020E8	INT	6.75	6.00	

Type No.	Mfr.	1-999	1000-4999	5000-Up
SK3003	RCA	.99		
SK3004	RCA	1.14		
SK3005	RCA	1.17		
SK3006	RCA	1.41		
SK3007	RCA	1.26		
SK3008	RCA	1.23		
SK3009	RCA	2.34		
SK3010	RCA	1.26		
SK3011	RCA	1.62		
SK3012	RCA	4.38		
SK3013	RCA	4.68		
SK3014	RCA	3.15		
SK3015	RCA	6.30		
SK3016	RCA	.57		
SK3017A	RCA	.60		
SK3018	RCA	1.35		
SK3019	RCA	1.47		
SK3020	RCA	1.32		
SK3021	RCA	1.95		
SK3022	RCA	3.76		
SK3023	RCA	3.76		
SK3024	RCA	1.98		
SK3025	RCA	1.98		
SK3026	RCA	1.80		
SK3027	RCA	3.15		
SK3028	RCA	3.60		
SK3029	RCA	6.30		
SK3030	RCA	.42		
SK3031	RCA	.51		
SK3032	RCA	.61		
SK3033	RCA	.81		
SK3034	RCA	4.50		
SK3035	RCA	5.49		
SK3038	RCA	1.44		
SK3039	RCA	1.98		
SK3040	RCA	2.25		
SK3041	RCA	2.52		

Type No.	Mfr.	1-24	25-99	100-Up
SP680A	SPR	2.00	1.60	1.35

Type No.	Mfr.	1-99	100-999	1000-Up
SQ2508	RCA	1.42	1.03	.86
SQ2519	RCA	1.32	.97	.80
SQ2520	RCA	1.52	1.10	.92
SQ2521	RCA	1.62	1.18	.98
SQ2529	RCA	1.42	1.03	.86
SQ2534	RCA	1.42	1.03	.86
SQ2535	RCA	1.82	1.32	1.10
SQ2536	RCA	1.42	1.03	.86
SQ2544	RCA	2.48	1.80	1.50
SQ2544V1	RCA	2.48	1.80	1.50
SQ2555	RCA	1.42	1.03	.86

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Type No.	Mfr.	1-99	100-999	1000-Up
SQ2556	RCA	1.42	1.03	.86
SQ2557	RCA	1.40	1.02	.85

Type No.	Mfr.	1-99	100-249	500-999
SS1	SCH	.23	.18	.16
SS1-2	SCH	.50	.39	.35
SS1-4	INT	14.40	.....	.....

Type No.	Mfr.	1-24	25-99	100-Up
ST2-30P	SAR	3.70	3.17	2.97

Type No.	Mfr.	1-9	10-99	100-Up
ST-2/1N2631	INT	5.50	4.95	.....

Type No.	Mfr.	1-99	100-999	1000-Up
ST2/ZJ238	GE	.61	.44	.....

Type No.	Mfr.	1-9	10-99	100-Up
ST-2A/1N2632	INT	7.95	7.10	.....

Type No.	Mfr.	1-24	25-99	100-999
ST3A40/ST340P	SAR	3.16	2.70	2.52

Type No.	Mfr.	1-99	100-999	1000-Up
ST4-10P	SAR	1.75	1.39	.....
ST-5A10P	SAR	3.25	2.60	.....
ST-5A20P	SAR	3.81	3.00	.....
ST-5A40P	SAR	5.48	4.35	.....
ST-5A60P	SAR	9.20	7.15	.....

Type No.	Mfr.	1-9	10-99	100-Up
ST-7A	INT	9.65	8.65	.....

Type No.	Mfr.	1-24	25-99	100-Up
ST-14	INT	3.50	3.00	.....

Type No.	Mfr.	1-24	25-99	100-999
ST25-1B1-BBX	SAR	13.93	11.93	11.09
ST210-1B1-BBX	SAR	14.30	12.24	11.39
ST220-1B1-BBX	SAR	14.50	12.41	11.54
ST230-1B1-BBX	SAR	14.83	12.70	11.81
ST240-1B1-BBX	SAR	16.03	13.73	12.77
ST250-1B1-BBX	SAR	16.70	14.30	13.30
ST260-1B1-BBX	SAR	18.44	15.79	14.68
ST35-1B1-BBX	SAR	29.19	25.00	23.25
ST310-1B1-BBX	SAR	29.99	25.68	23.89
ST320-1B1-BBX	SAR	30.80	26.37	24.53
ST340-1B1-BBX	SAR	32.26	27.63	25.70
ST350-1B1-BBX	SAR	33.33	28.54	26.55
ST360-1B1-BBX	SAR	34.47	29.52	27.45
ST45-1B1-BBX	SAR	53.44	45.76	42.56
ST410-1B1-BBX	SAR	54.38	45.56	43.31
ST420-1B1-BBX	SAR	56.25	48.16	44.79
ST430-1B1-BBX	SAR	58.45	50.05	40.55
ST440-1B1-BBX	SAR	60.79	52.05	48.41
ST450-1B1-BBX	SAR	64.33	55.08	51.23
ST460-1B1-BBX	SAR	74.88	64.12	59.64
ST-460P/1N1190	SAR	4.89	4.10	3.90

Type No.	Mfr.	1-24	25-99	1000-Up
ST-660P	SAR	28.50	24.40	22.80

Type No.	Mfr.	1-99	100-999	1000-Up
SU2078	TEL	16.20	9.60	.....
SU2079	TEL	12.60	8.40	.....
SU2080	TEL	8.00	5.25	.....
SU2081	TEL	8.00	5.25	.....
SU2098	TEL	12.80	8.50	.....
SU2098A	TEL	14.80	9.85	.....
SU2098B	TEL	18.00	12.00	.....
SU2099	TEL	9.60	6.40	.....
SU2099A	TEL	12.80	8.50	.....

Type No.	Mfr.	1-99	100-499	500-999
SV1	SCH	.41	.35	.29
SV1-LR	SCH	.43	.37	.31
SZ2.4	SCH	.49	.38	.33
SZ2.4A	SCH	.59	.47	.41
SZ2.4-1%	SCH	1.07	.97	.91
SZ2.4-2%	SCH	.89	.81	.76
SZ2.7	SCH	.49	.38	.33
SZ2.7A	SCH	.59	.47	.41
SZ2.7-1%	SCH	1.07	.97	.91
SZ2.7-2%	SCH	.89	.81	.76
SZ3.0	SCH	.49	.38	.33
SZ3.0A	SCH	.59	.47	.41
SZ3.0-1%	SCH	1.07	.97	.91
SZ3.0-2%	SCH	.89	.81	.76
SZ3.3	SCH	.49	.38	.33
SZ3.3A	SCH	.59	.47	.41
SZ3.3-1%	SCH	1.07	.97	.91
SZ3.3-2%	SCH	.89	.81	.76
SZ3.6	SCH	.49	.38	.33
SZ3.6A	SCH	.59	.47	.41
SZ3.6-1%	SCH	1.07	.97	.91
SZ3.6-2%	SCH	.89	.81	.76
SZ3.9	SCH	.49	.38	.33
SZ3.9A	SCH	.59	.47	.41
SZ3.9-1%	SCH	1.07	.97	.91
SZ3.9-2%	SCH	.89	.81	.76
SZ4.3	SCH	.49	.38	.33
SZ4.3A	SCH	.59	.47	.41
SZ4.3-1%	SCH	1.07	.97	.91
SZ4.3-2%	SCH	.89	.81	.76
SZ4.7	SCH	.49	.38	.33
SZ4.7A	SCH	.59	.47	.41
SZ4.7-1%	SCH	1.07	.97	.91
SZ4.7-2%	SCH	.89	.81	.76
SZ5.1	SCH	.49	.38	.33
SZ5.1A	SCH	.59	.47	.41
SZ5.1-1%	SCH	1.07	.97	.91
SZ5.1-2%	SCH	.89	.81	.76
SZ5.6	SCH	.49	.38	.33
SZ5.6A	SCH	.59	.47	.41
SZ5.6-1%	SCH	1.07	.97	.91
SZ5.6-2%	SCH	.89	.81	.76
SZ6.2	SCH	.49	.38	.33
SZ6.2A	SCH	.59	.47	.41
SZ6.2-1%	SCH	1.07	.97	.91
SZ6.2-2%	SCH	.89	.81	.76
SZ6.8	SCH	.49	.38	.33
SZ6.8A	SCH	.59	.47	.41
SZ6.8-1%	SCH	1.07	.97	.91
SZ6.8-2%	SCH	.89	.81	.76
SZ9.1	SCH	.49	.38	.33
SZ9.1A	SCH	.59	.47	.41
SZ9.1-1%	SCH	1.07	.97	.91
SZ9.1-2%	SCH	.89	.81	.76
SZ10.0	SCH	.49	.38	.33
SZ10.0A	SCH	.59	.47	.41
SZ10.0-1%	SCH	1.07	.97	.91
SZ10.0-2%	SCH	.89	.81	.76
SZ12.0	SCH	.49	.38	.33
SZ12.0A	SCH	.59	.47	.41
SZ12.0-1%	SCH	1.07	.97	.91
SZ12.0-2%	SCH	.89	.81	.76
SZ13.0	SCH	.49	.38	.33
SZ13.0A	SCH	.59	.47	.41
SZ13.0-1%	SCH	1.07	.97	.91
SZ13.0-2%	SCH	.89	.81	.76
SZ15.0	SCH	.49	.38	.33
SZ15.0A	SCH	.59	.47	.41
SZ15.0-1%	SCH	1.07	.97	.91
SZ15.0-2%	SCH	.89	.81	.76
SZ16.0	SCH	.49	.38	.33
SZ16.0A	SCH	.59	.47	.41
SZ16.0-1%	SCH	1.07	.97	.91
SZ16.0-2%	SCH	.89	.81	.76

Type No.	Mfr.	1-9	10-99	100-999
TO65/075	INT	.59	.44	.35
T200/300	INT	1.10	.92	.61

Type No.	Mfr.	1-99	100-999	1000-4999
TA2761/40608	RCA	2.48	1.80	1.50
TA2819/2N5415	RCA	3.30	2.40	2.00
TA2819A/2N5416	RCA	4.95	3.60	3.00
TA2836/2N5441	RCA	8.17	5.94	4.95
TA2837/2N5442	RCA	11.47	8.34	6.95
TA2838/2N5444	RCA	8.66	6.30	5.25
TA2839/2N5445	RCA	10.51	8.70	7.25
TA7606	RCA	16.95	.....	.....
TA7609	RCA	28.70	.....	.....

Type No.	Mfr.	1-24	25-99	100-999
TAA103	AME	2.00	1.34	1.07
TAA241	AME	4.42	2.95	2.36
TAA263	AME	1.58	1.05	.84
TAA293	AME	1.83	1.22	.98
TAA300	AME	3.37	2.25	1.80
TAA310	AME	1.83	1.22	.98
TAA320	AME	1.15	.75	.60
TAA350	AME	2.70	1.80	1.44
TAA370	AME	6.09	4.06	3.27
TAA380	AME	2.70	1.80	1.44
TAA450	AME	2.58	1.72	1.38
TAA500	AME	2.85	1.90	1.52
TAB101	AME	3.18	2.12	1.52
TAD100	AME	3.99	2.66	2.13

Type No.	Mfr.	1-99	100-999	1000-4999
TD-1/1N3712	GE	3.60	2.40	2.18
TD-1A/2N3713	GE	5.45	3.60	3.27
TD-2/1N3714	GE	3.16	2.12	1.91
TD-3/1N3716	GE	2.25	1.50	1.35
TD-3A/1N3717	GE	4.25	2.83	2.56
TD-4/1N3718	GE	2.74	1.83	1.65
TD-4A/1N3719	GE	4.25	2.82	2.56
TD-5/1N3720	GE	3.65	2.42	2.18
TD-9	GE	4.00	2.65	.....
TD-100	SPR	2.25	1.50	1.20
TD-101	SPR	1.50	1.00	.80
TD-102	SPR	1.35	.90	.72
TD-104/TD-253B	GE	12.00	8.00	.....
TD-251	GE	7.50	5.00	.....
TD-251A	GE	12.00	8.00	.....
TD-252	GE	7.50	5.00	.....
TD-252A	GE	12.00	8.00	.....
TD-253	GE	6.00	4.00	.....
TD-253A	GE	9.00	6.00	.....
TD-253B/TD104	GE	12.00	8.00	.....
TD-254A	GE	12.00	8.00	.....
TD-256A	GE	12.00	8.00	.....
TD-400	SPR	3.00	2.00	1.60
TD-401	SPR	1.95	1.30	1.05
TD-402	SPR	1.80	1.20	1.45
TD-600	SPR	2.70	1.80	1.45
TD-601	SPR	1.65	1.10	.88
TD-602	SPR	1.50	1.00	.80
TD-710	GE	2.52	1.68	1.51
TD-712	GE	2.38	1.58	1.43
TD-713	GE	3.60	2.40	2.16
TD-714	GE	2.30	1.53	1.38
TD-715	GE	3.42	2.28	2.05
TD-716	GE	2.25	1.50	1.35
TD-717	GE	3.33	2.22	1.98
TD-718	GE	2.55	1.50	1.35
TD-719	GE	3.33	2.22	1.98
TI-40A3	TI	3.65	2.45	2.10
TI-51	TI	.39	.26	.14
TI-52	TI	.42	.28	.15
TI-55	TI	.57	.34	.19
TI-56	TI	.65	.40	.20
TI-57	TI	.73	.46	.21
TI-59	TI	.90	.60	.21
TI-60	TI	.96	.67	.21
TI-71	TI	.76	.65	.58
TI-110/2N1595	TI	3.00	2.00	.....
TI-111/2N1596	TI	4.50	3.05	.....
TI-130/2N1600	TI	5.10	3.40	.....
TI-131/2N1601	TI	5.70	3.40	.....
TI-145A0	TI	1.65	1.10	.90
TI-145A1	TI	1.80	1.20	1.10
TI-145A2	TI	2.10	1.40	1.30
TI-159	TI	3.00	2.00	1.80
TI-390	TI	1.46	.97	.88
TI-391	TI	1.23	.81	.....
TI-395	TI	.66	.44	.40
TI-400	TI	.92	.61	.55
TI-401	TI	.92	.61	.55
TI-402	TI	.92	.61	.55
TI-403	TI	.92	.61	.55
TI-412/2N3704	TI	.34	.29	.....
TI-413/2N3705	TI	.29	.25	.....
TI-414/2N3706	TI	.27	.24	.....

Type No.	Mfr.	1-99	100-999	1000-4999
TI-415/2N3707	TI	.34	.29	
TI-416/2N3708	TI	.27	.24	
TI-417/2N3710	TI	.30	.27	
TI-418/2N3711	TI	.32	.28	
TI-421/2N2388	TI	14.40	9.65	
TI-429/2N2394	TI	18.00	12.00	
TI-433/2N2396	TI	11.55	7.70	
TI-474/2N929	TI	2.25	1.50	
TI-480	TI	1.55	1.20	1.02
TI-481	TI	1.90	1.45	1.23
TI-482	TI	5.70	3.78	2.95
TI-483	TI	6.35	4.23	3.17
TI-484	TI	7.75	5.16	4.07
TI-485	TI	3.25	2.50	2.20
TI-486	TI	4.90	3.25	2.85
TI-487	TI	5.60	3.75	3.25
TI-492	TI	1.55	1.20	1.00
TI-493	TI	1.90	1.45	1.00
TI-494	TI	2.50	1.90	1.15
TI-495	TI	3.00	2.30	1.20
TI-496	TI	1.75	1.35	1.15
TI-540	TI	7.88	5.25	
TI-608/3N74	TI	14.70	9.80	
TI-610/2N3035	TI	12.50	8.30	
TI-611/2N3034	TI	14.50	9.67	
TI-619/2N3082	TI	29.50	26.30	
TI-620/2N2803	TI	24.00	16.00	
TI-621/2N2804	TI	21.45	14.30	
TI-622/2N2805	TI	41.10	27.40	

Type No.	Mfr.	1-99	100-999	1000-Up
TI-623/2N2806	TI	26.00	17.30	
TI-624/2N2807	TI	6.00	4.00	
TI-898/2N985	TI	2.83	1.89	
TI-1133	TI	14.70	9.80	8.81
TI-3027	TI	1.20	.80	.72
TI-3028	TI	1.43	.95	.86
TI-3029	TI	1.65	1.10	.99
TI-3030	TI	1.88	1.25	1.13
TI-3031	TI	2.03	1.35	1.22
TI-3035/2N3420	TI	10.45	6.95	
TI-3036/2N3421	TI	10.80	7.20	
TI-3041	TI	29.25	19.50	
TIC-20	TI	2.58	1.72	
TIC-21	TI	2.90	1.95	
TIC-22	TI	3.03	2.02	
TIC-23	TI	3.35	2.25	
TIC-44	TI	.77	.51	.40
TIC-45	TI	.83	.55	.45
TIC-46	TI	.96	.64	.52
TIC-47	TI	1.09	.85	.70
TIL58	TI	8.90	7.75	6.80
TIL107	TI	4.35	2.95	2.65
TIL108	TI	15.00	10.00	
TIL209	TI	.85	.49	.45
TIL601	TI	3.52	2.36	2.12
TIL602	TI	3.70	2.48	2.22
TIL603	TI	3.80	2.60	2.33
TIL604	TI	4.10	2.75	2.46
TIL605	TI	3.70	2.48	2.22
TIL606	TI	3.97	2.66	2.38
TIL607	TI	4.15	2.77	2.48
TIL608	TI	4.36	2.92	2.61
TIL609	TI	3.52	2.36	2.12
TIL610	TI	3.70	2.48	2.22
TIL611	TI	3.88	2.60	2.33
TIL612	TI	4.10	2.75	2.46
TIL613	TI	3.70	2.48	2.22
TIL614	TI	3.97	2.66	2.38
TIL615	TI	4.13	2.77	2.48
TIL616	TI	4.36	2.92	2.61
TIS-110	TI	.42	.36	.29
TIS-111	TI	.44	.38	.30
TIP-29	TI	.91	.70	.67
TIP-29A	TI	1.00	.76	.72
TIP-29B	TI	.91	.68	.61
TIP-29C	TI	1.03	.77	.70
TIP-30	TI	1.00	.76	.74
TIP-30A	TI	1.12	.86	.82
TIP-30B	TI	1.06	.80	.72
TIP-30C	TI	1.21	.91	.82
TIP-31	TI	1.25	.82	.78
TIP-31A	TI	1.37	.91	.86
TIP-31B	TI	1.10	.83	.74
TIP-31C	TI	1.24	.93	.84
TIP-32	TI	1.57	1.05	1.00
TIP-32A	TI	1.80	1.19	1.14
TIP-32B	TI	1.24	.93	.84
TIP-32C	TI	1.40	1.05	.95
TIP-33	TI	1.79	1.19	1.12
TIP-33A	TI	1.92	1.28	1.20

Type No.	Mfr.	1-99	100-999	1000-Up
TIP-33B	TI	1.56	1.17	1.05
TIP-33C	TI	1.74	1.31	1.18
TIP-34	TI	3.58	2.38	2.24
TIP-34A	TI	3.84	2.56	2.40
TIP-34B	TI	1.86	1.40	1.26
TIP-34C	TI	2.04	1.53	1.38
TIP-35	TI	4.38	2.92	2.85
TIP-35A	TI	4.86	3.24	3.15
TIP-36	TI	9.00	6.00	5.10
TIP-36A	TI	10.80	7.20	6.10
TIP-36B	TI	4.25	3.20	2.88
TIP-36C	TI	4.60	3.47	3.12
TIP-41	TI	1.19	.90	.81
TIP-41A	TI	1.28	.96	.86
TIP-41B	TI	1.40	1.05	.95
TIP-41C	TI	1.60	1.20	1.08
TIP-42	TI	1.42	1.07	.96
TIP-42A	TI	1.53	1.15	1.02
TIP-42B	TI	1.67	1.25	1.12
TIP-42C	TI	1.85	1.39	1.25
TIP-3055	TI	1.50	1.00	.80
TIS-03/2N3703	TI	.37	.32	
TIS-04/2N3703	TI	.34	.29	
TIS-04	TI	30.00	20.00	
TIS-24	TI	6.45	4.30	3.80
TIS-25	TI	11.00	8.90	8.50
TIS-26	TI	8.50	6.90	6.60
TIS-34/2N5248	TI	1.10	.75	
TIS-37	TI	.38	.34	.26
TIS-38	TI	.35	.31	.24

Type No.	Mfr.	1-99	100-499	500-999
TIS-39	TI	8.10	5.40	4.55

Type No.	Mfr.	1-99	100-999	1000-Up
TIS-34/2N5248	TI	1.10	.75	
TIS-37	TI	.38	.34	.26
TIS-38	TI	.35	.31	.24

Type No.	Mfr.	1-99	100-499	500-999
TIS-39	TI	8.10	5.40	4.55

Type No.	Mfr.	1-99	100-999	1000-Up
TIS-41/2N4859	TI	3.35	2.40	
TIS-43	TI	1.08	.72	
TIS-56	TI	2.70	1.80	1.13
TIS-57	TI	1.80	1.20	.97
TIS-58	TI	.62	.55	.43
TIS-59	TI	.61	.53	.42
TIS-62	TI	.37	.32	.25
TIS-63	TI	.32	.28	.22
TIS-64	TI	.29	.25	.20
TIS-73	TI	1.76	1.54	1.21
TIS-74	TI	1.54	1.34	1.06
TIS-75	TI	1.60	1.40	1.10
TIS-78	TI	1.54	1.23	1.06
TIS-79	TI	1.20	1.05	.83
TIS-84	TI	.50	.43	.34
TIS-85	TI	.48	.42	.33
TIS-86	TI	.48	.42	.33
TIS-87	TI	.51	.45	.35
TIS-88/2N5245	TI	.70	.62	
TIS-92	TI	.35	.31	.24
TIS-93	TI	.42	.36	.29
TIS-93M	TI	.43	.38	.30
TIS-97	TI	.34	.29	.23
TIS-98	TI	.29	.25	.20
TIS-99	TI	.30	.27	.21
TIS-100	TI	.65	.57	
TIS-101	TI	.61	.53	.42
TIS-113	TI	.75	.59	.51
TIS-114	TI	.70	.56	.49
TIS-115	TI	.82	.69	.60
TIS-116	TI	.79	.62	.54
TIX-210/2N3551	TI	100.00	67.50	
TIX-211/2N3552	TI	112.50	75.00	
TIX-316/2N3996	TI	1.48	.99	
TIX-605/2N2432	TI	8.10	5.40	
TIX-613/2N2639	TI	22.00	14.70	
TIX-616/2N2642	TI	10.25	6.75	
TIX-693/2N2386	TI	3.75	2.40	
TIX-694/2N2497	TI	3.75	2.50	
TIX-695/2N2498	TI	3.70	2.45	
TIX-696/2N2499	TI	3.60	2.40	
TIX-697/2N2500	TI	5.25	3.50	
TIX-802/2N3037	TI	18.00	12.00	
TIX-803/2N3038	TI	19.50	13.00	
TIX-804/2N3039	TI	22.50	15.00	
TIX-805/2N3040	TI	24.00	16.00	

Type No.	Mfr.	1-24	25-99	100-999
TIX-808/2N3045	TI	22.40	19.40	14.90
TIX-810/2N3047	TI	29.90	25.90	19.90
TIX-813/2N3050	TI	43.40	34.75	29.00
TIX-3016A	TI	50.00	43.50	29.00

Type No.	Mfr.	1-9	10-99	100-999
TIXD-17	TI	4.38	2.92	2.10
TIXD-18	TI	3.10	2.05	1.50
TIXD-19	TI	4.38	2.92	2.10
TIXD-20	TI	3.10	2.05	1.50
TIXD-21	TI	25.00	16.80	12.10
TIXD-22	TI	22.50	15.00	11.00
TIXD-23	TI	25.00	16.80	12.10
TIXD-24	TI	22.50	15.00	11.99
TIXD-25	TI	54.00	36.00	26.20
TIXD-26	TI	46.50	31.00	22.50
TIXD-27	TI	9.50	5.70	3.20
TIXD-28	TI	4.75	3.10	1.60

Type No.	Mfr.	1-99	100-999	1000-Up
TIXM-10	TI	.92	.61	
TIXM-101	TI	19.00	12.65	
TIXM-103	TI	50.00	33.00	
TIXM-104	TI	33.00	22.00	
TIXS-33	TI	33.60	22.50	
TIXS-35	TI	39.30	26.50	22.50

Type No.	Mfr.	1-9	10-99	100-999
TIXV-01	TI	112.50	90.00	81.00
TIXV-02	TI	135.00	108.00	90.00
TIXV-03	TI	180.00	160.00	140.00
TIXV-04	TI	200.00	180.00	160.00

Type No.	Mfr.	1-99	100-999	1000-Up
TIV-305	TI	3.25	1.75	1.10

Type No.	Mfr.	1-24	25-99	100-499
TMS-3406LR	TI	12.50	7.55	6.50

Type No.	Mfr.	1-99	100-999	1000-Up
TN-53	SPR	.85	.57	.52
TN-59	SPR	.65	.45	.41

Type No.	Mfr.	1-99	100-Mix	100-999
U-1715	TEL	9.80		6.55
U-1837E	TEL	.60		.40
U-1897E	TEL	1.10		.75
U-1898E	TEL	.90		.50
U-1899E	TEL	1.00		.65
U-1277	TEL	4.65		3.10
U-1278	TEL	4.65		3.10
U-1279	TEL	4.95		3.30
U-1280	TEL	3.00		2.00

Type No.	Mfr.	1-99	100-999	1000-Up
U-1281	TEL	4.95	3.30	
U-1282	TEL	4.95	3.30	
U-1283	TEL	4.95	3.30	
U-1284	TEL	4.15	2.75	
U-1285	TEL	2.35	1.55	
U-1286	TEL	2.75	1.85	
U-1325	TEL	18.30	12.20	

Type No.	Mfr.	1-24	25-99	100-999
ULN-211A I.C.	SPR	4.20	3.40	2.80

Type No.	Mfr.	1-99	100-999	1000-Up
V64	SCH	.45	.39	.33

Type No.	Mfr.	1-9	10-99	100-999
V75HF	INT	4.60	3.22	2.76
V100HF	INT	5.50	3.85	3.30
V150HF	INT	7.75	5.42	4.65

Type No.	Mfr.	1-24	25-99	100-Up
VR6	SAR	.62	.53	.49
VR6A	SAR	.67	.57	.53
VR6B	SAR	.58	.50	.47
VR7	SAR	.62	.53	.49
VR7A	SAR	.67	.57	.53
VR7B	SAR	.58	.50	.47
VR8.5	SAR	.62	.53	.49
VR8.5A	SAR	.67	.57	.53
VR8.5B	SAR	.58	.50	.47
VR9	SAR	.62	.53	.49
VR9A	SAR	.62	.53	.49

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Type No.	Mfr.	1-24	25-99	100-Up
VR9B	SAR	.58	.50	.47
VR10	SAR	.62	.53	.49
VR10A	SAR	.62	.53	.49
VR10B	SAR	.58	.50	.47
VR12	SAR	.62	.53	.49
VR12A	SAR	.67	.57	.53
VR12B	SAR	.58	.50	.47
VR14	SAR	.62	.53	.49
VR14A	SAR	.67	.57	.53
VR14B	SAR	.58	.50	.47
VR18	SAR	.62	.53	.49
VR18A	SAR	.67	.57	.53
VR18B	SAR	.58	.50	.47
VR20	SAR	.62	.53	.49
VR20A	SAR	.67	.57	.53
VR24	SAR	.62	.53	.49
VR24A	SAR	.67	.57	.53
VR24B	SAR	.58	.50	.47
VR28	SAR	.62	.53	.49
VR28A	SAR	.67	.57	.53
VR33	SAR	.62	.53	.49
VR33A	SAR	.67	.57	.53
VR33B	SAR	.58	.50	.47
VR39	SAR	.62	.53	.49
VR39A	SAR	.67	.57	.53
VR39B	SAR	.58	.50	.47
VR47	SAR	.62	.53	.49
VR47A	SAR	.67	.57	.53
VR47B	SAR	.58	.50	.47
VR56	SAR	.62	.53	.49
VR56A	SAR	.67	.57	.53
VR56B	SAR	.58	.50	.47
VR67	SAR	.62	.53	.49
VR67A	SAR	.67	.57	.53
VR67B	SAR	.58	.50	.47
VR80	SAR	.62	.53	.40
VR80A	SAR	.67	.57	.53
VR80B	SAR	.58	.50	.47
VR90	SAR	.62	.53	.49
VR90A	SAR	.67	.57	.53
VR90B	SAR	.58	.50	.47
VR105	SAR	.82	.70	.65
VR105A	SAR	.87	.73	.69
VR105B	SAR	.78	.67	.62
VR110	SAR	.82	.70	.65
VR110A	SAR	.87	.73	.69
VR110B	SAR	.78	.67	.62
VR120	SAR	.82	.70	.65
VR120A	SAR	.87	.73	.69
VR120B	SAR	.79	.67	.62
VR130	SAR	.82	.70	.65
VR130A	SAR	.87	.73	.69
VR130B	SAR	.78	.67	.62
VR160	SAR	.82	.70	.65
VR160A	SAR	.87	.73	.69
VR160B	SAR	.78	.67	.62
VR180	SAR	.82	.70	.65
VR180A	SAR	.87	.73	.69
VR180B	SAR	.78	.67	.62
VR200	SAR	.82	.70	.65
VR200A	SAR	.87	.73	.69
VR200B	SAR	.78	.67	.62
WX115UA/2N1809	WES	76.00	63.00	.....
WX115UB/2N1810	WES	115.00	76.00	.....
WX115VC/2N1811	WES	141.00	94.00	.....
WX115VD/2N1812	WES	172.00	114.00	.....
WX115WA/2N1816	WES	101.00	84.00	.....
WX115WB/2N1817	WES	154.00	102.00	.....
WX115WC/2N1818	WES	189.00	125.00	....
WX115XA/2N1823	WES	135.00	111.00	.....
WX115SB/2N1824	WES	204.00	136.00	.....

Type No.	Mfr.	1-99	100-999	1000-Up
Z4XL6.2	GE	.75	.50	.45
Z4XL6.2B	GE	.84	.56	.49
Z4XL7.5	GE	.72	.50	.45
Z4XL9.1	GE	.75	.50	.45
Z4XL12	GE	.75	.50	.45
Z4XL12B	GE	.84	.56	.49
Z4XL14	GE	.75	.50	.45
Z4XL16	GE	.75	.50	.45
Z4XL16B	GE	.84	.56	.49
Z4XL18	GE	.75	.50	.45
Z4XL18B	GE	.84	.56	.49
Z4XL20	GE	.75	.50	.45
Z4XL20B	GE	.84	.56	.49
Z4XL22	GE	.75	.50	.45
Z4XL22B	GE	.84	.56	.49
ZJ238/ST2	GE	.75	.50	.....
ZJ257B/SC40B	GE	3.03	2.02	.....
ZJ285B/SC41B	GE	2.58	1.72	.....
ZJ290B/SC45B	GE	3.93	2.62	.....
ZJ291B/SC46B	GE	2.48	2.32	.....

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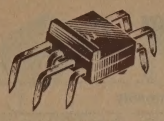
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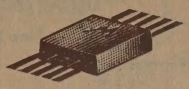
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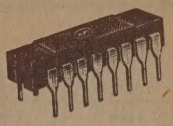
Case 627


Case 620

MILITARY AND INDUSTRIAL DEVICES

OPERATIONAL AMPLIFIERS

I. TO-91 Flat Pack Suffix F; II. 602A Metal Can Suffix G; III. 602B Metal Can Suffix F; IV. TO-99 Metal Can Suffix G; V. 614 Metal Can Suffix G; VI. TO-116 Ceramic DIP Suffix L; VII. TO-116 Plastic DIP Suffix P; VIII. 626 (8 Lead) Plastic DIP Suffix P.

TYPE		Case				SPECIFICATIONS TYPICAL AT $T_A = +25°C$						Comments
−55 to +125°C	0 to +75°C	Flat Pack Suffix F	Metal Can Suffix G	Ceramic DIP Suffix L	Plastic DIP Suffix P	A_{VOL}, V/V	V_o, V_{pk}	I_b, μA	$\lvert V_{io}\rvert$ mV	dV_{out}/dt, V/μs	f_c, MHz	
MC1520	.....	I	II	.....	.....	1,500	±4.0	0.8	5.0	5.0	10	Z_o = 50 ohms, Diff. Output
MC1530	MC1430	I	III	VI	VII	4,500	±5.2	3.0	1.0	1.0	5.0	Z_o = 25 ohms
MC1531	MC1431	I	III	VI	VII	2,500	±5.2	0.025	3.0	1.0	5.0	Z_o = 25 ohms
MC1533	MC1433	I	III	VI	VII	60,000	±13	0.5	1.0	2.0	0.5	V_{io} Adjustable
MC1535	MC1435	I	III	VI	VII	7,000	±2.8	1.2	1.0	0.67	2.0	Dual Op-Ampl.
MC1536	MC1436	.....	IV	.....	.....	500,000	±23	0.008	2.0	2.0	1.0	Internally Compensated ±28-Volt Supply
MC1537	MC1437	.....	.....	VI	VII	45,000	±14	0.2	1.0	0.25	1.0	Dual MC1709
MC1539	MC1439	.....	IV	VI	.....	100,000	±13	0.2	1.0	4.2	1.0	dV_{out}/dt = 34 @ A_V = 100
MC1556	MC1456, C	.....	IV	.....	.....	200,000	±13	0.008	2.0	2.5	1.0	Internally Compensated
MC1558	MC1458, C	.....	IV	.....	VIII	200,000	±14	0.2	1.0	0.8	1.1	Dual MC1741, C
MC1709	MC1709C	I	IV	VI	VII or VIII	45,000	±14	0.3	2.0	0.25	0.7	
MC1712	MC1712C	I	IV	.....	VII	3,600	±5.3	2.5	1.3	1.5	5.0	
MC1741	MC1741C	I	IV	VI	VII or VIII	200,000	±14	0.2	1.0	0.8	1.0	Internally Compensated
MCH2870M	MCH2870C	.....	V	.....	.....	200,000	±13	0.2	1.0	0.8	1.1	Load current ±300 mA Internally Compensated

Definitions: A_{VOL} Open-Loop Voltage Gain
$\lvert V_{io}\rvert$ Input Offset Voltage
V_o Output Voltage Swing
dV_{out}/dt Slew Rate @ Unity Gain
I_b Input Bias Current
f_c Unity Gain Crossover Frequency

LINEAR/DIGITAL INTERFACE CIRCUITS

I. TO-86 Flat Pack Suffix F; II. TO-91 Flat Pack Suffix F; III. 602B Metal Can Suffix G; IV. TO-99 Metal Can Suffix G; V. TO-116 Ceramic DIP Suffix L; VI. 620 (16 Lead) Ceramic DIP Suffix L.

TYPE		Case			Typ—Input Threshold (V_{th}, mVdc)	Voltage Gain—Typ (A_V, V/V)	Response Time—Typ (t_R, ns)	Comments
−55 to +125°C	0 to +75°C	Flat Pack Suffix F	Metal Can Suffix G	Ceramic DIP Suffix L				
MC1514	MC1414	.....	.....	V	21.5/18.5*	1700†	40	A dual differential comparator for level detection, low-level sensing, and memory applications.
MC1540	MC1440	II	III	V	17	85	20	Designed to detect bipolar differential signals derived by a core memory with cycle times as short as 0.5 μs
MC1541	MC1441	I	.....	V	17	75	30/15**	A dual-channel gated sense amplifier with separate wide-band differential input amplifiers.
MC1543	.....	.....	.....	V	20	.....	10/3.0**	A MECL dual core-memory sense amplifier; adjustable threshold with excellent threshold stability.
MC1546	MC1446	.....	.....	VI	0.5‡	600	60/40**	A four-channel plated wire sense amplifier designed to convert ±3.0 mV (or ±4.0 mV) signals from plated wire memories to MTTL logic levels.
MC1710	MC1710C	II	IV	V	0	1700†	40	A differential comparator providing high accuracy and fast reaponse time.
MC1711	MC1711C	II	IV	V	0	1500†	40	A dual differential comparator providing high accuracy and fast response time.

*−55°C/+125°C **Difl. Mode/Com. Mode †A_{VOL} ‡Input Offset Voltage, mV typ

LINE DRIVER/RECEIVER SERIES (Case TO-116, −55 to 125°C)

TYPE	Impedance-typ (KΩ @ 10 MHz)		t_{pd} ns, max	Common-Mode Voltage		Comments
	Z_{in}	Z_{out}		CMV_{in} (V—min)	CMV_{out} (V—min)	
MC1580	5.0	5.0	18	±4.0	+3.0/−9.0	Dual line driver/receiver; bias driver for MECL, interfacing for MDTL, MRTL and MTTL
MC1581	8.0	.....	20	+9.0/−3.0	.....	Dual MECL line receiver
MC1582	.....	7.0	20	.....	+9.0/−3.0	Dual MDTL and MTTL line driver
MC1583	12*	.....	40	±4.0	.....	Dual-saturated logic receiver (open-collector)
MC1584	7.0	.....	37	±4.0	.....	Dual MDTL and MTTL receiver (active pullup)

*f = 5.0 MHz

MILITARY AND INDUSTRIAL DEVICES (Cont'd)

LINEAR/DIGITAL INTERFACE CIRCUITS

Line Driver/Receiver Series

Type	Temp	Case	Comments
MC1488	0 to +75°C	TO-116	EIA RS-232C Interface Circuit—Quad MDTL Line Driver
MC1489A	0 to +75°C	TO-116	EIA RS-232C Interface Circuit—Quad MDTL Line Receiver

HIGH FREQUENCY CIRCUITS

TO-86 Flat Pack Suffix F;—TO-91 Flat Pack Suffix F;—TO-99 Metal Can Suffix G;—602A Metal Can Suffix G;—602B Metal Can Suffix G;—TO-116 Ceramic DIP Suffix L.

Type		Case			V+, V− (Vdc)	Bandwidth (MHz)	$V_{o\ p\text{-}p\ (se)}$ (Vdc)	$\lvert Z_{in}\rvert$ kΩ @ kHz		$\lvert Z_o\rvert$ Ω @ kHz		$A_{v\ (se)}$ (dB)	A_p at 60 MHz (dB)	Diff. Input and Output	AGC
−55 to +125°C	0 to +75°C	Flat Pack Suffix F	Metal Can Suffix G	Ceramic DIP Suffix L											
MC1510	MC1410	.....	III	.....	±6.0	dc to 40	4.5	6.0	20	35	20	40 (fixed)	.....	Yes	No
MC1545	MC1445	I	IV	VI	±5.0	dc to 75	2.5	10	50	25	50	18 (fixed)	.....	Yes	Yes
MC1550	.....	II	V	.....	+6.0	50	6.0	1.8	1.0 M	100 k	1.0 M	26 (AGC = 0)	25	No	Yes
MC1552	.....	.....	V	.....	+6.0	40 @ Av = 34 dB 35 @ Av = 40 dB	4.2	10	100	16	100	30 — 40 (fixed)	.....	No	No
MC1553	.....	.....	V	.....	+6.0	35 @ Av = 46 dB 15 @ Av = 52 dB	4.2	10	100	16	100	46 — 52 (fixed)	.....	No	No
MC1590	.....	.....	III	.....	+12	100 @ Av = 4 dB 60 @ Av = 25 dB	7.0	3.0	1.0 M	100 k	1.0 M	44 (AGC = 0)	45	Yes	Yes

LOW-FREQUENCY CIRCUITS (Case 602B)

Type		Output Power (W — Typ)	Voltage Gain — Typ (A_v, V/V)	Total Harmonic Distortion (% — Typ)	Comments
−55 to +125°C	0 to +70°C				
MC1554	MC1454	1.0	10, 18, 36	0.4	A power amplifier device capable of single or split supply operation.

MULTIPLIERS, MODULATORS, DETECTORS

602A Metal Can Suffix G;—620 (16 Lead) Ceramic DIP Suffix L;—TO-116 Ceramic DIP Suffix L.

−55 to +125°C	0 to +70°C	Case		Linearity Error (Typ)		Input Voltage Range Min (Vdc)	Comments
		Metal Can Suffix G	Ceramic DIP Suffix L				
MC1594	.....	.....	II	0.3%		±10	A four-quadrant multiplier designed to operate with ±15-volt supplies; has internal level-shift circuitry and voltage regulator.
.....	MC1494	.....	II	0.5%		±10	
MC1595	.....	.....	III	X Input = 0.5% Y Input = 1.0%		±10	Applications include multiply, divide, square root, mean square, phase detector, frequency doubler, balanced modulator/demodulator, electronic gain control.
.....	MC1495	.....	III	X Input = 1.0% Y Input = 2.0%		±10	
				Carrier Suppression Typ (dB) @ f (MHz)		Common-Mode Rejection Typ (CM_{rej} dB)	
MC1596	MC1496	I	III	65 50	0.5 10	85	Balanced modulator/demodulator designed for use where the output voltage is a product of an input voltage (signal) and a switching funtion (carrier).

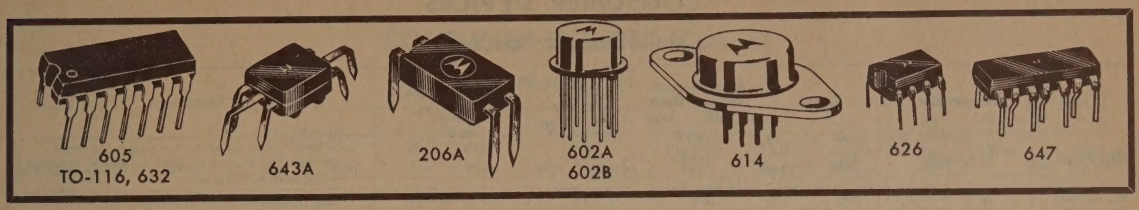
REGULATORS

TYPE		Case	V_{in} Range (Vdc)		Input-Output Diff. (Vdc)		V_O Range (Vdc)		TC_{V_O} (%/°C-Typ)	I_b (mAdc-Max)	I_{out} (mAdc-Max)	P_D (W—Max) T_A +25°C	Reg_{Line} (Max $\frac{\%V_o}{V_{in}}$)	Reg_{Load} (%V_o—Max)
−55 to +125°C	0°C to +70°C		Min	Max	Min	Max	Min	Max						
MULTI-PURPOSE REGULATORS														
.....	MC1466L	TO-116	*	*	*	*	0	*	0.01	12	*	*	0.03	0.03% +3 mV 0.2% +1 mA †
MC1566	.....		**	**					0.006	8.5			0.01	0.01% +1 mV 0.1% +1 mA †

*Limited only by the characteristics of the external series pass transistor, may be hundreds of volts or many amperes.

**An auxiliary voltage (27 Vdc nom), isolated from both the unregulated dc input voltage and Gnd, is required to bias the IC.

†Current Load Regulation (max).



MILITARY AND INDUSTRIAL DEVICES

REGULATORS

TYPE −55°C +125°C	TYPE 0°C to +70°C	Case	V_{in} Range (Vdc) Min	V_{in} Range (Vdc) Max	Input-Output Diff. (Vdc) Min	Input-Output Diff. (Vdc) Max	V_o Range (Vdc) Min	V_o Range (Vdc) Max	TC_{V_o} (%/°C-Typ)	I_b (mAdc-Max)	I_{out} (mAdc-Max)	P_D (W—Max) T_A +25°C	Reg_{Line} (Max %V_o / V_{in})	Reg_{Load} (%V_o—Max)
POSITIVE VOLTAGE REGULATORS														
.....	MC1460	602A(G) 614(R)	9.0	20	3.0	20	2.5	17	±0.002	12	200 500	0.68 3.0	0.030	0.13 0.05
MC1560	.....	602A(G) 614(R)	8.5	20	2.7	20	2.5	17	±0.002	9.0	200 500	0.68 3.0	0.015	0.13 0.05
.....	MC1461	602A(G) 614(R)	9.0	35	3.0	35	2.5	32	±0.002	12	200 500	0.68 3.0	0.030	0.13 0.05
MC1561	.....	602A(G) 614(R)	8.5	40	2.7	40	2.5	37	±0.002	9.0	200 500	0.68 3.0	0.015	0.13 0.05
.....	MC1469	602A(G) 614(R)	9.0	35	3.0	35	2.5	32	±0.002	12	200 500	0.68 3.0	0.030	0.13 0.05
MC1569	.....	602A(G) 614(R)	8.5	40	2.7	40	2.5	37	±0.002	9.0	200 500	0.68 3.0	0.015	0.13 0.05
.....	MC1723CG	TO-100	9.5	40	3.0	38	2.0	37	±0.002	4.0	150	0.8	0.030	0.20
MC1723G	.....	TO-100	9.5	40	3.0	38	2.0	37	±0.002	3.5	150	0.8	0.030	0.15
.....	MFC4060*	206A	9.0	35	3.0	.....	4.8	32	±3.0**	.....	200	1.0	0.03	0.2
.....	MFC6030P*	643A	9.0	35	3.0	.....	4.8	32	±3.0**	.....	200	1.0	0.03	0.2
NEGATIVE VOLTAGE REGULATORS														
.....	MC1463	602A(G) 614(R)	−9.0	−35	−3.0	40	−3.8	−32	±0.002	14	200 500	0.68 2.4	0.030	0.13 0.05
MC1563	.....	602A(G) 614(R)	−8.5	−40	−2.7	35	−3.6	−37	±0.002	11	200 500	0.68 2.4	0.015	0.13 0.05

*Temperature range: −10 to +75°C.
**mV/°C

SPECIAL-PURPOSE CIRCUITS

POWER DRIVERS TYPE	Temperature	Case	BV_{CEO} (Vdc—Typ)	I_{out}—Typ (A)	h_{FE}—Typ	t_{on}/t_{off} (ns—Typ)	Comments
MCH1002	−30 to +75°C	625	40	0.5	.....	115/260	Dual hybrid power drivers
MCH2005	−55 to +125°C	TO-91	30	.....	1000	350/450 max	Darlington hybrid power driver

POWER BOOSTER TYPE	Temperature	Case	Impedance—Typ Input (MΩ)	Impedance—Typ Output (Ω)	BW (MHz—Typ)	Current Gain Typ	Output Current (mAdc—Max)
MC1438	0 to +75°C	614	0.4	10	1.5	3,000	300
MC1538	−55 to +125°C	614	0.4	10	1.5	3,000	300

3 dB QUADRATURE COUPLERS TYPE	Temperature	Case	Frequency Range (MHz)	Impedance (Ohms)	Isolation (dB) Min	Amplitude Balance (dB) Max	Phase Balance (°) Max	Insertion Loss (dB) Max	VSWR Input Max
MIC5830	−55 to +100°C	230	225-400	50	20	±0.5	±1.5	0.25	1.2:1
MIC5830A	−55 to +100°C	230	225-400	50	20	±0.7	±3.0	0.30	1.2:1
MIC5831	−55 to +100°C	230	450-512	50	20	±0.5	±2.5	0.35	1.2:1

POWER MODULE TYPE	Temperature	Case	V+, Vdc	Bandwidth (MHz)	Power Gain G_{PE}—(dB Typ)	Comments
MIC5840	−55 to +80°C	231	+26	225 to 400	7.0*	. . . designed as a hybrid driver or final amplifier in VHF military communications equipment.

DUPLEXER TYPE	Temperature	Case	Input Power (Watts—Max)	Isolation (db—Typ)	Insertion Loss (dB—Typ)	Comments
MIC5890	0 to +120°C	631	40	25**	0.1**	This three-port hybrid network functions as a single-pole double-throw switch connecting an antenna to a transmitter or receiver.

*P_{out} = 6.0 Watts, T_A = +25°C
**Transmit-Mode, P_{in} = 10 W, I_b = 10 to 20 mA, f = 460 MHz

Motorola Linear Integrated Circuits

CONSUMER DEVICES

HIGH-FREQUENCY CIRCUITS

Type	Temperature	Case	Small-Signal Voltage Gain (A_v,dB — Typ)	Supply Drain Current (mA — Typ)	Noise-Figure (dB — Typ)	Comments
MC1330P	0 to +75°C	626	34**	15	.....	Low-level video detector for color and monochrome TV receivers: replaces 3rd IF, detector, video and AFC buffers.
MC1350P	0 to +75°C	626	50•	14	9.0 @ 60 MHz	IF amplifier featuring wide-range AGC.
MC1352	0 to +75°C	TO-116 (P) 647 (P, Q)	52•	27	8.5 @ 60 MHz	TV video IF amplifier with AGC and keyer circuit.
MC1353	0 to +75°C	TO-116 (P) 647 (P, Q)	52•	27	8.5 @ 60 MHz	Identical to MC1352 except for opposite tuner AGC polarity.
MC1550	−55 to +125°C	602B (G) TO-91 (F)	25 @ 60 MHz*	1.5	5.0 @ 60 MHz	Constant input impedance over entire AGC range, RF-IF amplifier for communications equipment.
MFC4010A	−10 to +75°C	206A	70	3.0	1.0 mV† @ 20 Hz to 20 kHz	Designed for AM/IF and low-level audio applications.
MFC8030	0 to +75°C	644A	40 @ 10 MHz	Variable	7.0	Differential cascode amplifier, ideal general-purpose differential building block.

Type	Temperature	Case	Typical BV_{CEO} (Vdc)	V+, Supply Voltage (Vdc — Max)	Max Base Differential Voltage ($\lvert\Delta V_{BE}\rvert$,mV)	Max Base Differential Current ($\lvert\Delta I_B\rvert$,μA)	Comments
MFC8000	−10 to +75°C	644A	40	75	15	1.0	Dual differential amplifiers; designed for the input stage of stereo power amplifiers.
MFC8001	−10 to +75°C	644A	50	75	15	1.0	
MFC8002	−10 to +75°C	644A	60	75	15	1.0	

SOUND AMPLIFIERS						
Type	Temperature	Case	Small-Signal Voltage Gain (A_v,dB — Typ)	Supply Drain Current (mA — Typ)	AM Rejection (dB — Typ)	Comments
MC1351	0 to +75°C	TO-116 (P) 647 (P, Q)	65‡	31	45	TV sound IF amplfier with quadrature detector and audio preamplifier.
MC1357	0 to +75°C	TO-116 (P) 647 (P, Q)	60‡	15	45	TV sound IF with quadrature detector or FM radio IF amplifier.

FM IF AMPLIFIERS						
Type	Temperature	Case	Input Signal 3 dB Limiting (mV [rms] — Typ)	Small Signal Voltage Gain (A_v,dB — Typ)	AM Rejection (e_{in} = 1 V [rms]) (dB — Typ)	Comments
MFC6010P	0 to +75°C	643A	55	40 dB @ 10.7 MHz	40 dB	FM limiting IF amplifier designed for 10.7 MHz IF applications.
MC1355	0 to +75°C	TO-116 (P) 647 (P, Q)	1.75	40 dB @ 10.7 MHz	60 dB	Four-stage limiting FM amplifier.

• Power gain * Transducer power gain ** Conversion gain † Output noise voltage ‡IF voltage gain

LOW-FREQUENCY CIRCUITS

AUDIO POWER AMPLIFIER CIRCUITS

Type	Temperature	Case	Output Power (W — Min)	Input Sensitivity @ Full P_{out} (mV — Max)	THD @ ½ Rated Pwr (% — Typ)	Comments
MC1306	0 to +75°C	626	0.5	270/360*	0.5	Complementary power amplifier and preamplifier.
MFC4000A	−10 to +75°C	206A	0.25	42**	0.7	Designed for the output stage of battery-powered portable radios.
MFC8010	0 to +55°C	644A	1.0	10**	1.0	Provides the complete audio system in TV, radio, and phonograph equipment, includes preamplifier.
MFC9000	0 to +75°C	641	4.0	15**	1.0	Four-watt audio amplifier, drives 8 or 16-Ω loads, includes preamplifier.
MFC9010	0 to +75°C	641	2.0	15**	1.0	Two-watt audio amplifier preamplifier included.

DRIVER AND AUDIO PREAMPLIFIER CIRCUITS

Type	Temperature	Case	Open-Loop Voltage Gain (dB — Typ)	Power Supply Voltage (Vdc — Max)	Output Swing (V[rms] — Typ)	Comments
MC1303L	0 to +75°C	TO-116	10,000†	±15	5.5	Dual monolithic stereo preamplifier, channel separation of 60 dB min at 10 kHz.
MC1380P	−40 to +75°C	627	49	18	30‡	Designed to drive germanium power transistors in auto radios.
MFC4050	0 to +75°C	206A	42	18	30‡	Audio driver designed for driving Class A PNP power output stage of up to 4 watts of audio power.
MFC8020	−10 to +75°C	644A	80	35	9.0 (V+ = 32 Vdc)	Class B audio driver designed as a preamplifier and driver circuit for complementary output transistors, will drive ≦ 15 W.
MFC8040	0 to +75°C	644A	90	33	7.0 (V+ = 30 Vdc)	Low noise audio preamplifier, input noise level of 1.0 μV typical.

*A_{VOL}, preamplifier/power amplifier **Input sensitivity is externally adjustable. †V/V ‡mA(rms) output current

CONSUMER DEVICES (Cont'd)

REGULATORS

Type 0°C to +70°C	Case	V_{in} Range (Vdc) Min	V_{in} Range (Vdc) Max	Input Output Diff. (Vdc) Min	Input Output Diff. (Vdc) Max	V_o Range (Vdc) Min	V_o Range (Vdc) Max	TC_{V_o} (%/°C-Typ)	I_b (mAdc-Max)	I_{out} (mAdc-Max)	P_D (W—Max) T_A +25°C	Reg_{Line} %V_o (Max —) V_{in}	Reg_{Load} (%V_o-Max)
POSITIVE VOLTAGE REGULATORS													
MC1460	602A 614	9.0	20	3.0	20	2.5	17	±0.002	12	200 500	0.68 3.0	0.030	0.13 0.05
MC1461	602A 614	9.0	35	3.0	35	2.5	32	±0.002	12	200 500	0.68 3.0	0.030	0.13 0.05
MC1469	602A 614	9.0	35	3.0	35	2.5	32	±0.002	12	200 500	0.68 3.0	0.030	0.13 0.05
MC1723CG	TO-100	9.5	40	3.0	38	2.0	37	±0.002	4.0	150	0.8	0.030	0.20
MFC4060*	206A	8.0	35	3.0	.....	4.8	32	±3.0**	.....	200	1.0	0.03	0.2
MFC030P*	643A	8.0	35	3.0	.....	4.8	32	±30**	.....	200	1.0	0.03	0.2
NEGATIVE VOLTAGE REGULATORS													
MC1463	602A 614	−9.0	−35	−3.0	40	−3.8	−32	±0.002	14	200 500	0.68 2.4	0.030	0.13 0.05
MULTI-PURPOSE REGULATORS													
MC1466L	TO-116	•†	•†	•	•	0	•	0.01	12	•	•	0.03	0.03% +3 mV 0.2% +1 mA ‡

*Temperature Range of −10 to +75°C.
**mV/°C.

• Limited only by the characteristics of the external series pass transistor, may be hundreds of volts or many amperes.

† An auxiliary voltage (27 Vdc nom), isolated from both the unregulated dc input voltage and Gnd, is required to bias the IC.

‡ Current Load Regulation (max.).

SPECIAL-PURPOSE CIRCUITS (Temp. Range 0 to 75°C)

STEREO DEMODULATORS Type	Case	Power Supply Voltage Range (Vdc — Typ)	THD — Typ (%)	P_D — Max (mW)	Comments
MC1304	TO-116 (P), 647 (P, Q)	8.0-14	0.5	625	An FM multiplex stereo demodulator; derives the left and right channel audio information from the detected composite signal. MC1305 permits use of external stereo-channel separation control.
MC1305	TO-116 (P), 647 (P, Q)	8.0-14	0.5	625	
MC1307	TO-116 (P), 647 (P, Q)	8.0-14	0.5	625	Thrifty version of MC1304, without audio mute and stereo switch capabilities.

CHROMA DEMODULATORS Type	Case	Output Voltage Swing (V_{p-p} — Typ)	Output Differential Voltage (Vdc — Typ)	Output Voltage Temperature Coefficient (mV/°C — Typ)	Comments
MC1326	TO-116 (P)	10	0.3	3.0	Dual doubly balanced chroma demodulator with RGB matrix and chroma driver stages.
MC1328	TO-100 (G), 647 (P, Q)	10	0.3	3.0	Dual doubly balanced chroma demodulator.

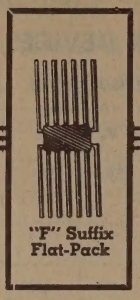
TUNING INDICATOR Type	Case	Drain Current (mA — Typ)	Saturation Voltage (Vdc — Typ)	Noise Inhibit (Vdc — Typ)	Threshold Lamp On Min/Max (Vdc)	Threshold Lamp Off Min/Max (Vdc)	Comments
MC1335P	626	5.5	0.85	1.9	5.8/6.2	5.1/6.9	Designed for FM radios and fine tuning of color TV sets.

ELECTRONIC ATTENUATOR Type	Case	Voltage Gain (dB — Typ)	Attenuation Range (dB — Typ)	THD (% — Typ)	Power Supply Voltage Range (Vdc)	Comments
MFC6040P	643A	13	90	0.6†	9.0 to 18	Ideal for DC volume control and AGC audio amplifier applications.

†At Unity Gain

Texas Instruments Linear Integrated Circuits

"L" Suffix
TO-99 Package


"F" Suffix
Flat-Pack

"N" Suffix
Dual-In-Line

SERIES 55/75 COMPUTER SYSTEM INTERFACE CIRCUITS

SENSE AMPLIFIERS

75, 76 and 72 as first two digits in type no. denote 0-70°C temp. range.
Case types*: Most devices available in L (TO-99), F (flat pack) and N (plastic dual in-line) packages.

Type*	Description	Differential Threshold Stability in millivolts	Common-mode Input Firing in Volts	Logical 1 Output in Volts	Logical 0 Output (16 mA) in Volts	Logical Level 1 Input Current (logic inputs) in milliamps	Logical 0 Level Input Current (strobe or reset) in milliamps
SN7520	Sense Amplifier (FF or Register-Type Output)	±4	3	4	0.25	0.005	−1
SN7521	Sense Amplifier (FF or Register-Type Output)	±7	3	4	0.25	0.005	−1
SN7522	Sense Amplifier (Open-Collector Output)	±4	3	4	0.2	0.005	−1
SN7523	Sense Amplifier (Open-Collector Output)	±7	3	4	0.2	0005	−1
SN7524	Sense Amplifier (Separate AND Outputs)	±4	3	4	0.25	0.005	−1
SN7525	Sense Amplifier (Separate AND Outputs)	±7	3	4	0.25	0.005	−1
SN7526	Sense Amplifier (Register Output)	±4	3	4	0.25	0.005	−1
SN7527	Sense Amplifier (Register Output)	±7	3	4	0.25	0.005	−1
SN7528	Sense Amplifier (Separate AND Outputs)	±4	3	4	0.25	0.005	−1
SN7529	Sense Amplifier (Separate AND Outputs)	±7	3	4	0.25	0.005	−1

LINE DRIVERS AND RECEIVERS

75, 76 and 72 as first two digits in type no. denote 0-70°C temp. range.
Case types*: Most devices available in L (TO-99), F (flat pack) and N (plastic dual in-line) packages.

Type*	Description	Differential Input Voltage in millivolts	High-level Input Voltage in Volts	Low-level Input Voltage in Volts	High-level Input Current in μA	Maxmium Common-mode Input Voltage Range in Volts	Total Power Diss. in mV	Propagation Delay Time (differential inputs) in nanoseconds
SN75107	Dual Line Receiver with SN7400 (TTL) Gate Output	3	.....	.....	30	±3	134	17
SN75108	Dual Line Receiver with SN7401 (Open-Collector) Gate Output	3	.....	.....	30	±3	134	19
SN75109	Dual Line Driver with 6-mA Typical Line Current	.....	3.2	0.22	.....	.....	180	8
SN75110	Dual Line Driver with 12-mA Typical Line Current	.....	3.2	0.22	.....	.....	285	9

Type*	Circuit Description	Circuit Characteristics
SN75324	400 mA memory driver with decode inputs	Input voltage for logical zero—any input—3.5 volts min. Input voltage for logical zero—any input—1.0 V max. Address input current, logical 1—200 μA max., logical zero—6 mA max. Timing input current, logical 1—100 mA max logical 0 12 mA max. Total pd—800 mW max.
SN75325	600 mA memory driver	Saturated dual sink/source monolithic memory driver wth output current capability of 600 mA with 25 volt typical output. Inputs compatible with DTL and TTL logic. Dissipation of 75 mW max. at 70°C case temperature.
SN75303	150 mA memory driver	Transistor array rise time—8 ns typ.; fall time—6 ns typ.; turn-on time 14 ns typ.; turn-off time—14 ns typ. Collector-base breakdown voltage—25 V min.; collector-emitter breakdown voltage—18 V min.; emitter-base breakdown voltage—5 volts min.
SN75150	Dual Communications Line Driver (EIA RS-232-C)	Features output short circuit protection to any low impedance voltage between −25 volts and +25 volts. DTL or TTL compatible common input strobe. Inverting output, 1 microsecond transistion through ±3 V transistors region under full 2500 pf load slow rate control and standard supply voltages.
SN75154	Quad Communications Line Receiver (EIA RS-232-C)	Input resistance 3K to 7K over full voltage range—built in hysteresis for increased noise immunity adjustable input threshold without external components, inverting output compatible with both DTL and TTL active pull up on output for more symmetrical switching standard supply voltage.
SN75450	Multi-Purpose Interface Circuit	500 mA dual driver, breakdown voltage of output transistors—30 V. Gate input and output current and voltage—TTL; gate pd, logical 0—8 ns, logical 1—12 ns. Combined gate/transistor turn-on delay—16 ns; turn-off delay—17 ns.
SN75451P	8-Pin Interface Circuit	500 mA driver; Dual; gate input and output current and voltage—TTL; overall turn-on delay—16 ns; overall turn-off delay—17 ns. Breakdown voltage of output transistors—30 volts.

SERIES 56/76 COMMUNICATIONS CIRCUITS

75, 76 and 72 as first two digits in type no. denotes 0-70°C temp. range.
Case types*: Most devices available in L (TO-99), F (flat pack) and N (plastic dual in-line) packages.

Type*	Circuit Description	Circuit Characteristics
SN76502	Logarithmic Amplifier	Quiescent output voltage—5.0 V. Device dissipation—166 mW; Scale factor (per dBV)—5 mV; input resistance—500.52; output resistance—200.52; positive supply current (V_{CC+} = 6 V)—18.5 mA; negative supply current (V_{CC-} = 6 V)—8.5 mA.
SN76514	Double Balanced Mixer	Quiescent operating voltage—10.5 V; supply current (V_{CC} = 12 V or 1Gv)—7.4 mA. Device dissipation—88 mW. Conversion gain (100 kHz-40 MHz)—14 dB; LO-IF isolation (100 kHz-40 MHz)—30 dB; LO-RF isolation (100 kHz-40 MHz)—60 dB; RF-IF isolation (100 kHz-40 MHz)—30 dB.

*NOTE: Complete Type Number Explanation on First TI Page of Digital IC Section.

TEXAS INSTRUMENTS

OPERATIONAL AMPLIFIERS/COMPARATORS

Most TI Linear Integrated Circuits Are Also Available in −55°C to 125°C Temperature Range Designated By Prefix 52 (OP Amps). 55 (Interface), and 56 (Communications).

Type	Description	Frequency Compensation	Supply Voltages V+	Supply Voltages V−	Input Offset Voltage mV	Input Offset Current mA	DC Power Drain mW	Device Gain Gain dB	Device Gain Test Freq. Hz
SN72101A	Operational Amplifier	External	15	−15	0.6	2	57	104	5
SN72107	Operational Amplifier	Internal	15	−15	0.6	2	57	104	5
SN72702	Operational Amplifier	External	12	−6	2.0	700	70	68	1000
SN72709	Operational Amplifier	External	15	−15	1.0	50	80	93	5
SN72710	Voltage Comparator	NA	12	−6	1.0	1000	110	64	1000
SN72711	Dual Channel Comparator	NA	12	−6	1.0	500	130	64	1000
SN72710	Dual Comparator	NA	12	−6	1.0	1000	220	64	1000
SN72741	Operational Amplifier	Internal	15	−15	1.0	20	51	104	5

WIDE BAND AMPLIFIERS

SN7510	Wideband Amplifier	NA	6	−6	5.0	3000	165	116	100,000
SN7511	Wideband Amplifier	External	6	−6	1.0	600	180	62	1000
SN7513	Wideband Amplifier	NA	6	−6	1.5	400	215	52	1×10^6

*NOTE: Complete type number explanation on first T.I. page of digital I.C. Section.

GENERAL ELECTRIC

AUDIO AMPLIFIERS AND PRE-AMPLIFIERS

Type	Package	Power Out	Supply Volt.	Dist. @ 1kHz & Rated Power Typ.	Dist. @ 1kHz & Rated Power Max.	Input Imped. Ohms	Output Imped. Ohms.	Special Features
PA222	8 lead dual-in-line w. heatsink tab	1 w	25-25 v	1%	3%	40 k-min.	1	Low cost. 55-15 kHz
PA230	9 lead dual-in-line	.....	14 v	1%	3%	15-35 k	.1-.2 k	Preamp. 10 V. P-P out w. short cir. protection
PA234	8 lead dual-in-line w. heatsink tab.	1 w	9-25 v	3%	10%	100 k-1 meg.	2	Only four connections required
PA237	8 lead dual-in-line w. heatsink tab	2 w	9-27 v	1%	5%	40 k-1 meg.	1.5	8 mV sensitivity
PA239	14 lead dual-in-line	.....	16 v	.5%	.9%	100-250 k	100	Dual channel pre-amp low noise—68 db/channel
PA246	8 lead dual-in-line w. 2 heat sink tabs	5 w	37 v	.7%	5%	40 k-1 meg.	1.5	10 w peak output 30 v. P-P output
PA263	8 lead dual-in-line w. 2 heat sink tabs	3.5 w	30 v	1%	5%	40 k-1 meg.	1.5	High sensitivity 10 w peak output
PA266	8 lead dual-in-line w. heat sink tab.	1.5 w	11-25 v	1%	5%	40 k-1 meg.	1.5	8 mV sensitivity

OPERATIONAL AMPLIFIERS

Type	Package	Supply Volt	Open Loop Volt. Gain	Input Imped. Ohms	Offset Volt (DC)	Output Imped. Ohms	Open Loop Gain Bandwidth	Special Features
PA223	8 lead dual-in-line	±13 V	3.5-11K	400-2500K	6-25 mV	.1-.2K	25 MHz	−55°C to 110°C temp. range short ckt. protection
PA238	8 lead dual-in-line	±7 V	4-12K	15-35K	2-10 mV	.1-.2K	25 MHz	−55°C to 110°C temp. range short ckt. protection
GEL1741	14 lead Mini-Mod*	±18 V	15K	.3-2 meg.	2-6 mV	75	800 KHz	No latch up; internal compensation

*See Mini-Mod page for complete description.

SPECIAL PURPOSE CIRCUITS

Type	Function	No. of Ext. Components	Package	Description
PA264	Voltage Regulator	7-10	8 lead dual-in-line w. 2 heat sink tabs	5 W dissipation, 25 V input voltage, 1.25 a input current, load and line regulation .05 V.
PA265	Voltage Regulator	7-10	8 lead dual-in-line w. 2 heat sink tabs	5 W dissipation, 37 V input voltage, 1.25 a input current, load and line regulation .05 V.
PA189	IF Amplifier	.....	14 lead dual-in-line w. heatsink tab	TV/FM IF circuit 80 db gain @ 4.5 mHz.
PA424	Power Control Triac Triggering	3	14 lead dip	Zero voltage switch; differential input trigger for triac-eliminates RFI. Input current 2.2 μA, output pulse current typical 80 mA.
PA430	Power Control Triac Triggering	3	TO-99 metal can	Zero voltage switch; differential input trigger for triac-eliminates RFI. Input current 2.2 μA, output pulse current typical 80 mA.
PA436	Power Control Triac Triggering	7	14 lead dual-in-line	Phase control triac triggering circuit for resistive or inductive loads.
PA494	Threshold Detector	1	4 lead TO-5 metal can	"Accuswitch", 10% hysteresis, 1-100 mA sensitivity, 250 mA output max. supply and output voltage 9 v.
PA1494	Threshold Detector	.....	4 lead Mini-Mod*	Same as PA494 in Mini-Mod package.

*See Mini-Mod page for complete description.

SPECIAL-FUNCTION SUBSYSTEMS

Type	Description	DC Supply Voltages V_{ee} V	DC Supply Voltages V_{cc} V	Input Offset Voltage mV	Input Bias Current μA	DC Input Power Drain mW	Device Gain Test Freq. MHz	Device Gain Gain dB	Useful Frequency Range MHz	Package	1-99	100-999	1000-Up
CA3044	Dual Phase Detector with Differential	.....	+30	Input Limiting Voltage (Knee 75mV type)		140	Internal Zener Diode Voltage Regulator			B			
CA3044V1	Output Amp.	.....	+30			140				B with F/leads	2.31	1.68	1.40
CA3048	Four Independent AC Amps.	.....	+16	Current Drain Per Amplifier = 13.5 mA.			10 kHz	53 open loop	open loop Bw =330kHz	D 16-leads	4.04	2.94	2.45
CA3052	Four Independent AC Amps.	Schematically identical with CA3062. For stereo preamplifier service.								D 16-leads	3.14	2.28	1.90
CA3064	Similar to CA3044	.....	+30	.....	.....	140	.....	.....	.....	B formed leads	2.31	1.68	1.40

OPERATIONAL AMPLIFIERS

CA3008	Static Power Drain: ±6V = 30 mW typ; ±3V = 7 mW typ.	−6	+6	1.08	5.3	30	1kHz	60 power gain	DC to 15	E	3.47	2.52	2.10
CA3008A	Similar to CA3008	−6	+6	0.9	2.5	40	1kHz	60	DC to 15	F	5.00	4.08	3.40
CA3010	Static Power Drain: ±6V = 30 mw typ.	Ratings and Characteristics Identical to CA3008								C	2.61	1.90	1.58
CA3010A	Similar to CA3010	Ratings and Characteristics Identical to CA3008A								C	4.79	3.48	2.90
CA3015	Static Power Drain: 175 mw typ. at ±12V	−12	+12	1.37	9.6	175	1kHz	70	DC to 50	C	3.96	2.88	2.40
CA3015A	Similar to CA3015	−12	+12	1	4.7	175	1kHz	70	DC to 50	C	6.44	4.68	3.90
CA3016	Similar to CA3015	Ratings and Characteristics Identical to CA3015								F	4.79	3.48	2.90
CA3016A	Similar to CA3015	Ratings and Characteristics Identical to CA3015A								F	7.25	5.30	4.40
CA3029	Similar to CA3008 but with 14-lead plastic pack.	−6	+6	1.08	5.3	30	1kHz	60	DC to 15	D	1.62	1.18	.98
CA3029A	Similar to CA3008A but with 14-lead plastic pack.	−6	+6	0.9	2.5	40	1kHz	60	DC to 15	D	3.14	2.28	1.90
CA3030	Similar to CA3015 but with 14-lead plastic pack.	−12	+12	1.37	9.6	175	1kHz	70	DC to 50	D	2.61	1.90	1.58
CA3030A	Similar to CA3015A but with 14-lead plastic pack.	−12	+12	1	4.7	175	1kHz	70	DC to 50	D	4.79	3.48	2.90
CA3033	Input impedance: 1.5 MΩ typ.	−12	+12	2.6	83nA	120	1kHz	90	DC to 0.5	E	4.79	3.48	2.90
CA3033A	Output Voltage Swing 23Vp-p Min.	−18	+18	2.9	103nA	250	1kHz	96	DC to 0.5	E	8.09	5.88	4.90
CA3037	Static Power Drain: ±6V = 30 mW	−6	+6	1.08	5.3	30	1kHz	60	DC to 15	E	3.14	2.28	1.90
CA3037A	Similar to CA3037	−6	+6	0.9	2.5	40	1kHz	60	DC to 15	E	4.79	3.48	2.90
CA3038	Static Power Drain: 175 mW typ.	−12	+12	1.37	9.6	175	1kHz	70	DC to 50	E	4.79	3.48	2.90
CA3038A	Similar to CA3038	−12	+12	1	4.7	175	1kHz	70	DC to 50	E	6.44	4.68	3.90
CA3047	Similar to CA3033	−12	+12	2.6	83nA	120	1kHz	90	DC to 0.5	D	2.61	1.90	1.58
CA3047A	Similar to CA3033A	−18	+18	2.9	103nA	250	1kHz	96	DC to 0.5	D	4.79	3.48	2.90

VOLTAGE REGULATOR

CA3055	High-current voltage, shunt voltage, or switching voltage regulator	A	2.80	2.04	1.70

ZERO-VOLTAGE SWITCH

CA3059	For AC Power Control of Thyristors: Device Diss. 700 mW max.	D	3.20	2.35	1.95

OPERATIONAL TRANSCONDUCTANCE AMPLIFIER ARRAY (OTA)

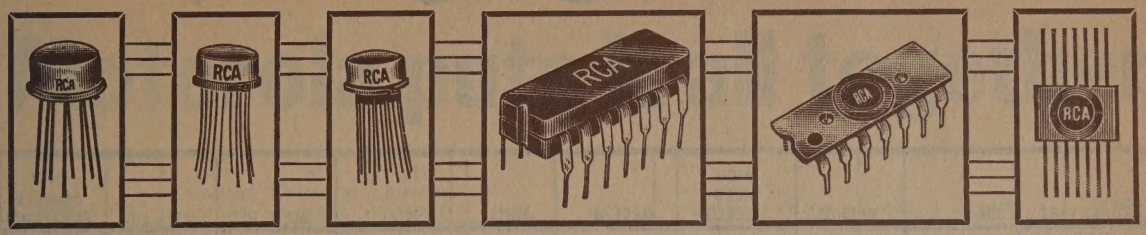
CA3060	Low power conventional op. amp. applications, active filters, gyrators, mixers, modulators, multipliers	E 16-lead	9.82	7.14	5.95

PHOTO DETECTOR & POWER AMPLIFIER

CA3062	Device Diss. 700 mW max.; 5 to 15V DC Supply; 100 mA output capability. Compatible with RCA 40736R IR Emitter.	Modified C	4.86	3.54	2.95

DIODE ARRAYS

Type	Description	Device Dissipation: Transistor or Diode P mW	Device Dissipation: Total Package mW	Ambient Temperature: Operating °C	Ambient Temperature: Storage °C	Package	1-99	100-999	1000-up
CA3019	Quad + 2 diodes on a single silicon chip.	20	120	−55 to +125	−65 to +200	B	1.62	1.18	.98
CA3039	Six discrete diodes on a single silicon chip.	20	450	−55 to +125	−65 to +200	C	1.61	1.17	.98



A 8-Leads | B 10-Leads | C 12-Leads | D Plastic Dual-In Line | E Ceramic Dual-In Line | F Flat-Pack

DIFFERENTIAL AMPLIFIERS

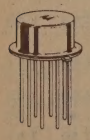
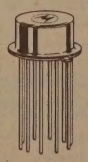
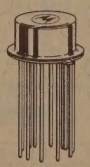
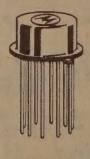
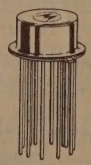
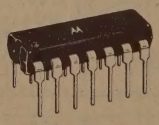
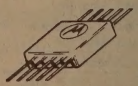
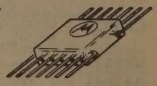
Type	Description	DC Supply Voltages V_{ee} V	DC Supply Voltages V_{cc} V	Input Offset Voltage mV	Input Bias Current μA	DC Input Power Drain mW	Device Gain Test Freq. MHz	Device Gain Gain dB	Useful Frequency Range MHz	Package	1-99	100-999	1000-Up
CA3000	DC Amplifier	−6	+6	1.4	23	30	1kH	32 37	DC to 30	B	3.80	2.76	2.30
CA3001	DC, IF and Video Amp.	−6	+6	1.5	16	78	1.75 20	19 14	DC to 100	C	5.55	4.00	3.35
CA3002	IF, and Video Amplifier	−6	+6	2.2 unbal.	20	55	1.75	24 diff.	DC to 15	B	3.71	2.70	2.25
CA3004	RF/IF Amplifier, Linear transfer.	−6	+6	1.7	21	26	100	12	DC to 120	C	3.71	2.70	2.25
CA3005	RF/IF Amplifier, High Gain.	−6	+6	2.6	19	26	100	20 16	DC to 120	C	2.48	1.80	1.50
CA3006	RF/IF Amplifier, Sharp Limiting.	−6	+6	0.8	19	26	100	20 16	DC to 120	C	5.80	4.20	3.50
CA3007	AF Amplifier	−6	+6	0.57 unbal.	11	30	1kHz	22	DC to 20kHz	C	5.35	3.90	3.25
CA3028A	RF/IF Amplifier	0 0	+6 +9	.....	16.6	36	100 10.7	20 40	DC to 120	A	1.47	1.07	.89
CA3028B	Diff/Cascade Amp	−6	+6	0.98	16.6	36	1kHz at R = 2kΩ	38	DC to 120	A	2.06	1.50	1.25
CA3053	Diff/Cascade Amp	0 0	+9 +12	.....	29 36	50 100	10.7 10.7	39	DC to 10.7	A	.81	.59	.49
CA3050 CA3051	Two Darlington Connected Differential Amplifiers	+16 +16	0 0	1.5 1.5	200nA 200nA	Input Offset Current = 70nA			DC to 20	E D	3.71 2.72	2.70 1.98	2.25 1.65

HIGH-GAIN WIDE-BAND AMPLIFIERS

CA3011	FM, IF Amplifier	0	+7.5	.....	.....	120	4.5 10.7	67 61	100kHz to > 20MHz	B	1.47	1.07	.89
CA3012	FM, IF Amplifier	0	+7.5	.....	.....	120	4.5 10.7	67 61	100kHz to > 20MHz	B	1.82	1.32	1.10
CA3013	FM, IF Amplifier	0	+7.5	.....	.....	120	1 45 10.7	70 67 60	100kHz to > 20MHz	B	2.15	1.56	1.30
CA3014	Limiter, FM Detector	0	+7.5	.....	.....	120	1	70	100kHz	B	2.48	1.80	1.50
CA3020	AF Amplfier	3	+9	P_{out} (max.) = 550mW at THD = 10%			1kHz	75	Up to 8	C	2.56	1.86	1.55
CA3020A	AF Amplifier	3 3	+9 +12	P_{out} (max.) = 1W at THD = 10%			1kHz 1kHz	75 75	Up to 8	C	3.26	2.37	1.98
CA3021	Video & Wide Band Amplifier	0	+6	.....	.....	4	0.5	56	DC to 6	C	3.14	2.28	1.90
CA3022	Video & Wide Band Amplifier	0	+6	.....	.....	12.5	2.5	57	DC to 20	C	2.64	1.92	1.60
CA3023	Video Wide-Band Amplifier	0	+6	.....	.....	35	10	44	DC to 40	C	2.56	1.86	1.55
CA3035	Multipurpose Wide-Band Amplifier	.....	+9	Total Drain: 5mA typ.		.....	40kHz	44	—3db B-W 500kHz	B	2.48	1.80	1.50
CA3035V1	See CA3035	Identical to CA3035, but with formed leads								B	2.48	1.80	1.50
CA3041	High Gain FM IF Amp.	.....	+140	.....	.....	250	4.5	67	0.1 to 20	D	2.06	1.50	1.25
CA3042	High Gain FM IF Amp.	.....	+140	.....	.....	240	1kHz	30	0.1 to 20	D	2.06	1.50	1.25
CA3043	High Gain FM IF Amp.	.....	+30	16mA	6V	225	10.7	80	0.1 to 20	C	2.81	2.04	1.70
CA3040	Video and Wide-Band Amplifier	−6	+6	Power supply Current Drain 8.5mA, Dissipation—450mW.					DC to 200	C	4.87	3.54	2.95
CA3065	IF Amplifier-Limiter, FM Detector, Electronic Alternator, Audio Driver									D formed leads	2.31	1.68	1.40
CA3075	FM IF Amplifier-Limiter, Detector, and Audio Preamplifier									D formed leads	2.31	1.68	1.40
CA3076	FM IF Amplifier Limiter for Communications Receivers									A	2.64	1.92	1.60

Thinking digital IC's?..

PARAMETERS	MECL I	MECL II	HIGH SPEED MECL II	MECL III	MHTL	MTTL I	MTTL II	MTTL III	MTTL COMPLEX FUNCTIONS
MC Nos. For $-55^{o}C \rightarrow 125^{o}C$ $-30^{o}C \rightarrow 75^{o}C$ $0^{o}C \rightarrow 75^{o}C$ $15^{o}C \rightarrow 55^{o}C$	MC300 MC350	MC1200 MC1000	MC1200 MC1000	MC1660	MC660	MC500/550 MC400/450	MC2100/2150 MC2000/2050	MC3100 MC3000	MC4300 MC4000
Positive Logic Function of Basic Gate	OR/NOR	OR/NOR	OR/NOR	OR/NOR	NAND	NAND	NAND	NAND	NAND
Circuit Form	← Emitter Coupled – Current Mode →				Diode-Zener Transistor	← Transistor — Transistor →			
Wired Positive Logic Function	← Implied OR All Functions →				Implied AND AND-OR-Invert Some Functions	← AND-OR-INVERT with expansion (some functions) →			
Fan-out	← 25 →		25 or 50Ω	50Ω or 10 LoZ	10	15 or 7 12 or 6	11 or 6 9 or 5	10 or 6	11
No. of Functions and Family Growth Rate	Fair Static	← Very Good → ← Growing →			Fair Growing	← Excellent → ← Growing →			
Typical Z_O Hi Level	20Ω	15Ω	6Ω	6Ω	15K or 1.5K	70Ω	10Ω	10Ω	70Ω
Typical Z_O Lo Level	20Ω or 2mA	15Ω or 2.7mA	6Ω or 6.7mA	6Ω or 21mA	Rsat	Rsat	Rsat	Rsat	Rsat
Supply Voltage	$-5.2V \pm 20\%$	$-5.2V$ +20% -10%	$-5.2V$ +20% -10%	$-5.2V \pm 10\%$	$15V \pm 1V$	5.0V +20% -10%	5.0V +20% -10%	$5.0V \pm 10\%$ $5.0V \pm 5\%$	$5.0V \pm 10\%$ $5.0V \pm 5\%$
Typ. Dissipation Per Gate	35mW Plus Bias Dvr.	40mW	55mW Plus Load	55mW Plus Load	55mW	15mW	22mW	22mW	10mW
Immunity To External Noise	Nominal	Good	Good	Good	Excellent	← Very Good →			
Noise Generation	Low	Low	Low – Medium	Medium	Medium	Medium – High	High	High	Medium – High
Typ. Clock Rate For Flip Flops	25, 40 MHz	60, 80, 120 MHz	200 MHz	400 MHz	4 MHz	20 MHz	30, 50 MHz	30, 40, 50, 60 MHz	35 MHz
Typ. Propagation Delay Time Per Gate	8ns	4ns	2ns	1ns	90ns	10ns	6ns	6ns	6ns
Cost Per Package	Medium	Low	Medium	High	Medium	Low-Medium	Medium	Medium	High

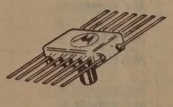
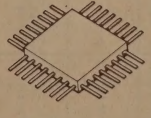
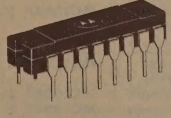
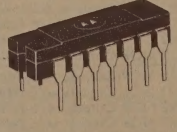
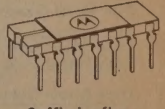
TO-99			TO-100		TO-116	TO-91	TO-86
CASE 601	CASE 602A	CASE 602B	CASE 603	CASE 604	CASE 605	CASE 606	CASE 607
							
Suffix G after type number	Suffix G after type number	Suffix G after type number	Suffix G after type number	Suffix G after type number	Suffix P after type number	Suffix F after type number	Suffix F after type number

MOTOROLA MRTL · MOTOROLA WMRTL · MOTOROLA MDTL · MOTOROLA

Well, see how Motorola puts it all together!

PARAMETERS	MTTL 5400/7400 SERIES	MTTL 9300/8300 SERIES	MTTL 8200/7200 SERIES	DTL	MDTL	MRTL	mW MRTL	MMOS I	MMOS II	MCMOS
MC Nos. For $-55^{\circ}C \rightarrow 125^{\circ}C$ $-30^{\circ}C \rightarrow 75^{\circ}C$ $0^{\circ}C \rightarrow 75^{\circ}C$ $15^{\circ}C \rightarrow 55^{\circ}C$	MC5400 MC7400 ($0^{\circ}C \rightarrow 70^{\circ}C$)	MC9300 MC8300	MC8200 MC7200	MC200 MC250	MC930/1900 MC830/1800	MC900 MC800/9800 MC700/9700	MC908 MC808/9800 MC708/9700	MC1100	MC2200	MC2500
Positive Logic Function of Basic Gate	NAND	NAND	NAND	NAND	NAND	NOR	NOR	NAND	NAND	NOR or NAND
Circuit Form	← Transistor — Transistor →			← Diode — Transistor →		← Resistor — Transistor →		High Threshold P-Channel MOS	Low Threshold P-Channel MOS	Complementary MOS
Wired Positive Logic Function	← AND-OR-INVERT with expansion (some functions) →			← Implied AND →		← Implied AND (Some Functions) →		← None →		
Fan-out	10	10	10	5, 4	8, 7	5	4	20	20	>50
No. of Functions and Family Growth Rate	← Excellent → ← Growing →			Poor Static	Good New Functions in 9300/8300	← Very Good → ← Growing →		← Poor → ← Growing →		
Typical Z_O Hi Level	70Ω	70Ω	70Ω – 100Ω	2K	6K or 2K	640Ω	3.6K	2K	2K	2K
Typical Z_O Lo Level	Rsat	Rsat	Rsat	Rsat	Rsat	Rsat	Rsat	25K	25K	2K
Supply Voltage	5.0V ± 10% 5.0V ± 5%	5.0V ± 10% 5.0V ± 5%	5.0V ± 5%	+4.0V ± 10% -2.0V ± 10%	5.0V ± 10%	3.0V ± 10% or 3.6V ± 10%	3.0V ± 10% or 3.6V ± 10%	-27V ± 2V -13V ± 1V	-16V ± 1V -10V ± 1V	+4.5V to +16V
Typ. Dissipation Per Gate	10mW	15mW	8mW to 20mW	6mW	or 8mW 12mW	12mW	2.5mW	.2mW to 10mW	≤ 6mW	.01mW Static ≈1mW @ 1MHz
Immunity To External Noise	← Very Good →			Good	Good	Nominal	Fair	Nominal	Nominal	Very Good
Noise Generation	Medium – High	Medium – High	Medium – High	Medium	Medium	Medium	Low – Medium	Medium	Medium	Low – Medium
Typ. Clock Rate For Flip Flops	15 – 30 MHz	20 MHz	20 – 30 MHz	10 MHz	12, 30 MHz	8 MHz	2.5 MHz	2 MHz	2 MHz	5 MHz
Typ. Propagation Delay Time Per Gate	13ns	13ns	10ns	30ns	30ns	12ns	27ns	300ns	250ns	70ns
Cost Per Package	Low	High	High	Medium	Low	Low	Low	Medium	Medium	Medium – High

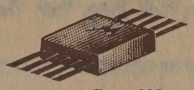
MECL, MHTL, MTTL, MDTL, MRTL, MMOS and MCMOS are trademarks of Motorola, Inc

TO-85 CASE 609	CASE 612	CASE 617	CASE 618	CASE 620	TO-116 CASE 632	CASE 637
						
Suffix F after type number	Suffix P after type number	Suffix S after type number	Suffix F after type number	Suffix L after type number	Suffix L after type number	Suffix L after type number

MOTOROLA MHTL · MOTOROLA MTTL · MOTOROLA MECL · MOTOROLA MOS

Motorola Digital Integrated Circuits

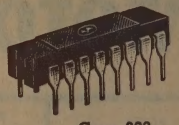
Case 601


Case 606

Case 607

Case 605

Case 612


Case 620

MECL

MECL non-saturating integrated logic circuits offer high fan-in and fan-out capabilities with propagation delay typically 8.0 ns per logic decision. Current drain is constant regardless of logic state or operating frequency, thereby minimizing noise generation. Because of common mode rejection of power supply variations, system designs will operate with power supply variations of ±20%. MECL circuits in this series are compatible with the higher-speed MECL II circuits. $V_{CC} = 0$, $V_{EE} = -5.2$ V, $T_A = 25°C$.

Function	Type −55 to +125°C	Type 0 to +75°C	Case Metal Can Suffix G	Case Flat Pack Suffix F	DC Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ/pkg
5-Input OR/NOR Gate	MC301	MC351	602B	TO-91	25	7.5	37
R-S Flip-Flop	MC302	MC352A	602B	TO-91	25	11	42
R-S Flip-Flop w/o Buffered Outputs	.....	MC352	602B	TO-91	25	11	40
Half-Adder	MC303	MC353	602B	TO-91	25	7.5	63
Bias Driver	MC304	MC354	602B	TO-91	25	—	18
5-Input Gate Expander	MC305	MC355	602B	TO-91	—	4.5	—
3-Input OR/NOR Gate	MC306	MC356	602B	TO-91	25	7.5	37
3-Input OR/NOR Gate	MC307	MC357	602B	TO-91	25	7.5	15
AC-Coupled J-K Flip-Flop	MC308	MC358A	602B	TO-91	25	8.5	87
Dual 2-Input NOR Gate	MC309	MC359	602B	TO-91	25	7.0	54
Dual 2-Input NOR Gate	MC310	MC360	602B	TO-91	25	7.0	54
Dual 2-Input NOR Gate	MC311	MC361	602B	TO-91	25	7.0	41
Dual 3-Input NOR Gate (With Internal Bias)	MC312A	MC362A	602B	TO-91	25	7.5	70
Dual 3-Input NOR Gate	MC312	MC362	604	TO-86	25	7.5	54
Quad 2-Input NOR/Gate	MC313F	MC363F	.....	TO-86	25	7.0	125
AC-Coupled J-K Flip-Flop	MC314	MC364	602B	TO-91	25	12	118
Line Driver	MC315	MC365	602B	TO-91	—	14	180①-270②
Lamp Driver	MC316	MC366	602B	TO-91	—	—	135
Level Translator—MECL to Saturated Logic	MC317	MC367	602B	TO-91	7 (DTL)	27.5	63
Level Translator—Saturated Logic to MECL	MC318	MC368	602B	TO-91	25 (MECL)	17	105
Dual 4-Input Clock Driver/High-Speed Gate	—	MC369	602B	TO-86	100	3.0	250

①With 93-ohm load for MC315 (each side) ②With 50-ohm load for MC365 (each side)

MECL II

MECL II high-speed non-saturating integrated logic circuits provide propagation delay times typically 4.0 ns per logic decision. Noise immunity of 175 mV is specified over the temperature range. Current drain is constant regardless of logic state or operating frequency, thereby minimizing noise generation. Because of common-mode rejection of power supply variations, system designs will operate with power supply variations of ±20%. $V_{CC} = 0$, $V_{EE} = -5.2$V, $T_A = 25°C$.

I. TO-86 Flat Pack Suffix F
II. TO-116 Ceramic Suffix L
III. 620 (16 lead) Ceramic Suffix L
IV. TO-116 Plastic Suffix P
V. 612 (16 lead) Plastic Suffix P

Function	Type −55 to +125°C	Case Flat Pack Suffix F	Case Ceramic DIP Suffix L	Type 0 to +75°C	Case Flat Pack Suffix F	Case Plastic DIP Suffix P	DC Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ
Single 6-Input Gate, 3 OR Outputs w/Pulldowns 3 NOR Outputs w/Pulldowns	MC1201F, L	I	II	MC1001P	.....	IV	25	4.0	115
Single 6-Input Gate, 3 OR Outputs w/Pulldowns 3 NOR Outputs w/o Pulldowns	MC1202F, L	I	II	MC1002P	.....	IV	25	4.0	80
Single 6-Input Gate, 3 OR Outputs w/o Pulldowns 3 NOR Outputs w/o Pulldowns	MC1203F, L	I	II	MC1003P	.....	IV	25	4.0	40
Dual 4-Input Gate, 2 OR Outputs w/Pulldowns 2 NOR Outputs w/Pulldowns	MC1204F, L	I	II	MC1004P	.....	IV	25	4.0	95
Dual 4-Input Gate, 2 OR Outputs w/Pulldowns 2 NOR Outputs w/o Pulldowns	MC1205F, L	I	II	MC1005P	.....	IV	25	4.0	65
Dual 4-Input Gate, 2 OR Outputs w/o Pulldowns 2 NOR Outputs w/o Pulldowns	MC1206F, L	I	II	MC1006P	.....	IV	25	4.0	45
Triple 3-Input Gate, 3 NOR Outputs w/Pulldowns	MC1207F, L	I	II	MC1007P	.....	IV	25	4.0	110
Triple 3-Input Gate, 1 NOR Outputs w/Pulldowns 2 NOR Outputs w/o Pulldowns	MC1208F, L	I	II	MC1008P	.....	IV	25	4.0	75
Triple 3-Input Gate, 3 NOR Outputs w/o Pulldowns	MC1209F, L	I	II	MC1009P	.....	IV	25	4.0	60
Quad 2-Input Gate, 4 NOR Outputs w/Pulldowns	MC1210F, L	I	II	MC1010P	.....	IV	25	4.5	115
Quad 2-Input Gate, 2 NOR Outputs w/Pulldowns 2 NOR Outputs w/o Pulldowns	MC1211F, L	I	II	MC1011P	.....	IV	25	4.5	95
Quad 2-Input Gate, 4 NOR Outputs w/o Pulldowns	MC1212F, L	I	II	MC1012P	.....	IV	35	4.5	65
AC-Coupled J-K Flip-Flop (85 MHz typ)	MC1213F, L	I	II	MC1013P	.....	IV	25	6.0	125
Dual R-S Flip-Flop (Positive Clock)	MC1214F, L	I	II	MC1014P	.....	IV	25	6.0	140
Dual R-S Flip-Flop (Negative Clock)	MC1215F, L	I	II	MC1015P	.....	IV	25	6.0	140
Dual R-S Flip-Flop (Single Rail)	MC1216F, L	I	II	MC1016P	.....	IV	25	6.0	140

Continued next page

MECL II (Cont'd)

I. TO-86 Flat Pack Suffix F
II. TO-116 Ceramic Suffix L
III. 620 (16 Lead) Ceramic Suffix L
IV. TO-116 Plastic Suffix P
V. 612 (16 Lead) Plastic Suffix P

Function	Type −55 to +125°C	Case: Flat Pack Suffix F	Case: Ceramic DIP Suffix L	Type 0 to +75°C	Case: Flat Pack Suffix F	Case: Plastic DIP Suffix P	DC Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ
Level Translator (Saturated Logic to MECL)	MC1217F, L	I	II	MC1017P	.....	IV	25 (MECL)	15	105
Level Translator (MECL to Saturated Logic)	MC1218F, L	I	II	MC1018P	.....	IV	7 (DTL)	19	55
Full Adder	MC1219F, L	I	II	MC1019P	.....	IV	25	3.0 or 8.0*	145
Quad Line Receiver	MC1220F, L	I	II	MC1020P	.....	IV	25	4.0	115
Full Subtractor	MC1221F, L	I	II	MC1021P	.....	IV	25	4.0 or 11*	145
Type D Flip Flop	MC1222F, L	I	II	MC1022P	.....	IV	25	8.0	110
Dual 4-Input OR/NOR Clock Driver	—	.....	.....	MC1023F, P	I	IV	25	2.0	250
Dual 2-Input Expandable Gate	MC1224F, L	I	II	MC1024P	.....	IV	25	4.0	95
Dual 4 and 5-Input Expander	MC1225F, L	I	II	MC1025P	.....	IV	—	—	—
Dual 3-4-Input Transmission Line and Clock Driver	MC1226F, L	I	II	MC1026P	.....	IV	25	2.0	140
AC Coupled J-K Flip Flop (120 MHz typ)	—	.....	.....	MC1027F, P	I	IV	25	4.0	250
Dual 4-Channel Data Selector	MC1228L	.....	III	MC1028P	.....	V	25	5.0	170
Data Distributor	MC1229F, L	I	II	MC1029P	.....	IV	25	4.0	100
Quad Exclusive OR Gate	MC1230F, L	I	II	MC1030P	.....	IV	25	5.0	130
Quad Exclusive NOR Gate	MC1231F, L	I	II	MC1031P	.....	IV	25	5.0	130
100 MHz AC Coupled Dual J-K Flip-Flop	—	.....	.....	MC1032P	.....	V	25	4.5	180
Dual R-S Flip-Flop (Single Rail, Negative Clock)	MC1233F, L	I	II	MC1033P	.....	IV	25	6.0	140
Type D Flip-Flop	—	.....	.....	MC1034F, P	I	IV	25	4.0	185
Dual Schmitt Trigger/Triple Differential Amplifier	MC1235F, L	I	II	MC1035P	.....	IV	25	5.0	140
16-Bit Coincident Memory	—	.....	.....	MC1036F, P	I	IV	5	17	250
16-Bit Coincident Memory w/o Pulldowns	—	.....	.....	MC1037F, P	I	IV	5	17	250
8 Channel Data Selector	MC1238F, L	I	II	MC1038P	.....	IV	25	7.0 or 18*	150
Quad Level Translator (MECL to Saturated Logic)	MC1239L	.....	III	MC1039P	.....	V	7 (DTL)	12	200
Quad Latch	MC1240L	.....	II	MC1040F, P	I	IV	25	8.0	250
Dual Binary to One-Of-Four Decoder	—	.....	.....	MC1042P	.....	V	25	6.5	245
3-Bit Binary to One-Of-Eight Line Decoder	—	.....	.....	MC1043F, P	I	IV	25	6.0 or 11*	210
Binary to One-Of-Ten Line Decoder	—	.....	.....	MC1044P	.....	V	25	6.0	245
Decoder—Nixie® Driver	MC1245L	.....	III	MC1045P	.....	V	—	—	178
8-Bit Parity Checker and Generator	—	.....	.....	MC1046P	.....	IV	25	13 or 14*	205
Quad 2-Input AND Gates	MC1247F, L	I	II	MC1047P	.....	IV	25	5.0	130
Quad 2-Input NAND Gates	MC1248F, L	I	II	MC1048P	.....	IV	25	5.0	130
Dual Full Adder	MC1259L	.....	II	MC1059P	I	IV	25	9.0	375
Quad Latch	MC1270L	.....	III	MC1070F, P	.....	V	25	8.0	200

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MECL III

The MECL III family of non-saturating integrated logic circuits is designed for very high speed digital system operation. Gate circuits are capable of subnanosecond speeds with local loading and of driving terminated lines with 1.5-ns rise times and 1.1-ns propagation delays. Flip-flop toggle frequencies are greater than 300 MHz. MECL III circuit design is similar to that employed in the MECL II family, however more advanced processing techniques are used and unused inputs may be left open.

$V_{CC}=0$, $V_{EE}=5.2$ V, $T_A=25°C$ L suffix denotes ceramic DIP (Case 620); S suffix denotes ceramic stud Flat Pack (Case 617).

Function	Type 0 to +75°C	DC Output Loading Factor# Each Output: High Z	DC Output Loading Factor# Each Output: Low Z	Propagation Delay 50-ohm Load t_{pd}, ns typ	Total Power Dissipation (No Load) P_D, mW typ
Dual A/D Comparator	MC1650	70	7	—	260
Dual 4-Input OR/NOR Gate (High Z)	MC1660	70	7	1.1	120
Dual 4-Input OR/NOR Gate (Low Z)	MC1661	70	7	1.1	120
Quad 2-Input NOR Gate (High Z)	MC1662	70	7	1.1	240
Quad 2-Input NOR Gate (Low Z)	MC1663	70	7	1.1	240
Quad 2-Input OR Gate (High Z)	MC1664	70	7	1.1	240
Quad 2-Input OR Gate (Low Z)	MC1665	70	7	1.1	240
Dual Clocked R-S Flip-Flop (High Z)	MC1666	70	7	1.8	220
Dual Clocked R-S Flip-Flop (High Z)	MC1667	70	7	1.8	230
Dual Clocked Latch (High Z)	MC1668	70	7	1.8	220
Dual Clocked Latch (Low Z)	MC1669	70	7	1.8	220
Master-Slave Type D Flip-Flop (High Z)	MC1670	70	7	1.8	220
Master-Slave Type D Flip-Flop (Low Z)	MC1671	70	7	1.8	220
Triple 2-Input Exclusive OR Gate (High Z)	MC1672	70	7	1.1	220
Triple 2-Input Exclusive OR Gate (Low Z)	MC1673	70	7	1.1	230
Triple 2-Input Exclusive NOR Gate (High Z)	MC1674	70	7	1.1	220
Triple 2-Input Exclusive NOR Gate (Low Z)	MC1675	70	7	1.1	230
Bi Quinary Counter (High Z)	MC1678	70	7	*350 MHz typ	900
Bi Quinary Counter (Low Z)	MC1679	70	7	*350 MHz typ	900
Random Access Memory (RAM) Cell (High Z)	MC1680	70	7	Read Delay 2.5 Write Delay 3.5	270
Random Access Memory (RAM) Cell (Low Z)	MC1681	70	7	Read Delay 2.5 Write Delay 3.5	300
Content Addressable Memory (CAM) Cell (High Z)	MC1682	70	7	Search Delay 2.8 Write Delay 4.0	270
Content Addressable Memory (CAM) Cell (Low Z)	MC1683	70	7	Search Delay 2.8 Write Delay 4.0	300

Toggle Frequency #DC Loading factors are based on: 1. Full load output current, $I_L=-25$ mAdc max; 2. Maximum input current, $I_{in}=350$ μAdc (High Z) 3.1 mAdc (Low Z).

MECL III (continued)

L suffix denotes ceramic dual in-line package (Case 620) S suffix denotes ceramic stud flat package (Case 617).

Function	Type 0 to +75°C	DC Output Loading Factor # Each Output		Propagation Delay 50-ohm Load t_{pd}, ns typ	Total Power Dissipation (No Load) P_D, mW typ
		High Z	Low Z		
Content Addressable Random Access (CARAM) Memory Cell (High Z)	MC1684	70	7	Read Delay 2.5 Search Delay 2.8 Write Delay 4.0	270
Content Addressable Random Access (CARAM) Memory Cell (Low Z)	MC1685	70	7	Read Delay 2.5 Search Delay 2.8 Write Delay 4.0	300
Quad Line Receiver	MC1692	70	7	1.1	220

• Toggle Frequency

DC Loading factors are based on: 1. Full load output current, I_L = —25 mAdc max
2. Maximum input current, I_{in} = 350 μAdc (High Z) 3.1 mAdc (Low Z)

MHTL

MHTL integrated circuits are designed to meet the requirements of industrial applications. Noise immunity is 5.0 V minimum, providing error-free operation in high noise environments far beyond the tolerance of other integrated circuit families. V_{CC} = 15 V ±1.0 Vdc, T_A = 25°C

I. TO-86 Flat Pack Suffix F
II. TO-116 Ceramic Suffix L
III. 620 (16 lead) Ceramic Suffix L
IV. TO-116 Plastic Suffix P
V. 612 (16 lead) Plastic Suffix P

Function	−30 to +75°C	Case		Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation P_D mW typ/pkg
		Plastic DIP Suffix P	Ceramic DIP Suffix L			
Expandable Dual 4-Input Gate (active pullup)	MC660	IV	II	10	110	88/26
Expandable Dual 4-Input Gate (passive pullup)	MC661	IV	II	10	125	88/26
Expandable Dual 4-Input Line Driver	MC662	IV	II	30	140	180/26
Dual J-K Flip-Flop	MC663	IV	II	9	3.0 MHz	200
Master Slave R-S Flip-Flop	MC664	IV	II	8	3.0 MHz	160
Triple Level Translator	MC665	IV	II	MDTL = 8 MTTL III = 5.5 MRTL = 5	40	83 (MDTL) 104 (MRTL)
Triple Level Translator	MC666	IV	II	10	75	105
Dual Monostable Multivibrator	MC667	IV	II	10	140	240
Quad 2-Input Gate (passive pullup)	MC668	IV	II	10	125	176/52
Dual 4-Input Expander	MC669	IV	II	.....	.....	.....
Triple 3-Input Gate (passive pullup)	MC670	IV	II	10	125	132/39
Triple 3-Input Gate (active pullup)	MC671	IV	II	10	110	132/39
Quad 2-Input Gate (active pullup)	MC672	IV	II	10	110	176/52
Dual 2-Input AND-OR-INVERT Gate	MC673	IV	II	10	110	160/50
Dual 2-Input AND-OR-INVERT Gate	MC674	IV	II	10	125	160/50
Dual Pulse Stretcher	MC675	IV	II	10	150 (pins 1, 6) 110 (pins 5, 6)	180
Hex Inverter With Strobe (active pullup)	MC677	V	III	10	110	246/96
Hex Inverter With Strobe (without output resistors)	MC678	V	III	10	125	192/96
Dual Lamp Driver	MC679	IV	II	125	0.5 μs typ	250/30
Hex Inverter	MC680	IV	II	10	110	246/96
Hex Inverter (Open Collector)	MC681	IV	II	10	125	192/96
Quad w-Input Exclusive OR	MC683	IV	II	10	.....	380

MTTL

MC5400/MC7400 series MTTL integrated circuits are designed for general purpose digital applications. The family has a medium operating speed (15-30 MHz clock rate), good external noise immunity, high fan-out, and the capability of driving capactive loads up to 600 pF. V_{CC} = 5.0 V, T_A = 25°C.

I. TO-86 Flat Pack Suffix F
II. TO-116 Ceramic Suffix L
III. 620 (16 Lead) Ceramic Suffix L
IV. TO-116 Plastic Suffix P
V. 612 (16 Lead) Plastic Suffix P

Function	−55 to +125°C	Case		0 to +70°C	Case			Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
		Flat Pack Suffix F	Ceramic DIP Suffix L		Flat Pack Suffix F	Ceramic DIP Suffix L	Plastic DIP Suffix P			
Quad 2-Input NAND Gate	MC5400F,L	I	II	MC7400F,L,P	I	II	IV	10	10	40
Quad 2-Input NAND Gate (Open Collector Output)	MC5401F,L	I	II	MC7401F,L,P	I	II	IV	10	35	40
Quad 2-Input NOR Gate	MC5402F,L	I	II	MC7402F,L,P	I	II	IV	10	10	40
Quad 2-Input "NAND" GATE (With Open Collector)	MC5403L	.....	II	MC7403L,P	.....	II	IV	10	35	40
Hex Inverter	MC5404F,L	I	II	MC7404F,L,P	I	II	IV	10	13	60
Hex Inverter	MC5405L	.....	II	MC7405L,P	.....	II	IV	10	35	60
Triple 3-Input NAND Gate	MC5410F,L	I	II	MC7410F,L,P	I	II	IV	10	10	30
Dual 4-Input NAND Gate	MC5420F,L	I	II	MC7420F,L,P	I	II	IV	10	10	20
8-Input NAND Gate	MC5430F,L	I	II	MC7430F,L,P	I	II	IV	10	10	10
Dual 4-Input NAND Buffer	MC5440F,L	I	II	MC7440F,L,P	I	II	IV	30	13	50

Continued next page

MTTL (Cont'd)

I. TO-86 Flat Pack Suffix F; II. TO-116 Ceramic Suffix L; III. 620 (16 Lead) Ceramic Suffix L; IV. TO-116 Plastic Suffix P; V. 612 (16 Lead) Plastic Suffix P.

Function	Case		—55 to +125°C	Case			0 to +70°C	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
	Flat Pack Suffix F	Ceramic DIP Suffix L		Flat Pack Suffix F	Ceramic DIP Suffix L	Plastic DIP Suffix D				
BCD to Decimal Decoder and High Level Driver	.....	.....	.....	.....	III	V	MC7441AL,P	.....	.....	105
BCD to Decimal Decoder	.....	III	MC5442L	.....	III	V	MC7442L,P	10	22/23#	140
Excess Three to Decimal Decoder	.....	III	MC5443L	.....	III	V	MC7443L,P	10	22/23#	140
Excess Three Gray to Decimal Decoder	.....	III	MC5444L	.....	III	V	MC7444L,P	10	22/23#	140
BCD to Seven Segment Decoder/Driver	.....	III	MC5446L	.....	III	V	MC7446L,P	BI/RBO 5	.....	265
BCD to Seven Segment Decoder/Driver	.....	III	MC5447L	.....	III	V	MC7447L,P	BI/RBO 5	.....	265
BCD to Seven Segment Decoder/Driver	.....	III	MC5448L	.....	III	V	MC7448L,P	BI/RBO= 5 a thru g= 4	.....	265
BCD to Seven Segment Decoder/Driver	I	.....	MC5449F	I	.....	.....	MC7449F	6	.....	165
Expandable Dual 2 Wide 2-Input AND-OR-INVERT Gate	I	II	MC5450F,L	I	II	IV	MC7450F,L,P	10	13	28
Dual 2-Wide 2-Input AND-OR-INVERT Gate	I	II	MC5451F,L	I	II	IV	MC7451F,L,P	10	13	28
Expandable 4-Wide 2-Input AND-OR-INVERT Gate	I	II	MC5453F,L	I	II	IV	MC7453F,L,P	10	13	22
4-Wide 2-Input AND-OR-INVERT Gate	I	II	MC5454F,L	I	II	IV	MC7454F,L,P	10	13	22
Dual 4-Input Expander for AND-OR-INVERT Gates	I	II	MC5460F,L	I	II	IV	MC7460F,L,P	.....	5.0	8.0
J-K Flip-Flop	I	II	MC5472F,L	I	II	IV	MC7472F,L,P	10	30	40
Dual J-K Flip-Flop	I	II	MC5473F,L	I	II	IV	MC7473F,L,P	10	30	80
Quad Latch	.....	.....	.....	.....	.....	V	MC7475P	10	30	160
Dual J-K Flip-Flop	.....	.....	.....	.....	.....	V	MC7476P	10	30	80
Dual Type D Flip-Flop	I	II	MC5479F,L	I	II	IV	MC7479F,L,P	10	16	84
Gated Full Adder	.....	II	MC5480L	.....	II	IV	MC7480L,P	S, S=10 C_{n+1}=5 A*, B*,—3	10/55*	105
4-Bit Binary Full Adder	.....	III	MC5483L	.....	III	V	MC7483L,P	S=10 C4=5	35	390
Decade Counter	I	II	MC5490F,L	I	II	IV	MC7490F,L,P	10	20/bit	160
8 Bit Shift Register	.....	II	MC5491AL	.....	II	IV	MC7491AL,P	10	35	175
Divide by Twelve Counter	I	II	MC5492F,L	I	II	IV	MC7492F,L,P	10	60	160
4 Bit Binary Counter	.....	II	MC5493L	.....	II	IV	MC7493L,P	10	20/bit	160
4 Bit Shift Register	I	II	MC5495F,L	I	II	IV	MC7495F,L,P	10	25	250
2 Bit Full Adder	I	II	MC15482F,L	I	II	IV	MC17482F,L,P	10	15/12*	165
2 Bit Full Adder	I	II	MC25482F,L	I	II	IV	MC27482F,L,P	10	25/12*	165
Dual J-K Flip-Flop	.....	II	MC54107L	.....	II	IV	MC74107L,P	10	30	80

MTTL I

MTTL I high fan-out, high noise immunity, saturating logic circuits are designed for general purpose digital applications. Gate propagation delay time is typically 10 ns. Flip-flop clock frequency is 20 MHz maximum.
V_{CC}=5.0 V. T_A=25°C
F suffix denotes Flat Pack (TO-85), L suffix, ceramic DIP (TO-116), and P suffix, the plastic DIP available in 0-75°C temperature range only.

Function	0 to +75°C	—55 to +125°C	Output Loading Factor Each Output		Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
			MC400 Series	MC500 Series		
Dual 4-Input NAND Gate	MC400 MC450	MC500 MC550	12 6	15 7	10	30
Expandable 4 Wide 2-2-2-3-Input AND-OR-INVERT Gate	MC401 MC451	MC501 MC551	12 6	15 7	12	30
8-Input NAND Gate	MC402 MC452	MC502 MC552	12 6	15 7	12	15
2-Wide 3-Input AND-OR-INVERT Gate with Gated Complement	MC403 MC453	MC503 MC553	12 6	15 7	11	35
Expandable 3-Wide 3-Input AND-OR-INVERT Gate	MC404 MC454	MC504 MC554	12 6	15 7	12	25
Expandable 2-Wide 4-Input AND-OR-INVERT Gate	MC405 MC455	MC505 MC555	12 6	15 7	12	20
Expandable 8-Input NAND Gate	MC406 MC456	MC506 MC556	12 6	15 7	18	15
Line Driver	MC407 MC457	MC507 MC557	12 6	15 7	25 @ 1000 pF Load	60
Quad 2-Input NAND Gate	MC408 MC458	MC508 MC558	12 6	15 7	10	60
4-Wide 3-2-2-3-Input Expander for AND-OR-INVERT Gates	MC409 MC459	MC509 MC559	12 6	15 7	.....	.....
Dual 4-Input Expander for AND-OR-INVERT Gates	MC410 MC460	MC510 MC560	12 6	15 7	.....	.....

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MTTL I (CONTINUED)

F suffix denotes Flat Pack, L suffix, Ceramic DIP and P suffix, plastic DIP available in 0-75°C temperature range only.

Function	0 to +75°C	−55 to +125°C	Output Loading Factor Each Output MC400 Series	Output Loading Factor Each Output MC500 Series	Propagation Delay t_{pd} ns type	Power Dissipation mW typ/pkg
Dual 4-Input Expander for NAND Gates	MC411 MC461	MC511 MC561	12 6	15 7		
Triple 3-Input NAND Gate	MC412 MC462	MC512 MC562	12 6	15 7	10	45
R-S Flip-Flop	MC413 MC463	MC513 MC563	12 6	15 7	20/15*	30
Gated R-S Flip-Flop	MC414 MC464	MC514 MC564	12 6	15 7	20/7.5*	30
AND J-K Flip-Flop	MC415 MC465	MC515 MC565	12 6	15 7	13/25*	40
OR J-K Flip-Flop	MC416 MC466	MC516 MC566	12 6	15 7	13/25*	50
AND Input J-K Flip-Flop	MC417 MC467	MC517 MC567	12 6	15 7	20	95
Type D Flip-Flop	MC418 MC468	MC518 MC568	12 6	15 7	20	95
Triple 2-Input Buss Driver	MC419 MC469	MC519 MC569	.....	.....	50/15*	54
Expandable Dual 2-Wide 2-Input AND-OR-INVERT Gate	MC420 MC470	MC520 MC570	12 6	15 7	12	40
AC Coupled R-S Flip-Flop	MC421 MC471	MC521 MC571	12 6	15 7	18	30
Dual Type D Flip-Flop	MC422 MC472	MC522 MC572	12 6	15 7	16	84
Dual J-K Flip-Flop (separate clock)	MC423 MC473	MC523 MC573	13 7	16 8	10/12*	110
Dual J-K Flip-Flop (common clock)	MC424 MC474	MC524 MC574	13 7	16 8	10/12*	110
Hex Inverter	MC425 MC475	MC525 MC575	12 6	15 7	10	90
Dual 3-Input Pulse Shaper/Delay AND Gate	MC426 MC476	MC526 MC576	13 7	16 8	15	60
OR Expandable Dual 4-Input AND Gate	MC427 MC477	MC527 MC577	12 6	15 7	10	38
Dual 2-Wide 2-3-Input OR Expander	MC428 MC478	MC528 MC578	.....	.....	.....	15
Hex Inverter	MC429 MC479	MC529 MC579	12 6	15 7	10	90

MTTL II

MTTL II high fan out, high noise immunity, saturating logic circuits are designed for high-speed general purpose digital applications. Gate propagation delay time is typically 6.0 ns. Flip-flop clock frequency is 30 MHz maximum.
V_{CC} = 5.0 V, T_A = 25°C
F suffix denotes Flat Pack, L suffix, ceramic DIP and P suffix, plastic DIP available in 0-75°C temperature range only.

Function	0 to +75°C	−55 to +125°C	Output Loading Factor Each Output MC2000 Series	Output Loading Factor Each Output MC2100 Series	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
Expandable 2-Wide 4-Input AND-OR-INVERT Gate	MC2000 MC2050	MC2100 MC2150	9 5	11 6	7.0	27
Quad 2-Input NAND Gate	MC2001 MC2051	MC2101 MC2151	9 5	11 6	6.0	88
4-Wide 3-2-2-3-Input Expander for AND-OR-INVERT Gates	MC2002 MC2052	MC2102 MC2152	9 5	11 6	.....	28
Dual 4-Input NAND Gate	MC2003 MC2053	MC2103 MC2153	9 5	11 6	6.0	44
Expandable 4-Wide 2-2-2-3-Input AND-OR-INVERT Gate	MC2004 MC2054	MC2104 MC2154	9 5	11 6	7.0	36

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MTTL II (CONTINUED)

F suffix denotes Flat Pack, L suffix ceramic DIP and P suffix, plastic DIP available in 0-75°C temperature range only.

Function	0 to +75°C	55 to +125°C	Output Loading Factor Each Output		Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
			MC2000 Series	MC2100 Series		
8-Input NAND Gate	MC2005 MC2055	MC2105 MC2155	9 5	11 6	8.0	22
Dual 4-Input Expander for AND-OR-INVERT Gates	MC2006 MC2056	MC2106 MC2156	9 5	11 6	.....	14
Triple 3-Input NAND Gate	MC2007 MC2057	MC2107 MC2157	9 5	11 6	6.0	66
Hex Inverter	MC2008 MC2058	....	9 5	.....	6.0	132
AND J-K Flip-Flop	MC2009 MC2059	MC2109 MC2159	9 5	11 6	f=30 MHz	40
OR J-K Flip-Flop	MC2010 MC2060	MC2110 MC2160	9 5	11 6	f=30 MHz	50
Expandable 8-Input NAND Gate	MC2011 MC2061	MC2111 MC2161	9 9	11 6	11	22
Expandable 3-Wide 3-Input AND-OR-INVERT Gate	MC2012 MC2062	MC2112 MC2162	9 5	11 6	6.0	39
Expandable Dual 2-Wide 2-Input AND-OR-INVERT Gate	MC2013 MC2063	MC2113 MC2163	9 5	11 6	7.0	58
Quad 2-Input Lamp/ Line Driver	..... MC2065	..... MC2165	....	.....	20	105
Dual J-K Flip-Flop (separate clock)	MC2023 MC2073	MC2123 MC2173	9 5	11 6	f=70 MHz	110
Dual J-K Flip-Flop (common clock)	MC2024 MC2074	MC2124 MC2174	9 5	11 6	f=70 MHz	110
AND J-K Flip-Flop	MC2025 MC2075	MC2125 MC2175	9 5	11 6	f=50 MHz	50
OR J-K Flip-Flop	MC2026 MC2076	MC2126 MC2176	9 5	11 6	f=50 MHz	60
OR J-K Flip-Flop	MC2028 MC2078	MC2128 MC2178	9 5	11 6	f=35 MHz	60
Hex Inverter	MC2016 MC2066	MC2116 MC2166	5 5	9 9	6.0	132

MTTL III

MTTL III integrated circuits are designed for general purpose digital applications. The family has a high operating speed (30-50 MHz clock rate), good external noise immunity, high fan-out, and the capability of driving lines up to 600 pF capacitance.

V_{CC}=5.0 V, T_A=25°C

F suffix denotes Flat Pack, L suffix, ceramic DIP and P suffix, plastic DIP available in 0-75°C temperature range only.

Function	0 to +75°C	−55°C to +125°C	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
Quad 2-Input NAND Gate	MC3000	MC3100	10	6.0	66
Quad 2-Input AND Gate	MC3001	MC3101	10	9.0	112
Quad 2-Input NOR Gate	MC3002	MC3102	10	6.0	122
Quad 2-Input OR Gate	MC3003	MC3103	10	9.0	150
Quad 2-Input NAND Gate (Open Collector)	MC3004	MC3104	10	8.0	88
Triple 3-Input NAND Gate	MC3005	MC3105	10	6.0	66
Triple 3-Input AND Gate	MC3006	MC3106	10	9.0	84
Triple 3-Input NAND Gate (Open Collector)	MC3007	MC3107	10	8.0	66
Hex Inverter	MC3008	MC3108	10	6.0	140
Hex Inverter	MC3009	MC3109	10	8.0	90
Dual 4-Input NAND Gate	MC3010	MC3110	10	6.0	44
Dual 4-Input AND Gate	MC3011	MC3111	10	9.0	56
Dual 4-Input NAND Gate (Open Collector)	MC3012	MC3112	10	8.0	44
8-Input NAND Gate	MC3015	MC3115	10	8.0	22
8-Input NAND Gate	MC3016	MC3116	10	8.0	22
4 Wide 3-2-2-3 Input Expander For AND-OR-INVERT Gates	MC3018	MC3118	**	$\Delta t_{pd}1$=0.4 $\Delta t_{pd}0$=0.05	40
Triple 3-Input Expander For AND-OR Gates	MC3019	MC3119	**	$\Delta t_{pd}1$=0.4 $\Delta t_{pd}0$=0.05	25
Expandable Dual 2-Wide 2-Input AND-OR-INVERT Gate	MC3020	MC3120	10	6.0	62.5
Quad 2-Input Exclusive OR Gate	MC3021	MC3121	8	14	100
Quad 2-Input Exclusive NOR Gate	MC3022	MC3122	8	14	85
Dual 2-Wide 2-Input AND-OR-INVERT Gate	MC3023	MC3123	10	6.0	62.5
Dual 4-Input NAND Buffer Gate	MC3024	MC3124	30	6.0	90

*Direct Output=10 minus the number of resistor-terminated outputs being used.

**Full output loading factor of the expandable gate is maintained.

Continued next page

MTTL III (CONT'D)

F suffix denotes Flat Pack (TO-86), L suffix, ceramic DIP (TO-116) and P suffix, plastic DIP (TO-116) available in 0-75°C temperature range only.

Function	0 to +75°C	−55°C to +125°C	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg
Dual 4-Input NAND Power Gate	MC3025	MC3125	20	6.0	70
Dual 4-Input AND Power Gate	MC3026	MC3126	20	9.0	90
Dual 3-Input 3-Output AND Series Terminated Line Driver	MC3028	MC3128	*	9.0	56
Dual 3-Input 3-Output NAND Series Terminated Line Driver	MC3029	MC3129	*	6.0	44
Dual 4-Input Expander for AND-OR-INVERT Gates	MC3030	MC3130	**	$\Delta t_{pd} = 1.0$	15
Expandable 4-Wide 2-2-2-3 Input AND-OR Gate	MC3031	MC3131	10	10	87.5
Expandable 4-Wide 2-2-2-3 Input AND-OR-INVERT Gate	MC3032	MC3132	10	7.0	40
4-Wide 2-2-2-3 Input AND-OR-INVERT Gate	MC3033	MC3133	10	7.0	40
Expandable 2-Wide 4-Input AND-OR-INVERT Gate	MC3034	MC3134	10	7.0	30
AND J-K Flip-Flop	MC3050	MC3150	10	f = 40 MHz	80
AND Input J-K Flip-Flop	MC3051	MC3151	10	f = 50 MHz	50
AND Input JJ-KK Flip-Flop	MC3052	MC3152	10	f = 40 MHz	75
Double-Edge-Triggered Master-Slave Type D Flip-Flop	MC3053	MC3153	10	.....	100
OR Input J-K Flip-Flop	MC3054	MC3154	10	20	95
AND Input J-K Flip-Flop	MC3055	MC3155	10	10	80
Dual Type D Flip-Flop	MC3060	MC3160	10	f = 30 MHz	120
Dual J-K Flip-Flop	MC3061	MC3161	10	f = 50 MHz	100
Dual J-K Flip-Flop	MC3062	MC3162	10	f = 50 MHz	100

MTTL COMPLEX FUNCTIONS

The MTTL complex functions are designed for digital applications in the medium to high-speed range. Each device is compatible with many or all of the families of MTTL and MDTL devices, as indicated in the table.

These MTTL devices provide significant reduction in package count and increased logic per function over devices in the basic MTTL and MDTL families.

$V_{CC} = 5.0$ V, $T_A = 25°C$

I. TO-86 Flat Pack Suffix F; II. TO-116 Ceramic Suffix L; III. 620 (16 Lead) Ceramic Suffix L; IV. TO-116 Plastic Suffix P: V. 612 (16 Lead) Plastic Suffix P.

Function	−55 to +125°C	Case: Flat Pack Suffix F	Case: Ceramic DIP Suffix L	0 to +75°C	Case: Flat Pack Suffix F	Case: Ceramic DIP Suffix L	Case: Plastic DIP Suffix P	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation P_D mW typ/pkg.	Code
Dual 4 Channel Data Selector	.....	.....	.....	MC4000F, L, P	I	II	IV	10	18/11*	150	A
BCD to Binary/Binary to BCD Number Converter	.....	.....	.....	MC4001L, P	.....	III	V	Open Collector $I_{OL} = 16$ mA*	Address Time < 45 ns	300	A
Dual Data Distributor	.....	.....	.....	MC4002F, L, P	I	II	IV	10	10.5	175	A
16 Bit Scratch Pad Memory Cell	MC4304F, L	I	II	MC4004F, L, P	I	II	IV	$I_{OL} = 40$ mA Open Collector	Write mode: 25 Sense mode: 15	250	B
16 Bit Scratch Pad Memory Cell	MC4305F, L	I	II	MC4005F, L, P	I	II	IV	$I_{OL} = 20$ mA	Write mode: 25 Sense mode: 15	250	B
Binary to One of Eight Line Decoder	.....	.....	.....	MC4006F, L, P	I	II	IV	10	14	100	A
Dual Binary to One of Four Line Decoder	.....	.....	.....	MC4007L, P	.....	III	V	10	14	125	A
8 Bit Parity Tree	.....	.....	.....	MC4008F, L, P	I	II	IV	10	15 to 30	150	A
Dual 4 Bit Parity Tree	.....	.....	.....	MC4010F, L, P	I	II	IV	10	9.5 to 22	125	A
4 Bit Shift Register	.....	.....	.....	MC4012F, L, P	I	II	IV	10	22/bit	180	A
Quad Type D Flip Flop	.....	.....	.....	MC4015L, P	.....	III	V	10	16	100	A
Programmable Modulo-N Decade Counter	MC4316L	.....	III	MC4016L, P	.....	III	V	8	Clock to Q3 = 50 Clock to Buss = 35	250	A
Programmable Modulo-N Hexadecimal Counter	MC4318L	.....	III	MC4018L, P	.....	III	V	8	Clock to Q3 = 50 Clock to Buss = 35	250	A
4 Bit Universal Counter	.....	.....	.....	MC4023F, L, P	I	II	IV	10	16/bit	200	A
Dual Voltage Controlled Multivibrator	MC4324F, L	I	II	MC4024F, L, P	I	II	IV	7	25 MHz†	150	A
Full Adder	MC4326F, L	I	II	MC4026F, L, P	I	II	IV	15/12**	25/13#	90	B
Full Adder	MC4327F, L	I	II	MC4027F, L, P	I	II	IV	7/6**	25/13#	90	B
Adder (Dependent Carry)	MC4328F, L	I	II	MC4028F, L, P	I	II	IV	15/12**	25/13#	125	B
Adder (Dependent Carry)	MC4329F, L	I	II	MC4029F, L, P	I	II	IV	7/6**	25/13#	125	B
Adder (Independent Carry)	MC4330F, L	I	II	MC4030F, L, P	I	II	IV	15/12**	25/13#	125	B
Adder (Independent Carry)	MC4331F, L	I	II	MC4031F, L, P	I	II	IV	7/6**	25/13#	125	B
Carry Decoder	MC4332F, L	I	II	MC4032F, L, P	I	II	IV	.....	Δt_{pd} 4.0/decoder	20	B
Quad Latch (Open Collector)	MC4335F, L	I	II	MC3035F, L, P	I	II	IV	7	25	140	A
Quad Latch	MC4337F, L	I	II	MC4037F, L, P	I	II	IV	10	25	150	A
Inverting/Non-Inverting One of Eight Decoder	.....	.....	.....	MC4038P	.....	.....	V	Open Collector $I_{OL} = 20$ mA	Address Time < 45 ns	240	A
Seven Segment Character Generator	.....	.....	.....	MC4039P	.....	.....	V			240	A
Binary to Two of Eight Decoder	.....	.....	.....	MC4040P	.....	.....	V			200	A
Single Error Hamming Code Detector and Generator	.....	.....	.....	MC4041P	.....	.....	V			250	A

Code A denotes devices compatible with all MTTL and MDTL families.
B denotes devices compatible with MTTL I and MTTL II devices.
C denotes devices compatible with MTTL MC5400/7400 Series devices

*Control line/Data line
#Add delay/Carry delay

**MC4300 Series/MC4000 Series
†Maximum Operating Frequency

Continued on next page

MTTL COMPLEX FUNCTIONS (CONT'D)

I. TO-86 Flat Pack Suffix F; II. TO-116 Ceramic Suffix L; III. 620 (16 Lead) Ceramic Suffix L; IV. TO-116 Plastic Suffix P; V. 612 (16 Lead) Plastic Suffix P; VI. 649 (24 Pin) Suffix P.

Function	Case		—55 to +125°C	Case			0 to +75°C	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation P_D mW typ/pkg.	Code
	Flat Pack Suffix F	Ceramic DIP Suffix L		Flat Pack Suffix F	Ceramic DIP Suffix L	Plastic DIP Suffix P					
Quad Predriver							MC4042F, L, P	I_{OL}=50 mA / Open Collector	15	120	A
Dual Line Selector							MC4043F, L, P	I_{OL} = 400 mA Pulsed	20	70	A
Phase Frequency Detector	MC4344F, L	I	II				MC4044F, L, P	I	II	IV	10	9.0	85	A
Non-Inverting One of Eight Decoder							MC4048P			V	Open Collector I_{OL}=16 mA	Address Time < 50 ns	240	A
Counter-Latch Decoder	MC4350L		III				MC4050L, P			III	V		t_{Tog}=35 MHz	450	A
							0 to +70°C								
BCD to Decimal Decoder and High Level Driver							MC7441AL, P			III	V			105	C
BCD to Decimal Decoder	MC5442L		III				MC7442L, P			III	V	10	2 Logic Levels=22 3 Logic Levels=23	140	C
Excess Three to Decimal Decoder	MC5443L		III				MC7443L, P			III	V	10	2 Logic Levels=22 3 Logic Levels=23	140	C
Excess Three Gray to Decimal Decoder	MC5444L		III				MC7444L, P			III	V	10	2 Logic Levels=22 3 Logic Levels=23	140	C
BCD to One-of-Ten Decoder/Driver	MC5445L		III				MC7445L, P			III	V			215	C
BCD to Seven Segment Decoder/Driver	MC5446L		III				MC7446L, P			III	V	BI/RBO=5		265	C
BCD to Seven Segment Decoder/Driver	MC5447L		III				MC7447L, P			III	V	BI/RBO=5		265	C
BCD to Seven Segment Decoder/Driver	MC5448L		III				MC7448L, P			III	V	BI/RBO=5 a, 3 thru 4=4		265	C
BCD to Seven Segment Decoder/Driver	MC5449F	I					MC7449F	I				6		165	C
Quad Latch							MC7475P			V	10	30	160	C
Gated Full Adder	MC5480L		II				MC7480L, P			II	IV	Sum, Sum=10 C_{n+1}=5 A*, B*=3	10/55#	105	C
4 Bit Binary Full Adder	MC5483L		III				MC7483L, P			III	V	S=10 C4=5	35	390	C
Decade Counter	MC5490F, L	I	II				MC7490F, L, P	I	II	IV	10	20/bit	160	C
8-Bit Shift Register	MC5491AL		II				MC7491AL, P			II	IV	10	25	175	C
Divide by Twelve Counter	MC5492F, L	I	II				MC7492F, L, P	I	II	IV	10	60	160	C
4 Bit Binary Counter	MC5493L		II				MC7493L, P			II	IV	10	20/bit	160	C
4 Bit Shift Register	MC5495F, L	I	II				MC7495F, L, P	I	II	IV	10	25	250	C
							0 to +75°C								
Universal 4 Bit Shift Register	MC9300L		III				MC8300L, P			III	V	6	35	300	A
BCD to Decimal Decoder	MC9301L		III				MC8301L, P			III	V	10	22	125	A
Dual Full Adder	MC9304L		III				MC8304L, P			III	V	C_{o1}, C_{o2}=7 S1, S2=10 S1, S2=9	8.0 to 28	110	A
Dual 4 Bit Latch							MC8308P			VI	9	E to Q=25	325	A
Dual 4 Channel Data Selector	MC9309L		III				MC8309L, P			III	V	Z, W=10 Z, W=9	9.0 to 24	150	A
Presettable Decade Counter	MC9310L		III				MC8310L, P			III	V	6	14 to 35	300	A
One of 16 Decoder							MC8311P			VI	10	E to Q=26 max	175	A
8 Channel Data Selector	MC9312L		III				MC8312L, P			III	V	Z=20/10† Z=18/9†	9.0 to 24	135	A
Presettable 4 Bit Binary Counter	MC9316L		III				MC8316L, P			III	V	6	14 to 35 C to Q=22(t_{pd-})	300	A
Dual 8 Bit Shift Register	MC9328L		III				MC8328L, P			III	V	6	13 (t_{pd+}) MR to Q=35	250	A
Retriggerable Monostable Multivibrator	MC9601F, L	I	II				MC8601F, L, P	I	II	IV	MC9601=6 MC8601=8	25	75	A
							0 to +70°C								
2 Bit Full Adder	MC15482F,L	I	II				MC17482F,L,P	I	II	IV	10	15/12#	165	C
2 Bit Full Adder	MC25482F,L	I	II				MC27482F,L,P	I	II	IV	10	15/12#	165	C
Monostable Multivibrator	MC54121F,L	I	II				MC74121F,L,P	I	II	IV			90	C
BCD to One of Ten Decoder/Driver	MC54145L		III				MC74145L, P			III	V		50 max	215	C

Code A denotes devices compatible with all MTTL and MDTL families.
B denotes devices compatible with MTTL I and MTTL II devices.
C denotes devices compatible with MTTL MC5400/7400 Series devices. #Add delay/Carry delay †Maximum Operating Frequency

MTTL BEAM LEAD

MCBC5400/MCB5400F series integrated circuits comprise a family of transistor-transistor logic designed for general purpose digital applications. The family has a medium operating speed (15-30 MHz clock rate), good external noise immunity, high fan out, and the capability of driving capacitve loads of up to 600 pF.

This series is produced using beam lead sealed junction technology. These devices are particularly useful in highly reliable systems using hybrid beam lead assembly techniques or standard flat package assembly techniques.
V_{CC} = 5.0 V, T_A = 25°C

Function	Type: Chip —55° to +125°C	Type: Case 651 —55° to +125°C	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg.
Quad 2-Input NAND Gate	MCBC5400	MCB5400F	10	13	40
Dual 4-Input NAND Buffer	MCBC5440	MCB5440F	30	13	50
Expandable 4-Wide 2-Input AND-OR-INVERT Gate	MCBC5453	MCB5453F	10	13	22
4 Wide 2-Input AND-OR-INVERT Gate	MCBC5454	MCB5454F	10	13	22
Dual 4-Input Expander for AND-OR-INVERT Gate	MCBC5460	MCB5460F	.....	5.0	8.0
J-K Flip-Flop	MCBC5472	MCB5472F	10	30	40

MTTL DIELECTRICALLY ISOLATED IC'S

The Dielectrically Isolated Integrated Circuit (DIIC) MTTL family is designed specifically for use in military and space applications that require a high degree of reliability under severe radiation environments and post irradiation operation. The MTTL DIIC family utilizes nichrome resistors, post metalization passivation, monometallic interconnections, and very small high frequency transistor structures to enhance the radiation resistant qualities of this line. Dielectrically Isolated MTTL has the same electrical characteristics and pin configurations as the conventional MTTL 54H/74H family which make them interchangeable. This feature eliminates the need for redesigning existing equipment to gain radiation-resistance, and allows the design engineer to utlize a familiar logic type for new systems.
V_{CC} = 5.0 V, T_A = 25°C

Function	Type TO-86: —55 to +125°C	Type TO-86: 0 to +70°C	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Power Dissipation mW typ/pkg.
Quad 2-Input NAND Gate	MCE54H00	MCE74H00	10	6.0	80
Hex Inverter	MCE54H04	MCE74H04	10	6.0	120
Triple 3-Input NAND Gate	MCE54H10	MCE74H10	10	6.0	60
Dual 4-Input NAND Gate	MCE54H20	MCE74H20	10	6.0	40
11-Input NAND Gate	MCE54H31	MCE74H31	10	9.0	20
Dual 4-Input NAND Power Gate	MCE54H40	MCE74H40	30	6.0	80
Dual 2-Wide 2-Input AND-OR-INVERT Gate	MCE54H51	MCE74H51	10	6.0	58
4-Wide 2-Input AND-OR-INVERT Gate	MCE54H54A	MCE74H54A	10	6.0	40
Dual 2-Wide 2-3-Input AND-OR-INVERT Gate	MCE54H56	MCE74H56	10	6.0	58
4-Wide 3-3-2-3-Input AND-OR-INVERT Gate	MCE54H57	MCE74H57	10	6.0	40
Dual Type D Flip-Flop	MCE54H79	MCE74H79	10	16	140

MDTL DIELECTRICALLY ISOLATED IC'S

The Dielectrically Isolated MDTL family is intended for use in military and space applications that require a high degree of reliability under severe radiation environments. In addition to dielectric isolation, this family of devices utilizes nichrome resistors throughout. A post-metalization passivation process further enhances the radiaton resistance qualities of the family and very small high frequency transistor structures are used throughout.
V_{CC} = 5.0 VDC, T_A = 25°C

Function	Type TO-86 —55 to +125°C	Output Loading Factor Each Output	Total Power Dissipation mW typ/pkg.
Expandable Dual 4-Input NAND Gate	MCE930	8	22
Expandable Dual 4-Input Buffer	MCE932	25	85
Dual 4-Input Expander	MCE933	.....	.....
Hex Inverter	MCE936	8	66
Expandable Dual 4-Input NAND Power Gate	MCE944	27	65
Clocked Flip-Flop	MCE945	10	60
Quad 2-Input NAND Gate	MCE946	8	44
Clocked Flip-Flop	MCE948	9	70
Triple 3-Input NAND Gate	MCE962	8	33

MDTL

MDTL integrated circuits provide an excellent balance of speed, power dissipation, and noise immunity for general purpose digital applications. Additional logic power is provided by the "Wired-OR" capability of the basic MDTL gate.

V_{CC} = 5.0 V, T_A = 25°C

I. TO-86 Flat Pack Suffix F; II. TO-116 Ceramic Suffix L; III. 620 (16 lead) Ceramic Suffix L; IV. TO-116 Plastic Suffix P available in 0-75°C temperature range only; V. 612 (16 lead) Plastic Suffix P available in 0-75°C temperature range only; VI. TO-100 Metal Can Suffix G.

Function	0 to +75°C	−55 to +125°C	Case: Flat Pack Suffix F	Case: Metal Can Suffix G	Case: Ceramic DIP Suffix L	Case: Plastic DIP Suffix P	Output Loading Factor Each Output	Propagation Delay t_{pd} ns typ	Total Power Dissipation mw typ/pkg
Expandable Dual 4-Input NAND Gate	MC830	MC930	I	.....	II	IV	8	30	22
Expandable Dual 3-2 Input NAND Gate	MC830	MC930	.....	VI	.....	.....	8	30	22
Clocked Flip-Flop	MC831	MC931	I	VI	II	IV	7	40	55
Expandable Dual 4-Input Buffer	MC832	MC932	I	.....	II	IV	25	35	85
Expandable Dual 3-2 Input Buffer	MC832	MC932	.....	VI	.....	.....	25	35	85
Dual 4-Input Expander	MC833	MC933	I	.....	II	IV	.....	.....	.....
Dual 4-3 Input Expander	MC833	MC933	.....	VI	.....	.....	.....	.....	.....
Hex Inverter	MC834	MC934	I	.....	II	IV	8	30	66
Hex Inverter (without output resistors)	MC835	MC935	I	.....	II	IV	8	30	42
Hex Inverter	MC836	MC936	I	.....	II	IV	8	30	66
Hex Inverter	MC837	MC937	I	.....	II	IV	7	25	90
Decade Counter	MC838	MC938	I	.....	II	IV	8	30 MHz**	150
Divide by Sixteen Counter	MC839	MC939	I	.....	II	IV	8	30 MHz**	150
Hex Inverter (without input diodes)	MC840	MC940	I	.....	II	IV	8	30	66
Hex Inverter (without output resistors and input diodes)	MC841	MC941	I	.....	II	IV	8	30	42
Type D Flip-Flop Plus 2-Wide 2-Input AND-OR-INVERT Gate	MC842	MC942	I	.....	II	IV	9/11*	40	110
4-Input AND Driver with NOR Strobe	MC843	MC943	.....	VI	.....	.....	250 mA	80	50
Expandable Dual 4-Input Power Gate	MC844	MC944	I	.....	II	IV	27	30	65
Expandable Dual 3-2 Input Power Gate	MC844	MC944	.....	VI	.....	.....	27	30	65
Clocked Flip-Flop	MC845	MC945	I	VI	II	IV	12/10*	40	60
Quad 2-Input NAND Gate	MC846	MC946	I	.....	II	IV	8	30	44
Quad Inverter	MC846	MC946	.....	VI	.....	.....	8	30	44
Quad 2-Input Gate Expander	MC847	MC947	I	.....	II	IV	.....	.....	.....
Clocked Flip-Flop	MC848	MC948	I	VI	II	IV	11/9*	40	70
Quad 2-Input NAND Gate (2K pullup resistor)	MC849	MC949	I	.....	II	IV	7	25	66
Quad Inverter (2K pullup resistor)	MC849	MC949	.....	VI	.....	.....	7	25	60
Pulse Triggered Binary	MC850	MC950	I	VI	II	IV	10/8*	15	50
Monostable Multivibrator	MC851	MC951	I	VI	II	IV	10	40	30
Dual J-K Flip-Flop (common clock and C_D, separate S_D)	MC852	MC952	I	.....	II	IV	12/10*	40	120
Dual J-K Flip-Flop (separate clock and S_D, no C_D)	MC853	MC953	I	.....	II	IV	12/10*	40	120
Dual J-K Flip-Flop (common clock and C_D, separate S_D, 2K pullup resistor)	MC855	MC955	I	.....	II	IV	11/9*	40	140
Dual J-K Flip-Flop (separate clock and S_D, no C_D, 2K pullup resistor)	MC856	MC956	I	.....	II	IV	11/9*	40	140
Quad 2-Input Buffer	MC857	MC957	I	.....	II	IV	25	35	170
Quad 2-Input NAND Power Gate	MC858	MC958	I	.....	II	IV	27	30	130
Dual Pulse Triggered Binary	MC860	MC960	I	.....	II	IV	10/8*	15	100
Expandable Dual 4-Input NAND Gate (2K pullup resistor)	MC861	MC961	I	.....	II	IV	7	25	33
Expandable Dual 3-2 Input NAND Gate (2K pullup resistor)	MC861	MC961	.....	VI	.....	.....	7	25	33
Triple 3-Input HAND Gate	MC862	MC962	I	.....	.....	IV	8	30	33
Dual 2-Input NAND Gates plus Inverter	MC862	MC962	.....	VI	.....	.....	8	30	30
Triple 3-Input NAND Gate (2K pullup resistor)	MC863	MC963	I	.....	.....	IV	7	25	50
Dual 2-Input NAND Gate plus Inverter (2K pullup resistor)	MC863	MC963	.....	VI	.....	.....	7	25	45
Dual 6-Input NAND Gate	MC1800	MC1900	I	.....	II	IV	8	30	22
Dual 5-Input NAND Gate (2K pullup resistor)	MC1801	MC1901	I	.....	II	IV	7	25	33
Expandable 8-Input NAND Gate	MC1802	MC1902	I	.....	II	IV	8	30	11
Expandable 8-Input NAND Gate (2K pullup resistor)	MC1803	MC1903	I	.....	II	IV	7	25	16.5
10-Input NAND Gate	MC1804	MC1904	I	.....	II	IV	8	30	11
10-Input NAND Gate (2K pullup resistor)	MC1805	MC1905	I	.....	II	IV	7	25	16.5
Quad 2-Input AND Gate	MC1806	MC1906	I	.....	II	IV	8	35	72
Quad 2-Input AND Gate (2K pullup resistor)	MC1807	MC1907	I	.....	II	IV	7	30	85
Quad 2-Input OR Gate	MC1808	MC1908	I	.....	II	IV	8	35	97
Quad 2-Input OR Gate (2K pullup resistor)	MC1809	MC1909	I	.....	II	IV	7	30	115
Quad 2-Input NOR Gate	MC1810	MC1910	I	.....	II	IV	8	30	60
Quad 2-Input NOR Gate (2K pullup resistor)	MC1811	MC1911	I	.....	II	IV	7	25	72
Quad 2-Input Exclusive OR Gate	MC1812	MC1912	I	.....	II	IV	8	40	120
Quad Latch	MC1813	MC1913	.....	.....	III	V	7	35	220
Quad Latch	MC1814	MC1914	I	.....	II	IV	7	35	220
Parallel Gated Clocked Flip-Flop	MC1815	MC1915	I	.....	II	IV	12/10*	40	65
Parallel Gated Clocked Flip-Flop	MC1816	MC1916	I	.....	II	IV	11/9*	40	75
Quad 2-Input NAND Gate (without output resistor)	MC1818	MC1918	I	.....	II	IV	8	30	32
High Voltage Hex Inverter	MC1820	.....	.....	.....	II	IV	7	40	42

*Fan-out for MC830 series type/Fan-out for MC930 series type.

**Maximum counting frequency.

Motorola Digital Integrated Circuits

MRTL

Medium-power MRTL integrated circuits provide a broad line of low-cost, multi-function, digital circuits. Typical gate speed is 12 ns, with power dissipation averages of 19 mW (input high) and 5.0 mW (inputs low) per logic node. Devices from the MC700 Series have loading factors normalized for campatibility with the low-power mW MRTL devices for ease in mixing the two power levels in a system.

V_{CC} = 3.0 V ±10% for MC800F, G Series; 3.6 V ±10% for MC800P and MC700 Series. T_A = 25°C.

I. TO-86 Flat Pack Suffix F; II. TO-91 Flat Pack Suffix F; III. TO-99 Metal Can Suffix G; IV. TO-100 Metal Can Suffix G; V. TO-116 Plastic DIP Suffix P; VI. 612 (16 Lead) Plastic DIP Suffix P.

Function	MC700 Series +15 to +55°C	Case: Flat Pack Suffix F	Case: Metal Can Suffix G	Case: Plastic DIP Suffix P	MC800 Series 0 to +75°C	Case: Plastic DIP Suffix P	Output Loading Factor Each Output: With mW MRTL	Output Loading Factor Each Output: With MRTL	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ: MC700 and MC800P Series	Total Power Dissipation mW typ: MC800F, G and MC900 Series
Buffer	MC700	II	III				80	25	20	25/50*	16/45*
Counter Adapter	MC701		III				16	5	22	80	55
R-S Flip-Flop	MC702		III				13	4	14	32	22
3-Input NOR Gate	MC703	II	III				16	5	12	26/7.5*	19/5.0*
Dual Adder	MC704	II	III				16	5	14	65	45
Half Shift Register	MC705	II	III				13	4	22	75	53
Half Shift Register (w/o inverter)	MC706	II	III				13	4	22	52	26
4-Input NOR Gate	MC707	II	III				16	5	12	30/7.5*	19/5.0*
Dual 2-Input NOR Gate	MC714	II	III				16	5	12	50/15*	38/10*
Dual 3-Input NOR Gate	MC715	II	IV	V	MC815	V	16	5	12	55/15*	38/10*
J-K Flip-Flop					MC816	V		3	30	91/79**	62/54**
J-K Flip-Flop	MC723	II	III	V			10		30	91/79**	
Quad 2-Input NOR Gate	MC724,A	I		V	MC824,A	V	16	5	12	100/30*	76/20*
Dual 4-Input NOR Gate	MC725	I		V	MC825	V	16	5	12	60/15*	38/10*
J-K Flip-Flop	MC726	II	IV	V	MC826	V	16	5	35	100/86**	130/65**
Quad Inverter	MC727	II	IV				16	5	12	87/30*	76/20*
5-Input NOR Gate	MC729	II					16	5	12	33/7.5*	19/5.0*
Quad Exclusive OR Gate	MC771	I		V	MC871	V	16	5	12	28	72
J-K Flip-Flop	MC774		III				16	5	35	100/86**	130/65**
Dual Half Adder	MC775	I		V	MC875	V	16	5	20	120	90
Binary Up Counter	MC777			V	MC877	V	10	3		180	
1 J-K Flip-Flop, 1 Expander, 2 Buffers	MC779			V	MC879	V				141/124†	
Decade Up Counter	MC780			V	MC880	V	10	3		250	
Dual Half Shift Register	MC783	I		V	MC883	V	13	4	22	140	110
Dual Half Shift Register (w/inverter)	MC784	I		V	MC884	V	13	4	22	100	75
Quad 2-Input Expander	MC785,A	I		V	MC885,A	V			8	20/—*	17/—*
Dual 4-Input Expander	MC786	I		V	MC886	V			12	20/—*	17/—*
1 J-K Flip-Flop, 1 Inverter, 2 Buffers	MC787			V	MC887	V				130/132†	
Dual 3-Input Buffer, non-inverting	MC788	I		V	MC888	V	30	25	24	145/55*	128/42*
Hex Inverter	MC789,A	I		V	MC889,A	V	16	5	12	130/15*	76/20*
Dual J-K Flip-Flop	MC790	I		V	MC890	V	16	3	35	182/153**	124/108**
Dual J-K Flip-Flop	MC791	I		V	MC891	V	16	5	40	190/160**	155/130**
Triple 3-Input NOR Gate	MC792	I		V	MC892	V	16	5	12	82/24*	57/15*
Serial Parallel Shift Register	MC794			V	MC894	V	16	5	55	225	
Dual Full Adder	MC796	I		V	MC896	V	16	5	60	225	190
Dual Full Subtractor	MC797	I		V	MC897	V	16	5	60	225	190
Dual Buffer	MC799	II	IV	V	MC899	V	80	25	15	50/90*	32/90*
Dual 4 Channel Date Selector	MC9701			VI	MC9801	VI	16	5	25	100	
4 Bit Parallel Full Adder	MC9704			VI	MC9804	VI	6	2	125	265	
Dual 4 Channel Date Distributer	MC9707			VI	MC9807	VI	16	5	25	150	
Quad Schmitt Trigger	MC9709			V	MC9809	V	16	5	30	95	
Quad 2-Input AND Gate	MC9713			V	MC9813	V	16	5	28‡	100	
Quad 2-Input NAND Gate	MC9714			V	MC9814	V	16	5	14‡	145	
Quad 2-Input OR Gate	MC9715			V	MC9815	V	16	5	14‡	28/100*	
Hex Expander	MC9719,A	I		V	MC9819,A	V			12	13/—*	13/—*
BCD-to-Decimal Decoder/Driver	MC9760			VI	MC9860	VI				115	

*Inputs High/Inputs Low

**Only Clock Inputs High/Inputs Low

†Only Clock Input high on flip-flop, other elements Inputs High/Inputs Low

‡Operating Frequency (MHz)

V_{CC} = 3.0 V ±10% for MC800F, G and MC900 Series. T_A = 25°C.

I. TO-86 Flat Pack Suffix F; II. TO-91 Flat Pack Suffix F; III. TO-99 Metal Can Suffix G; IV. TO-100 Metal Can Suffix G.

Function	MC800 Series 0 to +100°C	MC900 Series −55 to +125°C	Case: Flat Pack Suffix F	Case: Metal Can Suffix G	Output Loading Factor Each Output: With mW MRTL	Output Loading Factor Each Output: With MRTL	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ: MC700 and MC800P Series	Total Power Dissipation mW typ: MC800F, G and MC900 Series
Buffer	MC800	MC900	II	III	80	25	20	25/50*	16/45*
Counter Adapter	MC801	MC901		III	16	5	22	80	55
R-S Fip-Flop	MC802	MC902		III	13	4	14	32	22
3-Input NOR Gate	MC803	MC903	II	III	16	5	12	28/7.5*	19/5.0*
Half Adder	MC804	MC904	II	III	16	5	14	65	45
Half Shift Register	MC805	MC905	II	III	13	4	22	75	53
Half Shift Register (w/o inverter)	MC806	MC906	II	III	13	4	22	52	26
4-Input NOR Gate	MC807	MC907	II	III	16	5	12	30/7.5*	19/5.0*
Dual 2-Input NOR Gate	MC814	MC914	II	III	16	5	12	50/15*	38/10*
Dual 3-Input NOR Gate	MC815	MC915	II	IV	16	5	12	55/15*	38/10*
J-K Flip-Flop	MC816	MC916	II	III		3	30	91/79**	62/54**
J-K Flip-Flop					10		30	91/79**	
Quad 2-Input NOR Gate	MC824	MC924	I		16	5	12	100/30*	76/20*
Dual 4-Input NOR Gate	MC825	MC925	I		16	5	12	69/15*	38/10*
J-K Flip-Flop	MC826	MC926	II	IV	16	5	35	100/86**	130/65**

*Inputs High/Inputs Low

**Only Clock Inputs High/Inputs Low

Continued next page.

MRTL (Cont'd)

V_{CC} = 3.0 V ±10% for MC800 F, G and MC900 Series. T_A = 25°C.
I. TO-86 Flat Pack Suffix F; II. TO-91 Flat Pack Suffix F; III. TO-99 Metal Can Suffix G; IV. TO-100 Metal Can Suffix G.

Function	MC800 Series 0 to +100°C	MC900 Series −55 to +125°C	Case: Flat Pack Suffix F	Case: Metal Can Suffix G	Output Loading Factor Each Output: With mW MRTL	Output Loading Factor Each Output: With MRTL	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ: MC700 and MC800P Series	Total Power Dissipation mW typ: MC800F, G and MC900 Series
Quad Inverter	MC827	MC927	II	IV	16	5	12	87/30*	76/20*
5-Input NOR Gate	MC829	MC929	II	III	16	5	12	33/7.5*	19/5.0*
Quad Exclusive OR Gate	MC871	MC971	I	.....	16	5	12	28	72
J-K Flip-Flop	MC874	MC974	.....	III	16	5	35	100/86**	130/65**
Dual Half-Adder	MC875	MC975	I	.....	16	5	20	120	90
Binary Up Counter	.....	.....	.....	.....	10	3	.....	180	.....
1 J-K Flip-Flop, 1 Expander, 2 Buffers	.....	.....	.....	.....	.....	.....	.....	141/124†	.....
Decade Up Counter	.....	.....	.....	.....	10	3	.....	250	.....
Dual Half-Shift Register	MC883	MC983	II	.....	13	4	22	140	110
Dual Half-Shift Register (w/Inverter)	MC884	MC984	II	.....	13	4	22	100	75
Quad 2-Input Expander	MC885	MC985	II	.....	.....	.....	12	20/—*	17/—*
Dual 4-Input Expander	MC886	MC986	II	.....	.....	.....	12	20/—*	17/—*
1 J-K Flip-Flop, 1-Inverter, 2 Buffers	.....	.....	.....	.....	.....	.....	.....	138/132†	.....
Dual 3-Input Buffer, non-Inverting	MC888	MC988	II	.....	80	25	24	145/56*	128/42*
Hex Inverter	MC889	MC989	II	.....	16	5	12	130/15*	76/20*
Dual J-K Flip-Flop	MC890	MC990	II	.....	10	3	35	182/158**	124/108**
Dual J-K Flip-Flop	MC891	MC991	II	.....	16	5	40	190/160**	155/130**
Triple 3-Input NOR Gate	MC892	MC992	II	.....	16	5	12	82/24*	57/15*
Serial Parallel Shift Register	.....	.....	.....	.....	16	5	55	225	.....
Dual Full Adder	MC896	MC996	II	.....	16	5	60	225	190
Dual Full Subtractor	MC897	MC997	II	.....	16	5	60	225	190
Dual Buffer	MC899	MC999	II	IV	80	25	15	50/90*	32/90*
Dual 4-Channel Data Selector	.....	.....	.....	.....	16	5	25	100	.....
4-Bit Parallel Full Adder	.....	.....	.....	.....	6	2	125	265	.....
Dual 4-Channel Data Distributor	.....	.....	.....	.....	16	5	25	150	.....
Quad Schmitt Trigger	.....	.....	.....	.....	16	5	30	95	.....
Quad 2-Input AND Gate	.....	.....	.....	.....	16	5	28‡	100	.....
Quad 2-Input NAND Gate	.....	.....	.....	.....	16	5	14‡	145	.....
Quad 2-Input OR Gate	.....	.....	.....	.....	16	5	14‡	28/100*	.....
Hex Expander	MC9819	MC9919	I	.....	.....	.....	12	13/—*	13/—*
BCD-to-Decimal Decoder/Driver	.....	.....	.....	.....	.....	.....	.....	115	.....

*Inputs High/Inputs Low
**Only Clock Inputs High/Inputs Low
†Only Clock Input high on flip-flop, other element Inputs High/Inputs Low
‡Operating Frequency (MHz)

LOW POWER MRTL

Low-power mW MRTL integrated circuits are designed for use where minimal system power consumption is desired. Typical gate speed is 27 ns, with typical power dissipation of 6.5 mW (input high) and 0.5 mW (inputs low) per logic node. Devices from the MC708 Series can be mixed with devices from the medium-power MC700 Series which has loading factors normalized for compatibility.
V_{CC} = 3.0 V ±10% for MC908 Series, 3.6 V ±10% for MC708 and MC808 Series. T_A = 25°C.
I. TO-86 Flat Pack Suffix F; II. TO-91 Flat Pack Suffix F; III. TO-99 Metal Can Suffix G; IV. TO-100 Metal Can Suffix G; V. TO-116 Plastic DIP Suffix P; VI. 612 (16 Lead) Plastic DIP Suffix P. MC908 not available in Plastic DIP Package.

Function	MC708 Series +15 to +55°C	MC808 Series 0 to +75°C	MC908 Series −55 to +125°C	Case: Flat Pack Suffix F	Case: Metal Can Suffix G	Case: Plastic DIP Suffix P	Output Loading Factor Each Output All Series	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ/pkg.: MC708 Series & MC808 Series	Total Power Dissipation mW typ/pkg.: MC908 Series
Half Adder	MC708	MC808	MC908	II	III	.....	1	60	19/12.5*	14/8.5*
2-Input Buffer	MC709	MC809	MC909	II	III	.....	30	57	7.0/23*	5.5/16*
Dual 2-Input NOR Gate	MC710	MC810	MC910	II	III	.....	4	27	10/2.5*	8.0/1.0*
4-Input OR/NOR Gate	MC711	MC811	MC911	II	III	.....	4	60	8.0/5.5*	6.0/3.5*
Half Adder	MC712	MC812	MC912	II	III	.....	4	66	15.5/10.5*	11.5/5.5*
Type D Flip-Flop	MC713	MC813	MC913	II	III	.....	3	75	24/17.5*	17.5/13*
Quad 2-Input NOR Gate	MC717	MC817	MC917	I	.....	V	4	27	20/5.0*	16/2.5
Dual 3-Input NOR Gate	MC718	MC818	MC918	II	IV	V	4	27	12/2.5*	9.5/1.0
Dual 4-Input NOR Gate	MC719	MC819	MC919	I	IV	V	4	27	13/2.5*	11/1.0
J-K Flip-Flop	MC720	MC820	MC920	II	IV	.....	2	50	20.5/14.5†	15.5/10
Dual 2-Input Gate Expander	MC721	MC821	MC921	II	IV	.....	.....	27	3.0/—*	3.0/—*
J-K Flip-Flop	MC722	MC822	MC922	II	IV	.....	4	70	24/20†	17.5/13†
5-Input NOR Gate	MC728	MC828	MC928	II	III	.....	4	27	7.5/1.0*	6.5/0.5*
Dual Exclusive OR/NOR Gate	MC764	MC864	.....	.....	.....	V	4	.....	25	.....
Quad Latch	MC767, A	MC867, A	.....	.....	.....	VI	9	50	110	.....
BCD-To-Decimal Decoder	MC770	MC870	.....	.....	.....	VI	7	36	100/—*	.....
Dual J-K Flip-Flop	MC776	MC876	MC976	I	.....	V	2	50	41/29†	31/20†
Dual Type D Flip-Flop	MC778	MC878	MC978	I	.....	V	3	60	48/35**	35/26**
Dual Buffer	MC781	MC881	MC981	.....	III	.....	30	57	14/46*	11/32*
J-K Flip-Flop	MC782	MC882	MC982	.....	III	.....	2	80	23/21†	15/13*
Triple 3-Input NOR Gate	MC793	MC893	MC993	I	.....	V	4	27	18/3.5*	14/20*
Dual 2-Input Buffer	MC798	MC898	MC998	I	.....	V	30	57	14/46*	11/32*
Hex Inverter	MC9718	MC9818	.....	.....	.....	V	4	27	7.0/3.0*	.....
Hex Expander	MC9720	MC9820	.....	.....	.....	V	.....	12	30/—*	.....

*Inputs High/Inputs Low unless otherwise noted
**Direct Set and Direct Clear Low, All other Inputs High/All Inputs Low.
†Only Clock Input High/All Inputs Low.
‡One Input High/One Input Low.

Continued next page

MOTOROLA

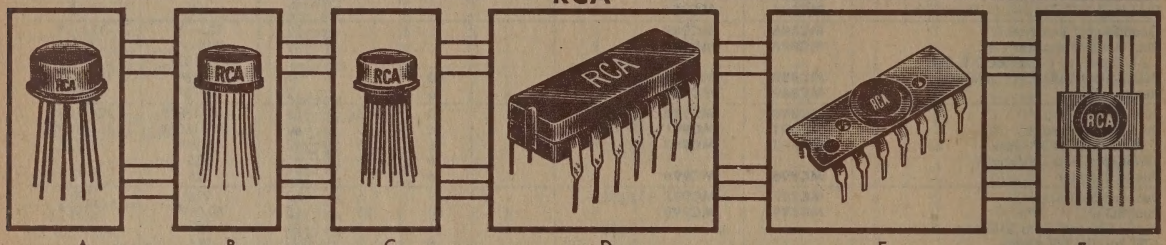
LOW POWER MRTL (Cont'd)

V_{CC}=3.0 V ±10% for MC908 Series, 3.6 V ±10% for MC708 and MC808 Series. T_A=25°C.
I. TO-86 Flat Pack Suffix F; II. TO-91 Flat Pack Suffix F; III. TO-99 Metal Can Suffix G; IV. TO-100 Metal Can Suffix G.

Function	MC708 Series +15 to +55°C	MC808 Series 0 to +75°C	MC908 Series −55 to +125°C	Case: Flat Pack Suffix F	Case: Metal Case Suffix G	Case: Plastic DIP Suffix P	Output Loading Factor Each Output All Series	Propagation Delay t_{pd} ns typ	Total Power Dissipation mW typ/pkg: MC708 Series & MC808 Series	Total Power Dissipation mW typ/pkg: MC908 Series
Quad 2-Input Expander	MC9721	MC9821	MC9921	I	.....	V	0	27	20/—*	20/—*
Dual J-K Flip-Flop	MC9722	MC9822	.....	.....	.....	V	4	75	24/—†	.....
Quad 2-Input AND Gate	MC9723	MC9823	.....	.....	.....	V	4	50	12‡	.....
Quad 2-Input NAND Gate	MC9724	MC9824	.....	.....	.....	V	4	50	20/5.0*	.....
Quad 2-Input OR Gate	MC9725	MC9825	.....	.....	.....	V	4	50	—7.0*	.....

*Inputs High/Inputs Low unless otherwise noted.
**Direct Set and Direct Clear Low, All other Inputs High/All Inputs Low.
†Only Clock Input High/All Inputs Low.
‡One Input High/One Input Low.

RCA



A 8-Leads | B 10-Leads | C 12-Leads | D Plastic Dual-In Line | E Ceramic Dual-In Line | F Flat-Pack

LOW-POWER DTL

Type	Description	Maximum Fan-Out Per Gate	V_{CC} V	V_{EE} V	Typ. Logic Levels "O" V	Typ. Logic Levels "I" V	Max. DC Input Curr. mA	Typ Device Dissipation mW	Type Noise Immunity V	Package
CD2200 CD2200D	Dual Four Input Expandable NAND Gate	6	+4	0	+0.1	+3.4	−0.33	2.3 per gate	1.2	F E
CD2201 CD2201D	Quadruple Two-Input NAND Gate	6	+4	0	+0.1	+3.4	−0.33	2.3 per gate	1.2	F E
CD2202 CD2202D	Dual Four-Input Expandable NAND Buffer Gate	25	+4	0	+0.1	+3.4	−0.33	12 per gate	1.2	F E
CD2203 CD2203D	J-K Flip-Flop	5	+4	0	+0.1	+3.4	−0.33	7 per pkg.	1.2	F E
CD2204 CD2204D	Dual Four-Input Gate Expander	For input expansion of CD2200, CD2202 and CD2205 gates capable of expanding fan-in to more than 20. Forward Voltage, 0.72V typical.					low capacitive loading on expanded gate, 4pF typ. leakage current, 5nA typ.			F E
CD2205 CD2205D	Dual Three-Input Expandable AND/OR/NOT Gate	.....	+4	0	+0.1	+3.4	−0.33	5 per pkg.	1.2	F E

HIGH SPEED ECCSL

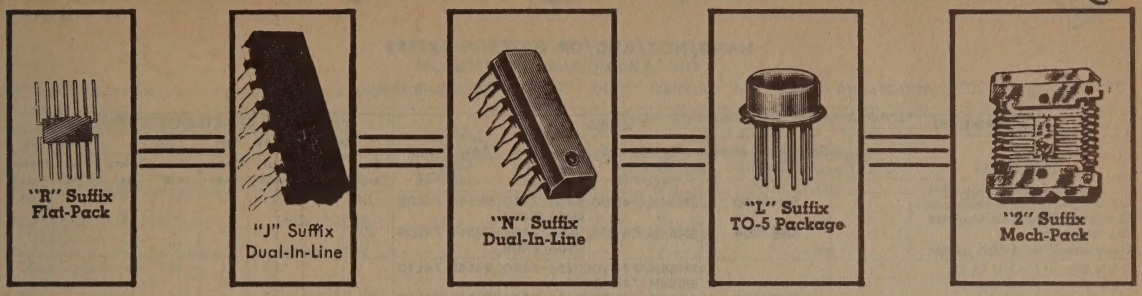
CD2150	Dual Four Input OR/NOR Gate	12 (unterminated) 6 (100-Ω termination)	0	−5	−1.6 | −0.76 outputs unloaded	0.186	220 per pkg.	.035	F
CD2151	Dual Four-Input OR/NOR Gate with "Wired-OR"	12 (unterminated) 6 (100-Ω termination)	0	−5	−1.6 | −0.76 outputs unloaded	0.186	175 per pkg.	.035	F
CD2152	Eight-Input OR/NOR Gate with "Wired-OR"	12 (unterminated) 6 (100-Ω termination)	0	−5	−1.6 | −0.76 outputs unloaded	0.186	147 per pkg.	.035	F
CD2153	Quadruple Two-Input NOR Gate with "Wired-OR"	12 (unterminated) 6 (100-Ω termination)	0	−5	−1.6 | −0.76 outputs unloaded	0.186	175 per pkg.	.035	F
CD2154	Quadruple Two-Input NOR-Positive Logic	12 (unterminated) 6 (100-Ω termination)	0	−5	−1.6 | −0.76 outputs unloaded	0.186	175 per pkg.	.035	F
CD2155D	16-Bit NDRO Read-Write Memory; 6.5 ns typ. Access Time								E

*Ordering Information

COS/MOS IC's are available in a wide variety of package designs. These packages are identified by Suffix Letters indicated in the chart shown below. When ordering COS/MOS devices, it is important that the appropriate suffix letter be affixed to the type number of the device required. COS/MOS AVAILABLE IN NEW LOW-VOLT TYPES!

Package	SUFFIX LETTERS: Commercial ("CD") Type Numbers: Standard CD4000 Series (5 to 15 V)	SUFFIX LETTERS: Commercial ("CD") Type Numbers: New CD4000A Series (3 to 15 V)
Dual In-Line Ceramic	D	D
Dual In-Line Plastic	E	E
Flat Pack	—	K
TO-5 Style	T	T

Texas Instruments Integrated Circuits



INTEGRATED CIRCUITS DEVICE DESIGNATIONS

Each time you order an integrated circuit the designation must contain three (and may contain four) parts.

1. Prefix 2. Unique Device Description 3. Package 4. Special Instructions (Optional)

EXAMPLE: SN 54H72 S 02

Prefix
MUST CONTAIN
TWO OR THREE LETTERS
SN Standard Prefix

Unique Device Description
MUST CONTAIN
THREE, FOUR, OR
FIVE CHARACTERS

Package
MUST CONTAIN
A SINGLE LETTER ONLY—L, S, N, J, or T.

L	TO-5 Type	8 or 10 Leads
N	Dual In-Line Plastic	14 or 16 Leads
J	Dual In-Line Ceramic	14 or 16 Leads
S	Flat Package Kovar	10 or 14 Leads Std.‡
T	Flat Package Kovar	10 or 14 Leads Long‡

‡Case in electrical contact with circuit substrate and ground pin.

Special Instructions
MUST CONTAIN
TWO NUMBERS

No.	Formed Leads	Insulator	Mech Pak Carrier	Tinned Leads
00	No	No	No†	No
01	Yes	Yes	No	No
02	No	No	Yes	No
03	No	Yes	Yes	No
04	Yes	No	Yes	No
05	Yes	Yes	Yes	No
06	No	Yes	No	No
07	Yes	No	No	No
10	No	No	No†	Yes
11	Yes	Yes	No	Yes
12	No	No	Yes	Yes
13	No	Yes	Yes	Yes
14	Yes	No	Yes	Yes
15	Yes	Yes	Yes	Yes
16	No	Yes	No	Yes
17	Yes	No	No	Yes

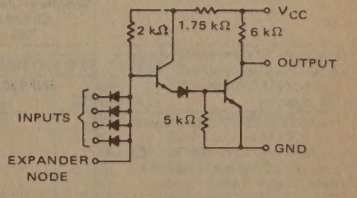
Formed Leads, Insulator, and Mech Pak Carrier are supplied free of charge. An Adder is charged for Tinned Leads.

†These flat pack circuits are shipped in the Mech Packette carrier.

STANDARD DTL Series 15 930 and 15 830 DTL Digital

Typical Character	Propagation Delay Time (basic gate)	25 ns
	Power Dissipation (each gate)	8 mW
	D-C Noise Immunity	750 mV

Functions	Package (See Integrated Circuit Case Outlines on pages 18 and 19.)	F and N	
		Vcc = Pin 14	Gnd—Pin 7
	Dual 4-Input NAND Gate (6 kΩ)	SN15930	SN15830
	J-K/R-S Flip-Flop	SN15931	SN15831
	Dual 4-Input Expandable Buffer	SN15932	SN15832
	Dual 4-Input Expander	SN15933	SN15833
	Hex Inverter (6 kΩ)	.....	SN15834
	Hex Inverter (open collector)	.....	SN15835
	Hex Inverter (6 kΩ)	SN15936	SN15836
	Hex Inverter (2 kΩ)	SN15937	SN15837
	Hex Inverter (open-collector)	.....	SN15838
	Dual 4-Input NAND Power Gate	SN15944	SN15844
	J-K/R-S Flip-Flop (6 kΩ)	SN15945	SN15845
	Quad 2-Input NAND Gate	SN15946	SN15846
	J-K/R-S Flip-Flop (2 kΩ)	SN15948	SN15848
	Quad 2-Input NAND/NOR Gate	SN15949	SN15849
	A-C Flip-Flop	SN15950	SN15850
	Monostable Multivibrator	SN15951	SN15851
	Quad 2-Input Buffer Power Gate	.....	SN15857
	Quad 2-Input NAND Power Gate	.....	SN15858
	Dual 4-Input NAND/NOR Gate (2 kΩ)	SN15961	SN15861
	Triple 3-Input NAND Gate (6 kΩ)	SN15962	SN15862
	Triple 3-Input Fast NAND/NOR (2 kΩ)	SN15963	SN15863
	Dual J-K Master-Slave Flip-Flop (6 kΩ)	SN159093	SN158093
	Dual J-K Master-Slave Flip-Flop (2 kΩ)	SN159094	SN158094
	Dual J-K Master-Slave Common Clear and Clock Flip-Flop (2 kΩ)	SN159097	SN158097
	Dual J-K Master-Slave Common Clear and Clock Flip-Flop (6 kΩ)	SN159099	SN158099
	Dual 5-Input NAND Gate (6 kΩ)	.....	SN151800
	Dual 5-Input NAND Gate (2 kΩ)	.....	SN151801
	8-Input Expandable NAND Gate (6 kΩ)	.....	SN151802
	8-Input Expandable NAND Gate (2 kΩ)	.....	SN151803
	10-Input NAND Gate (6 kΩ)	.....	SN151804
	10-Input NAND Gate (2 kΩ)	.....	SN151805
	Quad 2-Input NOR Gate (6 kΩ)	.....	SN151810
	Quad 2-Input NOR Gate (2 kΩ)	.....	SN151811



NAND/NOR/AND/OR GATES/INVERTERS

"74" denotes 0 to 70° C temperature range; "54" denotes −55 to +125° C temperature range.

DESCRIPTION	SERIES				TYPICAL CHARACTERISTICS (PER/GATE)							
					74S		54H/74H		54/74		54L/74L	
	Schottky-Clamped Circuits 74S	High-Speed Circuits 54H/74H	Standard Circuits 54/74	Low Power Circuits 54L/74L	Pwr (mW)	Delay (ns)	Pwr (mW)	Delay (ns)	Pwr (mW)	Delay (ns)	Pwr (mW)	Delay (ns)
Quadruple 2-Input NAND Gates	SN74S00	SN54H/74H00	SN54/7400	SN54L/74L00	20	3	23	6	10	10	1	33
Quadruple 2-Input NOR Gates			SN54/7402						14	10		
Hex Inverters	SN74S04	SN54H/74H04	SN54/7404	SN54L/74L04	20	3	23	6	10	10	1	33
Quadruple 2-Input AND Gates			SN54/7408						19	15		
Triple 3-Input NAND Gates		SN54H/74H10	SN54/7410	SN54L/74L10			23	6	10	10	1	33
Triple 3-Input AND Gates		SN54H/74H11					40	8				
Dual 4-Input NAND Gates	SN74S20	SN54H/74H20	SN54/7420	SN54L/74L20	20	3	23	6	10	10	1	33
Dual 4-Input AND Gates		SN54H/74H21					40	8				
Dual 4-Input NOR Gates with Strobes			SN54/7425						22	10		
8-Input NAND Gate		SN54H/74H30	SN54/7430	SN54L/74L30			23	8	10	10	1	33
Dual 2-Wide 2-Input AND-OR-INVERT Gates		SN54H/74H51	SN54/7451	SN54L/74L51			27	6	14	10	1.5	42
4-Wide 2-Input AND-OR-INVERT Gate		SN54H/74H54	SN54/7454				41	7	22	10		
4-Wide 3-2-2-3-Input AND-OR-INVERT Gate				SN54L/74L54							2	42
2-Wide 4-Input AND-OR-INVERT Gate				SN54L/74L55							1.5	42

EXPANDABLE GATES/EXPANDERS

"74" denotes 0 to 70° C temperature range; "54" denotes −55 to +125° C temperature range.

DESCRIPTION	SERIES		TYPICAL CHARACTERISTICS (PER/GATE)			
			54H/74H		54/74	
	High-Speed Circuits 54H/74H	Standard Circuits 54/74	Pwr (mW)	Delay (ns)	Pwr (mW)	Delay (ns)
Expandable Dual 4-Input NOR Gates		SN54/7423			22	10
Expandable Dual 2-Wide 2-Input AND-OR-INVERT Gates	SN54H/74H50	SN54/7450	27	6	14	10
Expandable 4-Wide 2-2-2-3-Input AND-OR Gate	SN54H/74H52		85	10		
Expandable 4-Wide 2-Input AND-OR-INVERT Gate		SN54/7453			22	10
Expandable 4-Wide 2-2-2-3-Input AND-OR-INVERT Gate	SN54H/74H53		41	7		
Expandable 2-Wide 4-Input AND-OR-INVERT Gate	SN54H/74H55		30	7		
Dual 4-Input Expanders	SN54H/74H60	SN54/7460	8	1*		1*
Triple 3-Input Expanders	SN54H/74H61		10	1*		
3-2-2-3-Input AND-OR Expander	SN54H/74H62		25	1*		

CLOCK DRIVERS/BUFFERS

"74" denotes 0 to 70° C temperature range; "54" denotes −55 to +125° C temperature range.

DESCRIPTION	SERIES		TYPICAL CHARACTERISTICS (PER/GATE)			
			54H/74H		54/74	
	High-Speed Circuits 54H/74H	Standard Circuits 54/74	Pwr (mW)	Delay (ns)	Pwr (mW)	Delay (ns)
Quadruple 2-Input NAND Buffers		SN54/7437			25	10
Dual 4-Input NAND Buffers	SN54H/74H40	SN54/7440	44	7.5	25	10

INTERFACE/OPEN-COLLECTOR GATES/BUFFERS/INVERTERS

"74" denotes 0 to 70° C temperature range; "54" denotes −55 to +125° C temperature range.

DESCRIPTION	SERIES			TYPICAL CHARACTERISTICS (PER/GATE)										
				74S				54H/74H				54/74			
	Schottky-Clamped Circuits 74S	High-Speed Circuits 54H/74H	Standard Circuits 54/74	Pwr (mW)	V_{off} (V)	V_{on} (V)	I_{sink} (mA)	Pwr (mW)	V_{off} (V)	V_{on} (V)	I_{sink} (mA)	Pwr (mW)	V_{off} (V)	V_{on} (V)	I_{sink} (mA)
Quadruple 2-Input NAND Gates		SN54H/74H01	SN54/7401					20	5.5	0.2	20	10	5.5	0.2	16
Quadruple 2-Input NAND Gates with SN54/7400 Pin-Out	SN74S03		SN54/7403	19	5.5	0.3	20					10	5.5	0.2	16
Hex Inverters		SN54H/74H05	SN54/7405					20	5.5	0.2	20	10	5.5	0.2	16
Hex Inverter Buffer/Drivers with 30-V Output			SN54/7406									25	30	0.4	40*
Hex Buffer/Drivers with 30-V Output			SN54/7407									25	30	0.4	40*
Quadruple 2-Input AND Gates			SN54/7409									19	5.5	0.2	16
Triple 3-Input NAND Gates			SN54/7412									10	5.5	0.2	16
Dual NAND Schmitt Triggers			SN54/7413									40	5.5	0.2	16
Hex Inverter Buffer/Drivers with 15-V Output			SN54/7416									30	15	0.4	40*
Hex Buffer/Drivers with 15-V Output			SN54/7417									30	15	0.4	40*
Dual 4-Input NAND Gates	SN74S22	SN54H/74H22		19	5.5	0.3	20	20	5.5	0.2	20				
Quadruple 2-Input High-Voltage (MOS) Interface NAND Gates			SN54/7426									10	15	0.2	16
Quadruple 2-Input NAND Buffers			SN54/7438									24	5.5	0.2	48

*SN54 series I_{sink} = 30mA.

MONOSTABLE MULTIVIBRATORS

"74" denotes temperature range of 0-70°C. "54" denotes −55-125°C.

DESCRIPTION	SERIES	TYPICAL CHARACTERISTICS (PER/GATE)				
	Standard Circuits 54/74	Pwr (Per Monostable) mW	Pulse-Width Range	Triggering Transition	Pulse-Width Δ—55°C to 125°C	COMMENTS
Monostable Multivibrator (One-Shot)	SN54/74121	80	30 ns to 40 sec	Pos. or Neg. Going	1%	Fully compensated for the temp. and supply voltage.
Retriggerable Monostable Multivibrator with Clear	SN54/74122	115	45 ns to ∞	Pos. or Neg. Going	10%	Retriggerable and Resettable
Dual Retriggerable Monostable Multivibrators with Clear	SN54/74123	115	45 ns to ∞	Pos. or Neg. Going	10%	Retriggerable and Resettable

SINGLE FLIP FLOPS WITH GATED INPUTS

"74" denotes temperature range of 0-70°C. "54" denotes −55-125°C.

TYPICAL POWER (PER FLIP-FLOP)		100 mW	80 mW	65 mW	100 mW	50 mW	3.8 mW
INPUT CLOCK FREQUENCY (MHz)	TYPICAL	50	30	35	25	20	5
	GUARANTEED	0—40	0—25	0—20	0—20	0—15	0—3
CLOCKING		SERIES 54H/74H	SERIES 54H/74H	SERIES 54/74	SERIES 54/74	SERIES 54/74	SERIES 54L/74L
EDGE-TRIGGERED		SN54H/74H101 SN54H/74H102			SN54/7450 SN54/74110		
MASTER-SLAVE			SN54H/74H71 SN54H/74H72			SN54/7472	SN54L/74L71* SN54L/&4L72

*(All are J-K except SN54L/74L71 which is R-S)

DUAL FLIP-FLOPS

"74" denotes temperature range of 0-70°C. "54" denotes −55-125°C.

TYPICAL POWER (PER FLIP-FLOP)			100 mW	75 mW	80 mW	70 mW	50 mW	4.25 mW
INPUT CLOCK FREQUENCY (MHz)	TYPICAL	125	50	45	30	25	20	5
	GUARANTEED	0—80	0—40	0—35	0—25	0—20	0—15	0—3
CLOCKING		SERIES 74S	SERIES 54H/74H	SERIES 54H/74H	SERIES 54H/74H	SERIES 54/74	SERIES 54/74	SERIES 54L/74L
EDGE-TRIGGERED		SN74S112	SN54H/74H103 SN54H/74H106 SN54H/74H108	SN54H/74H74*		SN54/74111	SN54/7474*	SN54L/74L74*
MASTER-SLAVE					SN54H/74H73 SN54H/74H76 SN54H/74H78		SN54/7473 SN54/7476 SN54/74107	SN54L/74L73

*(All are J-K exceot SN54H/74H74, SN54/7474 and SN54L/74L74 which are D-J)

DECODERS, LOGIC

"74" denotes temperature range of 0-70°C. "54" denotes −55-125°C.

DESCRIPTION	TYPE	DECODES		TYPICAL CHARACTERISTICS (PER GATE)		COMMENTS
		FROM (INPUT)	TO (OUTPUT)	TOTAL PWR (mW)	DELAY TIME (ns)	
BCD-to-Demical Decoder	SN54/7442	4-Bit Binary	1-of-10 Lines	140	25	
Excess-3-to-Decimal Decoder	SN54/7443	4-Bit Excess-3	1-of-10 Lines	140	25	
Excess-3-Gray-to-Decimal Decoder	SN54/7444	4-Bit Excess-3 Gray	1-of-10 Lines	140	25	
4-to-16-Line (1 of 16) Decoder/ Demultiplexer	SN54/74154	4-Bit Binary	1-of-16 Lines	170	22	Has Strobe/Enable
Dual 2-to-4-Line Decoders/ Demultiplexers	SN54/74155	2-Bit Binary 3-Bit Binary	1-of-4 Lines 1-of-8 lines	125	21	* Has Strobe/Enable
Dual 2-to-4-Line Decoders/ Demultiplexers with Open-Collector Output	SN54/74156	2-Bit Binary 3-Bit Binary	1-of-4 Lines 1-of-4 Lines	125	23	†
Quadruple 2-Input Data Selectors/ Multiplexers	SN54/74157	1-Bit Binary	1-of-2 Lines			Has Strobe/Enable

*Dual function for 1-of-4 lines. †Open-Collector version of SN54/74155

DECODERS, LAMP DRIVERS/BUFFERS

"74" denotes temperature range of 0-70°C. "54" denotes −55-125°C.

DESCRIPTION	TYPE	FROM (INPUT)	TO (OUTPUT)	TYPICAL CHARACTERISTICS (PER GATE)			COMMENTS
				TOTAL PWR (mW)	V_{on} (V)	SINK CURRENT (mA)	
BCD-to-Decimal Decoder/Driver with 30-V Output	SN54/7445	4-Bit Binary	1-of-10 Lines	215	0.2 0.5	20 80	30-V outputs**
BCD-to-Decimal Decoder/Driver with 15-V Output	SN54/74145	4-Bit Binary	1-of-10 Lines	215	0.2 0.5	20 80	15-V outputs**
BCD-to-Seven-Segment Decoder/Driver with 30-V Outputs	SN54/7446A	4-Bit Binary	7-Segment Numeral	265	0.27	40	30-V outputs**
BCD-to-Seven-Segment Decoder/Driver with 15-V Outputs	SN54/7447A	4-Bit Binary	7-Segment Numeral	265	0.27	40	15-V outputs**
BCD-to-Seven-Segment Decoder	SN54/7448	4-Bit Binary	7-Segment Code	265	0.27	6.4	2-KΩ internal pull-upt
BCD-to-Seven-Segment Decoder (14-pin function)	SN54/7449	4-Bit Binary	7-Segment Code	165	0.27	10	Open-Collector outputt
BCD-to-Decimal NIXIE* Tube Driver	SN54/74141	4-Bit Binary	1-of-10 Lines	80	2.5 Max	7	65-V outputs‡

*Registered trademark of the Burroughs Corporation. **For driving indicators directly. †For driving discrete buffer. ‡For driving NIXIE* tubes directly.

CODE CONVERTERS

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	DECODES FROM (INPUT)	DECODES TO (OUTPUT)	TYP. CHARACTERISTICS TOTAL PWR (mW)	TYP. CHARACTERISTICS DELAY TIME (ns)	COMMENTS
BCD-to-Binary Converter	SN54/74184	6-Bits BCD	6-Bits Binary			Both converters cascadable to n-bits
		4-Bits BCD	4-Bits BCD 9's Complement	240	40 ns/Level	
		4-Bits BCD	4-Bits BCD 10's Complement			
Binary-to-BCD Converter	SN54/74185A	6-Bits Binary	6-Bits BCD	240	40 ns/level	

READ-ONLY MEMORIES

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE) POWER (mW per bit)	TYPICAL CHARACTERISTICS (PER GATE) ACCESS TIME (ns)	ORGANIZATION NUMBER WORDS	ORGANIZATION WORD LENGTH	ORGANIZATION TOTAL BITS	COMMENTS
256-Bit Read-Only Memory	SN7488	0.9	35	32	8 Bits	256	Fully decoded
1024-Bit Read-Only Memory	SN54/74187	0.46	40	256	4 Bits	1024	Fully decoded

RANDOM-ACCESS READ/WRITE MEMORIES

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	POWER (mW PER BIT)	ACCESS TIME (ns)	WRITE PULSE WIDTH (ns)	NUMBER WORDS	WORD LGTH	TOTAL BITS	
16-Bit Active-Element Memory	SN54/7481	14	20	25	16	1 Bit	16	Scratch-pad memory
16-Bit Active-Element Memory with Gated Write Inputs	SN54/7484	14	20	25	16	1 Bit	16	Scratch-pad memory
64-Bit Random Access Memory	SN7489	5.5	40	40	16	4 Bits	64	Fully decoded*
4-By-4 Register File	SN54/74170	36	20	25	4	4 Bits	16	Simul. read, write at 2 locations for hi-speed buffer or scratch-pad memories.

*For Scratch-pad or larger bipolar memories.

ADDERS

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE) POWER (mW per bit)	ADD TIME (1 bit)	ADD TIME (8 bits)	CARRY TIME (ns per bit)	COMMENTS
Gated Full Adder	SN54/7480	105	60 ns	104 ns	13 ns	Serial or Parallel Adders
2-Bit Binary Full Adder	SN54/7482	85	28 ns	64 ns	8 ns	Serial or Parallel Adders
4-Bit Binary Full Adder	SN54/7483	85	28 ns	64 ns	8 ns	Serial or Parallel Adders
40 Bit Arithmetic Logic Unit (ALU) and Function Generator	SN54/74181	115	24 ns	36 ns	1 to 3 ns	Full look ahead (Use SN54/74182) for High-speed Parallel Adders.
Dual Carry-Save Full Adders	SN54H/74H183	110	11 ns	88 ns	11 ns	High-speed serial or multiple-input, carry-save adders.

DATA SELECTORS/MULTIPLEXERS

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE) LINES PER PACKAGE	TOTAL PWR (mW)	DELAY (ns)	COMMENTS
16-Bit Data Selector/Multiplexer	SN54/74150	16	200	28	Has Strobe/Enable. Cascadable to n-lines.
8-Bit Data Selector/Multiplexer with Strobe	SN54/74151	8	145	20	Has Strobe/Enable. Cascadable to n-lines.
8-Bit Data Selector/Multiplexer	SN54/74152	8	130	20	Flat package. Cascadable to n-lines with external gating.
Dual 4-to-1-Line Data Selector/ Multiplexers	SN54/74153	Dual 4	180	22	Dual 4-Line-to-1-Line with Strobe/Enable.

SUPPLEMENTARY ARITHMETIC/LOGIC ELEMENTS

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE) TOTAL PWR (mW)	DELAY (ns)	COMMENTS
4-Bit Magnitude Comparator	SN54/7485	250	30	Provides fully decoded* 1 of 3 separate outputs. Cascadable.
4-Bit Magnitude Comparator (Low Power)	SN54L/74L85	20	90	Provides fully decoded* 1 of 3 separate outputs. Cascadable.
Quadruple 2-Input Exclusive-OR Gate	SN54/7486	150	15	Four separate, 2-input exclusive OR gates in a single package.
Quadruple 2-Input Exclusive-OR Gate (Low Power)	SN54L/74L86	15	75	Four separate, 2-input exclusive OR gates in a single package.
4-Bit True/Complement Zero/One Element	SN54H/74H87	270	17	Provides true complement, all 1's or all 0's for 4-Bit word.
8-Bit Odd/Even Parity Generator/Checker	SN54/74180	170	40	Generates or checks 8-Bits of Even or Odd Parity.

*A < B, A > B, or A = B

ASYNCHRONOUS COUNTERS

"74" SERIES DENOTES TEMPERATURE RANGE OF 0—70°C. "54" DENOTES 55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE) TYPICAL MAX. INPUT CLOCK FREQ. (MHz)	TYPICAL CHARACTERISTICS (PER GATE) TYPICAL POWER (mW)	COMMENTS FULLY PROGRAMMABLE	COMMENTS CLEAR	COMMENTS CASCADING OUTPUTS
Decade Counter	SN54/7490	18	160	NO	YES	NO
4-Bit Binary Counter	SN54/7493	18	160	NO	YES	NO
Divide-By-12 Counter	SN54/7492	18	150	NO	YES	NO
4-Bit Binary Counter (Low Power)	SN54L/74L93	3	17	NO	YES	NO
50 MHz Presettable Decade Counter	SN54/74196	35	200	DIRECT*	DIRECT*	NO
50 MHz Presettable 4-Bit Binary Counter	SN54/74197	35	200	DIRECT*	DIRECT*	NO

TEXAS INSTRUMENTS

SYNCHRONOUS COUNTERS WITH CASCADING OUTPUTS

"74" Series Denotes Temperature Range of 0-70°C. "54" Denotes −55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE)		COMMENTS	
		TYPICAL MAX. INPUT CLOCK FREQ. (MHz)	TYPICAL POWER (mW)	FULLY PROGRAMMABLE	CLEAR
Decade Counter	SN54/74160	30	300	SYNCHRONOUS	DIRECT
Synchronous 4-Bit Binary Counter	SN54/74161	30	300	SYNCHRONOUS	DIRECT
Fully Synchronous Decade Counter	SN54/74162	30	300	SYNCHRONOUS	SYNCHRONOUS
Fully Synchronous 4-Bit Binary Counter	SN54/74163	30	300	SYNCHRONOUS	SYNCHRONOUS
Synchronous Up/Down Decade Counter (Single Clock Line)	SN54/74190	32	375	DIRECT*	NO
Synchronous Up/Down 4-Bit Binary Counter (Single Clock Line)	SN54/74191	32	375	DIRECT*	NO
Synchronous Up/Down Decade Counter (Two Clock Lines)	SN54/74192	32	300	DIRECT*	DIRECT*
Synchronous Up/Down 4-Bit Binary Counter (Two Clock Lines)	SN54/74193	32	300	DIRECT*	DIRECT*

*Asynchronous

4-BIT SHIFT REGISTERS

"74" Series Denotes Temperature Range of 0-70°C. "54" Denotes −55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE)			COMMENTS		
		TYPICAL MAX. INPUT CLOCK FREQ. (MHz)	SERIAL INPUT	PARALLEL INPUTS	OUTPUT	BIDIRECTIONAL	CLEAR
4-Bit Shift Register (Parallel-In, Serial-Out)	SN54/7494	15	DATA	DUAL	SERIAL	NO	DIRECT*
4-Bit Universal Shift Register (Parallel-In, Parallel-Out)	SN54/7495	31	DATA	YES	PARALLEL	EXT. CONNECTIONS	NO
Low Power 4-Bit Universal Shift Register (Parallel-In, Parallel-Out)	SN54L674L95	5	DATA	YES	PARALLEL	EXT. CONNECTIONS	NO
4-Bit Right Shift Register with JK and $Q\bar{Q}$	SN54L/74L99	5	J-K	YES	PARALLEL	EXT. CONNECTIONS	NO

5-BIT SHIFT REGISTERS

"74" Series Denotes Temperature Range of 0-70°C. "54" Denotes −55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE)			COMMENTS		
		TYPICAL MAX. INPUT CLOCK FREQ. (MHz)	SERIAL INPUT	PARALLEL INPUTS	OUTPUT	BIDIRECTIONAL	CLEAR
5-Bit Shift Register (Dual Parallel-In, Parallel-Out)	SN54/7496	15	DATA	YES	SERIAL	NO	DIRECT*

8-BIT SHIFT REGISTERS

"74" Series Denotes Temperature Range of 0-70°C. "54" Denotes −55—125°C.

DESCRIPTION	TYPE	TYPICAL CHARACTERISTICS (PER GATE)			COMMENTS		
		TYP. MAX. INPUT CLOCK FREQ. (MHz)	SERIAL INPUT	PARALLEL INPUTS	OUTPUT	BIDIRECTIONAL	CLEAR
8-Bit Shift Register	SN54/7491A	18	Gated Data	No	Serial (Comp.)	No	No
8-Bit Shift Register (Low Power)	SN54L/74L91	6.5	Gated Data	No	Serial (Comp.)	No	No
8-Bit Shift Register (Parallel-Out)	SN54/74164	20	Gated Data	No	Parallel	No	Direct*
Parallel Load 8-Bit Shift Register	SN54/74165	20	Data	Yes	Serial (Comp.)	No	Direct*
Synch. Parallel-Load 8-Bit Shift Register	SN54/74166	32	Data	Yes	Serial	No	Direct*
Synchronous 8-Bit Parallel-In, Parallel-Out Bidirectional Shift Register	SN54/74198	32	Left/Right	Yes	Parallel	Yes	Direct*
Synchronous 8-Bit Parallel-In, Parallel-Out Shift Register	SN54/74199	32	J-$\bar{K}$	Yes	Parallel	Ext. Connect.	Direct*
Synchronous 8-Bit Parallel-In, Parallel-Out Shift Register (low power)	SN54L/74L99	5	J-$\bar{K}$	Yes	Parallel (Comp. D)	Ext. Connect.	No

*Asynchronous

GENERAL ELECTRIC

MODEM CIRCUITS—DUAL DIGITAL TRANSMITTER AND RECEIVER

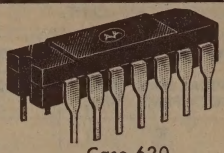
Description	Type	Case 0 to +70°C	P_D mW	Supply Volt. Max.	Open Circuit μsec.		Input Threshold	Output Parameter
					t_{on}	t_{off}		
Translates DTL/TTL logic to bipolar digital data	PD497	14-pin DIP	500	±12	0.4	0.8	2 V	±6.5 V
Receives and translates bipolar digital data to DTL/TTL logic	PD496	14-pin DIP	200	±7	1.5	1	±2 V	.5 V

MOS Integrated Circuits

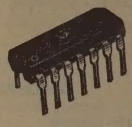
MOTOROLA

602A

619-02


Case 620

637


632 (TO-116)

Function	Temperature	Type*	Case	Comments
P-Channel MOS				
Triple 66-Bit Dynamic Shift Register	0 to +75°C	**MC1141G**	602A	Operating frequency = 10 kHz to 1.0 MHz, power dissipation = 1.0 mW/bit @1.0 MHz.
200-Bit Dynamic Shift Register	0 to +55°C	**MC1142G**	619-02	Operating frequency = 10 kHz to 1.0 MHz, power dissipation = 1.0 mW/bit @ 1.0 MHz.
8 Channel Multiplex Switch	0 to +75°C	**MC1150L**	620	High on/off resistance ratio, zero offset voltage, all channel blanking.
2 of 8 Channel Multiplex Switch	0 to +75°C	**MC1151L**	620	High on/off resistance ratio, zero offset voltage, all channel blanking.
Dual 100-Bit Static Shift Register	−55 to +85°C	**MC1160G**	602A	Operating frequency = DC to 2.0 MHz, non-inverting buffered outputs, independent input/output lines.
Dual 50-Bit Static Shift Register	−55 to +85°C	**MC1161G**	602A	Operating frequency = DC to 2.0 MHz, non-inverting buffered outputs, independent input/output lines.
04 Bit Random Access Memory	0 to +75°C	**MC1170L**	637	Binary addressing, enable line for address expansion, single-phase clock, organized as 16 four-bit words.
Low-Power Complementary MOS				
Quad 2-input NOR Gate	−55 to +125°C	**MC2501L**	TO-116	Quiescent power dissipation = 10 nW typ, noise immunity = 45% of V_{DD} typ.
Dual 4-input NOR Gate	−55 to +125°C	**MC2502L**	TO-116	Quiescent power dissipation = 10 nW typ, noise immunity = 45% of V_{DD} typ.
Dual Type D Flip-Flop	−55 to +125°C	**MC2503L**	TO-116	Quiescent power dissipation = 50 nW typ, noise immunity = 45% of V_{DD} typ, toggle rate = 4.0 MHz.

*"G" suffix denotes metal can, "L" suffix denotes ceramic dual in-line package.

GENERAL ELECTRIC

Function	Type	Package	Temp. Range	Operating Voltage	Frequency Max.	Special Features
6 Stage 3-2-1 Bi-Stable Frequency Divider	**PD455**	14 lead Dual-in-Line	0° to 70°C	−28 ±2V	100 KHz	Electronic Organ Tone Generator
4 Stage Frequency Divider	**PD474**	14 lead Dual-in-Line	0° to 70°C	−28 ±2V	100 KHz	Electronic Organ Tone Generator
Industrial Frequency Divider	**PD487**	14 lead Dual-in-Line	−30° to 70°C	−27 ±1V	200 KHz	TTL Drive Capability
6 Stage Industrial Frequency Divider	**PD500**	14 lead Dual-in-Line	−30° to 70°C	−27 ±1V	200 KHz	
6 Stage Industrial Frequency Divider	**PD501**	16 lead Dual-in-Line	0° to 70°C	−24 to −30	100 KHz	(same as PD500 except resettable.)

RCA

BCD to 7-SEGMENT DECODER—DRIVERS

Description	Type	Current mA	Illustration
With Decimal Point	**CD2500E**	30	D 16-lead
With Ripple Blanking	**CD2501E**	30	D 16-lead
With Decimal Point	**CD2502E**	80	D 16-lead
With Ripple Blanking	**CD2503E**	80	D 16-lead

COS/MOS GENERAL PURPOSE (Multi-Logic configuration)

Function	* Type	DC Input Current pA	Input Capacitance pF	Illustration	Special Feature
Dual Complimentary Pair Plus Inverter	**CD4007**	10	5	F	Gate Threshold Voltage "N" Channel = +1.5V "P" Channel = 3V
	CD4007D	10	5	E	

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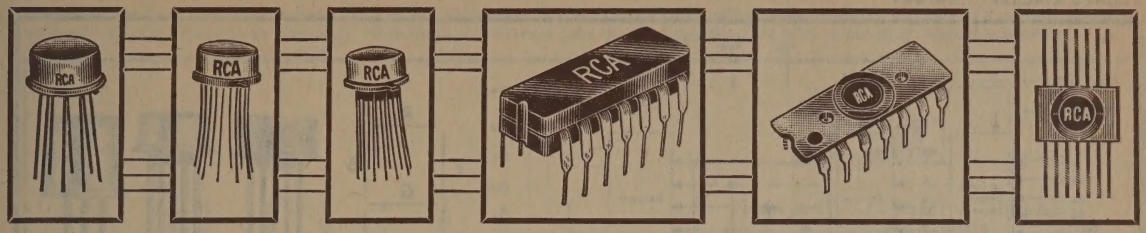


A 8-Leads | B 10-Leads | C 12-Leads | D Plastic Dual-In Line | E Ceramic Dual-In Line | F Flat-Pack

COS/MOS COMPLEMENTARY-SYMMETRY MOS

GATES (continued)

* Type	Description	DC Input Current NA	Operating Voltage Vdd V	Operating Voltage Vss V	Output Voltage Vout "O" V	Output Voltage Vout "I" V	Av. Input Capacitance pF	Device Dissip. (Ques.) Vin = OV nW	Illustration	1-99	100-999	1000-Up
CD4000 CD4000D	Dual 3-Input NOR Gate plus Inverter	10	+10	0	0	10	5	10	F E	6.50 5.35	4.68 3.90	3.90 3.25
CD4001 CD4001D	Quad 2-Input NOR Gate	10	+10	0	0	10	5	10	F E	6.75 5.70	4.92 4.14	4.10 3.45
CD4002 CD4002D	Dual 4-Input NOR Gate	10	+10	0	0	10	5	10	F E	7.00 5.95	5.10 4.32	4.25 3.60
CD4011 CD4011D	Quad 2-Input NAND Gate	10	+10	0	0	10	5	10	F E	6.75 5.70	4.92 4.14	4.10 3.45
CD4012 CD4012D	Dual 4-Input NAND Gate	10	+10	0	0	10		10	F E	7.00 5.95	5.10 4.32	4.25 3.60
CD4019 CD4019D	Quad AND-OR Select Gate	10	+10	0	0	10	3/12	500	F 16-lead E 16-lead	9.70 8.65	7.05 6.30	5.95 5.25

FLIP-FLOPS

CD4013 CD4013D	Dual D-Type Set/Reset	10	+10	0	0	10	5	50	F E	9.25 8.15	6.70 5.95	5.60 4.95

BUFFER/CONVERTERS

CD4009 CD4009D	Inverting Type	10pa	+10	0	0	5	5.5	100	F 16-lead E 16-lead	9.10 5.95	6.60 4.32	5.50 3.60
CD4010 CD4010D	Non-Inverting Type	10pa	+10	0	0	5	5.5	100	F 16-lead E 16-lead	9.10 5.95	6.60 4.32	5.50 3.60

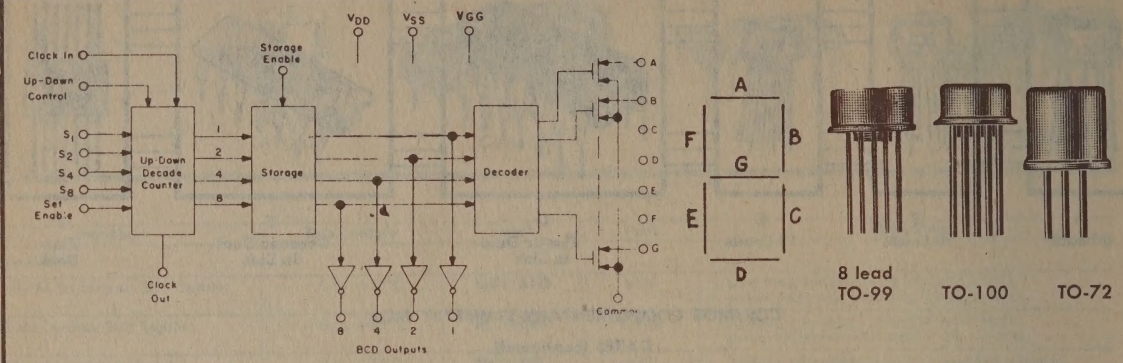
MSI (MEDIUM-SCALE INTEGRATION)

CD4004 CD4004D CD4004T	Seven-Stage Ripple Counter/ Freq. Divider	10pa	+10	0	0	10	5-Input Pulse 40-Reset Input	5μw	F E C	11.90 10.90 9.25	9.85 9.00 6.70	8.20 7.50 5.60
CD4005 CD4005D	16-Bit Non-Destructive Readout (NDRO) Memory	1	+10	0	DC Sense Current "O" = 10μA "I" = 1000μA		Cin=10 Cout=20 Senseline=20	100	F E	14.50 13.70	12.00 11.35	10.00 9.45
CD4006 CD4006D	18-Stage Static-Shift Register	10	+10	0	0	10	5-D Line 50-Clock Line	100	F E	14.50 13.80	12.00 11.40	10.00 9.50
CD4008 CD4008E	4-Bit Binary Full Adder with Parallel Carry Out	10	+10	0	0	10	10	5 μw	F 16-lead E 16-lead	16.40 15.35	13.55 12.70	11.30 10.60
CD4014 CD4014D	8-Stage Static Register	10	+10	0	0	10	3	5 μw	F 16-lead E 16-lead	16.25 15.30	13.45 12.65	11.20 10.55
CD4015 CD4015D	Dual 4-Stage Register	10	+10	0	0	10	3	5 μw	F 16-lead E 16-lead	16.30 15.30	13.50 12.65	11.25 10.55
CD4016 CD4016D	Multiplexers Quad Bilateral Switch	.....	+10	0	Nanowatt quiescent power dissipation — P_T = 100 nW/pkg typ. @ V_{DD} — V_{SS} = 10 v.				F E	9.90 8.90	7.20 6.50	6.00 5.40
CD4017 CD4017D	Decade Counter/ Divider plus 10 Decaded Outputs	10	+10	0	0	10	3	5 μw	F 16-lead E 16-lead	16.90 15.95	14.00 13.20	11.65 11.00
CD4018 CD4018D	Presettable Divide-By-"N" Counter	10	+10	0	0	10	3	5 μw	F 16-lead E 16-lead	14.95 14.00	12.35 11.60	10.30 9.65
CD4020 CD4020D	14-Stage Ripple Carry Binary Counter/Divider	10	+10	0	0	10	3	20 μw	F 16-lead E 16-lead	19.05 18.15	15.80 15.00	13.15 12.30

HUGHES

HUGHES AIRCRAFT COMPANY

MOS Integrated Circuits



UNIVERSAL COUNTER/7 SEGMENT DISPLAY DRIVER

UNIVERSAL COUNTER/7 SEGMENT DISPLAY DRIVER

TYPE HCTR0107D. A synchronous decade counter with controlled count direction and presetting BCD inputs. Independent storage register. BCD coder and seven 30 volt output switches. Diode protected inputs. Monolithic P-channel enhancement mode silicon construction TTL compatible. Vdd −18v, Vgg −24v. Package—24 pin DIP, 100 mil pin-to-pin spacing.

DISCRETE MOSFETS

Type	Package	Description	BV_{DSB}	V_{TH}	R_{ON}	g_m
INSULATED GATE FETS						
HDIG1030	TO-72	General Purpose Amp	−15V	2V	250	1.4
HDIG1886	TO-72	Electrometer	−15V	2V	250	1.4
HDIG8551	TO-99	Dual Transistor Amp	−30V	2V	600	0.7
DIODE PROTECTED MOSFETS						
HDGP1000	TO-72	General Pur. Switch	−20V	2V	220	.....
HDGP1001	TO-72	General Pur. Switch/Amp.	−20V	1.8V	30	.....
HDSW2106	TO-72	20 Ohm Switch	−15V	1.8V	20	8.0
HDSW3005	TO-72	Low Leakage 600 Ohm Switch	−30V	2V	600	0.7
HDSW8318	TO-72	General Purpose Switch	−15V	2V	250	1.4
HDSW8348	TO-72	General Purpose Switch	−15V	1.8V	40	4.0
HDSW8550	TO-99	High Level Dual Transistor Switch	−30V	2V	600	0.7

DYNAMIC SHIFT REGISTER

Type	Package	Description	No. Bits	Power MW/Bit	Max. Op Freq.	V_{SS}	V_{DD}	V_{GG}	$V\theta$
HDSR1024	TO-99	Single 1024 Bit S/R	1024	.1	10 MHz	+5V	−5V	.....	−15V
HDSR1025	TO-99	Dual 512 Bit S/R	1024	.1	10 MHz	+5V	−5V	.....	−15V
HDSR1026	TO-116	Quad 256 Bit S/R	1024	.1	10 MHz	+5V	−5V	.....	−15V
HDSR2164	TO-99	Dual 64 Bit S/R	128	3.0	10 MHz	+5V	−12V	.....	−16V
HDSR3066	TO-100	Triple 66 Bit	198	.4	1 MHz	0V	−10V	.....	−15V
HDSR4064	TO-100	Quad 64 Bit	128	.6	1 MHz	+5V	−10V	.....	−10V

WANT TO SAVE MONEY AND CUT DOWN-TIME DUE TO INTEGRATED CIRCUIT FAILURE?

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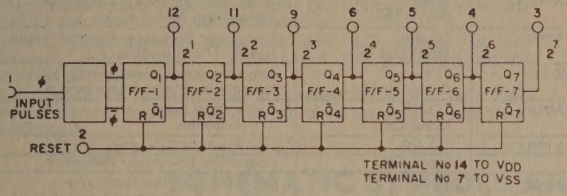
MOS Integrated Circuits

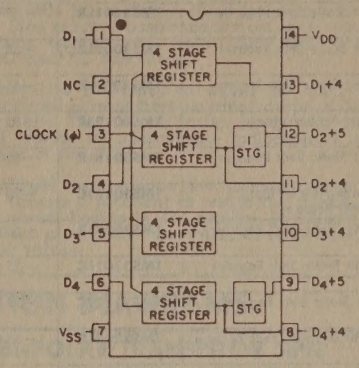
HUGHES
HUGHES AIRCRAFT COMPANY

COMPLEMENTARY INTEGRATED CIRCUITS

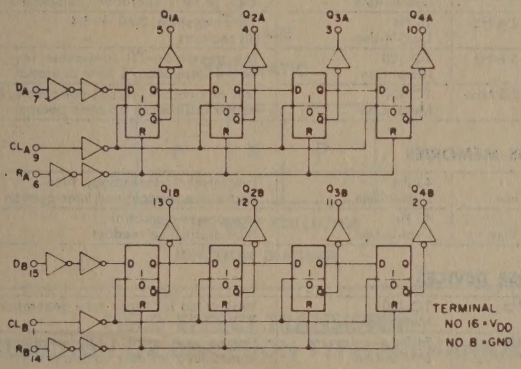
Monolithic medium scale integrated logic circuits. Operating single positive or negative power supply, 6-15 volts. Operating speed to 2 mhz with 10 volts. High noise immunity. High input impedance. Low power dissipation. 14 and 16 pin dual inline package.



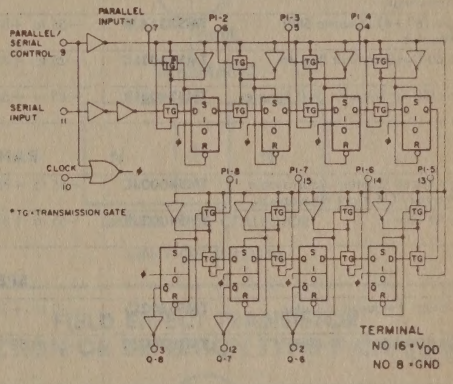
HCOS4004D



HCOS4006D



HCOS4014D



HCOS4015D

Type	Description	1-99	100-999
HCOS4000D	Dual 3-Input NOR Gate Plus Inverter	5.35	3.90
HCOS4001D	Quad 2-Input NOR Gate	5.70	4.14
HCOS4002D	Dual 4-Input NOR Gate	5.95	4.32
HCOS4004D	7-Stage Ripple Counter/Freq. Divider—TO5	10.90	9.00
HCOS4005D	16 Bit Non-Destructive Read/Right Memory	13.70	11.35
HCOS4006D	18 Stage Static Shift Register	13.80	11.40
HCOS4007D	Dual Complementary Pair Plus Inverter	4.54	3.30

NOTE: All units use 14 pin DIP except* uses 16 pin DIP.

READ ONLY MEMORY/CHARACTER GENERATOR

Type IROM2560	1-24	25-99	100-999
256x10 read only memory. Available with ASCII coding or custom coding. 500 nsec. access time. TTL compatible. Gate protected. Three chip enables. 28 pin dual in-line package. V_{DD} = GND, V_{GG} = −12V, V_{SS} = +5v	40.00	34.00	29.00

MULTIPLEXERS

Type	Description	1-24	25-99	100-999
HMUL1445	4 channel MOSFET Switch 14 pin flatpack	21.50	17.00	14.75
HMUL2661	6 channel MOSFET Switch Pkg.—TO-116	22.75	18.10	15.75
HMUX3705	8 channel Switch with 1 of 8 decoder on chip. Output enable control. TTL compatible. 16 pin dip	16.40	14.70	12.60

Type	Description	1-99	100-999
HCOS4008D	4-Bit Full Adder*	15.35	12.70
HCOS4009D	Hex Buffer Inverting*	9.10	6.60
HCOS4010D	Hex Buffer Non-Inverting*	9.10	6.60
HCOS4011D	Quad 2-Input NAND Gate	5.70	4.14
HCOS4012D	Dual 4-Input NAND Gate	5.95	4.32
HCOS4013D	Dual D-Type Flip-Flop w/Set-Reset	8.15	5.95
HCOS4014D	8 Stg. Parallel Input Serial Output Shift Register*	15.00	12.65
HCOS4015D	Dual 4 Stg. Serial Input Parallel Output—S/R*	15.30	12.65

NOTE: All units use 14 pin DIP except* uses 16 pin DIP.

TV SYNCH CIRCUIT

Type HSUB0525	1-24	25-99	100-999
Digital Video Timing Generator produces horizontal & vertical frequency synchronizing & blanking pulses for faster generation in 525 line video display systems. Automatic interlace. Inputs diode protected. 1.008 MHz input. Outputs: horizontal blank, composite synch, composite blank, video blank. V_{SS} = +5V, V_{DD} = −10V, V_{GG} = −15V, TO-100 Pkg.	21.75	17.25	15.00

For Prices Of All Integrated Circuits Appearing On I.C. Pages See NEWARK'S Pricing Index.

Texas Instruments MOS Integrated Circuits

SHIFT REGISTERS

Function	Type*	Operating Temp.	Speed	Package	Special Features
Dual 25 Bit Static Shift Register	**TMS3000LR**	−55 to +85°C	0-1 MHz	TO-100 Metal Can	Low power dissipation. Push-pull output buffers. TTL compatible
Dual 32 Bit Static Shift Register	**TMS3001LR**	−55 to +85°C	0-1 MHz	TO-100 Metal Can	Low power dissipation. Push-pull output buffers. TTL compatible
Dual 50 Bit Static Shift Register	**TMS3002LR**	−55 to +85°C	0-1 MHz	TO-100 Metal Can	Low power dissipation. Push-pull output buffers. TTL compatible
Dual 100 Bit Static Shift Register	**TMS3003LR**	−55 to +85°C	0-1 MHz	TO-100 Metal Can	Low power dissipation. Push-pull output buffers. TTL compatible
Dual 128 Bit Accumulator	**TMS3012JR**	−55 to +85°C	0-1 MHz	16 Pin Dual In Line	Single clock phase. TTL compatible. Recirculating control logic
Dual 16 Bit Static Shift Register	**TMS3016LR**	−55 to +85°C	0-1 MHz	TO-100 Metal Can	Low power dissipation. Push-pull output buffers. TTL compatible
6 Bit Serial In-Parallel Out Static Shift Register	**TMS3026JC**	−25 to +85°C	0-250 kHz	16 Pin Dual-In-Line	Single clock and power supply. TTL compatible complementary outputs
Dual 128 Bit Static Shift Register	**TMS3028LR**	−55 to +85°C	0-1 MHz	TO-100 Metal Can	Single clock phase TTL compatible
Dual 100 Bit Static Shift Register	**TMS3101LC**	−25 to +85°C	0-2.5 MHz	TO-100 Metal Can	Low threshold technology. DTL/TTL compatible. Low power dissipation
Hex 32 Bit Static Shift Register	**TMS3112JC**	−25 to +85°C	0-1 MHz	24 Pin Dual-In-Line	DTL/TTL compatible loading/recirculating and gated output control logic
Triple 66 Bit Dynamic Shift Register	**TMS3304LR**	−55 to +85°C	2 kHz-5 MHz	TO-100 Metal Can	TTL compatible. Low power dissipation. 5 MHz operation
Triple 64 Bit Dynamic Shift Register	**TMS3305LR**	−55 to +85°C	2 kHz-5 MHz	TO-100 Metal Can	TTL compatible. Low power dissipation. 5 MHz operation
Twin 512 Bit Dynamic Shift Register/ Accumulator	**TMS3309JC**	−25 to +85°C	10 kHz-5 MHz	16 Pin Dual-In-Line	TTL/DTL compatible. Recirculate logic on-chip. 10 MHz operation (multiplexed)
Triple (60+4) Dynamic Shift Register	**TMS3314JR**	−55 to +85°C	10 kHz-2 MHz	16 Pin Dual-In-Line	TTL compatible. 3-60 + 3-4 bit registers
512 Bit Dynamic Shift Register	**TMS3401LC**	−25 to +85°C	20 kHz-5 MHz	TO-100 Metal Can	Low threshold—TTL compatible. Low power dissipation. 5 MHz operation
Dual 100 Bit Dynamic Shift Register	**TMS3406LR**	−55 to +85°C	10 kHz-2.5 MHz	TO-100 Metal Can	Low threshold—TTL/DTL compatible. Low power dissipation. 2.5 MHz operation

RANDOM ACCESS MEMORIES

High-Speed Content-Addressable Memory (16 eight-bit words)	**TMS4000JC**	−55 to +85°C	250 ns Cycle Time	40 Pin Dual-In-Line	Low threshold technology. Non-destructive readout and interrogation
256 Bit Ram	**TMS4003JR**	−55 to +85°C	200 ns Access Time	40 Pin Dual-In-Line	Low power dissipation. Non-destructive readout

SPECIAL PURPOSE DEVICES

Six-Stage Frequency Divider	**TMS3802LS**	−10 to +55°C	0-100 kHz	TO-100 Metal Can	Well suited for organ tone generation
Digital Differential Analyzer Element	**TMS5700JC**	−55 to 85°C	0-500 kHz	24 Pin Dual-In-Line	Can be used to solve differential equations. Suited for desk calculators and control systems
Common-Source 10-Channel Analog Switch	**TMS6000JR**	−55 to 85°C	33 ns max. Turn On Delay	24 Pin Dual-In-Line	Designed for high-speed multiplexing applications
Six-Channel Analog Switch	**TMS6002JR**	−55 to 85°C	75 ns max. Turn On Delay	16 Pin Dual-In-Line	Low ROS (on)—200 Ω max. for time division multiplexing
Six-Channel Analog Switch	**TMS6005JR**	−55 to 85°C	75 ns max. Turn On Delay	16 Pin (.300 centers) Dual-In-Line	Low ROS (on)—200 Ω max. for time division multiplexing
Six-Channel Analog Switch	**TMS6009JR**	−55 to 85°C	75 ns max. Turn On Delay	16 Pin (.300 centers) Dual-In-Line	Low ROS (on)—200 Ω max. for time division multiplexing. Extremely low leakage

READ-ONLY MEMORIES

Row Output Character Generator	**TMS2403JC**	−25 to +85°C	700 ns max. Access Time	28 Pin Dual-In-Line	64 character USASCII code 5x7 dot matrix
Row Output Character Generator	**TMS2404JC**	−25 to +85°C	700 ns max. Access Time	28 Pin Dual-In-Line	66 character EBCDIC code. 5x7 dot matrix
2048-Bit Static Rom	**TMS2601JC**	−25 to +85°C	< 1 μsec Access Time	24 Pin Dual-In-Line	Sample program to demonstrate capability
2048-Bit Static Rom	**TMS2602JC**	−25 to +85°C	< 1 μsec Access Time	24 Pin Dual-In-Line	USASCII to SELECTRIC and vice versa code converter
2048-Bit Static Rom	**TMS2603JC**	−25 to +85°C	< 1 μsec Access Time	24 Pin Dual-In-Line	EBCDIC to USASCII code converter
Character Generator	**TMS4103JC**	−25 to +85°C	700 ns max. Access Time	28 Pin Dual-In-Line	64 character USASCII code. 5x7 dot matrix
Character Generator	**TMS4177JC**	−25 to +85°C	700 ns max. Access Time	28 Pin Dual-In-Line	Two devices used as a unit for 7x10 row output USASCII code
Character Generator	**TMS4178JC**	−25 to +85°C	700 ns max. Access Time	28 Pin Dual-In-Line	
Character Generator	**TMS4179JC**	−25 to +85°C	700 ns max. Access Time	28 Pin Dual-In-Line	64 character EBCDIC code
4096 Bit Static Rom	**TMS4305JC**	−25 to +85°C	< 1 μsec Access Time	24 Pin Dual-In-Line	Organized as 512 words x 8 bits programmed with sine table. Single-ended output buffer
4096 Bit Static Rom	**TMS4306JC**	−25 to +85°C	< 1 μsec Access Time	24 Pin Dual-In-Line	(Same except push-pull output buffer)
Parallel Output Character Generator	**TMS4886JC**	−25 to +85°C	600 ns max. Access Time	40 Pin Dual-In-Line	64 character USASCII code. 5x5 dot matrix

*Type number description on first page of TI digital section.

DEFINITIONS

Applicable Military Specification

MIL-S-19500

MANUFACTURERS

GENERAL ELECTRIC	*SPRAGUE
*HUGHES	TELEDYNE
MOTOROLA	TEXAS INSTRUMENTS
RCA	

***Listed in pricing index only**

Static characteristics—obtained with DC voltage potentials applied to the terminal of the transistor.

Dynamic characteristics—obtained with AC voltage on one electrode under various conditions of DC potentials on all terminals of the transistor.

Gain bandwidth product—the frequency at which beta (see forward current transfer ratio) is equal to zero. (Also see cutoff frequency.)

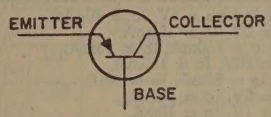
Forward current transfer ratio—a measure of the transistor's current gain. It is the ratio of the current in the output terminal to the current in the input terminal. Because of the different ways that a transistor may be connected in a circuit, the forward current transfer ratio is usually specified for a particular circuit configuration. (The common base ratio is most often called alpha, and the common emitter ratio, beta.) This ratio can be expressed for DC and AC conditions.

Cutoff frequency—the frequency at which the value of alpha or beta (see forward current transfer ratio) drops to 0.707 times its value at 1.0 kHz. This characteristic, along with gain bandwidth product provide an approximate indication of the useful frequency range of the device.

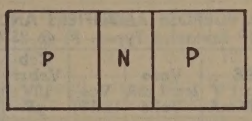
Breakdown voltages (all)—define the voltage values between two terminals (across a junction) at which the crystal structure changes and current begins to rise rapidly. Permanent damage will occur unless precautions are taken to limit transistor dissipation to safe values.

SCHEMATIC SYMBOLS AND JUNCTION DIAGRAMS

BI-POLAR TRANSISTOR PNP



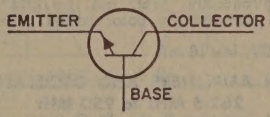
SCHEMATIC



EMITTER BASE COLLECTOR

JUNCTION DIAGRAM

BI-POLAR TRANSISTOR NPN



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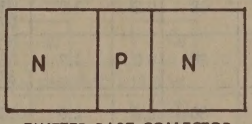
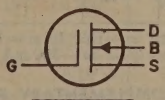


EMITTER BASE COLLECTOR

JUNCTION DIAGRAM

FIELD EFFECT TRANSISTOR (JUNCTION OR DEPLETION TYPE) N-CHANNEL



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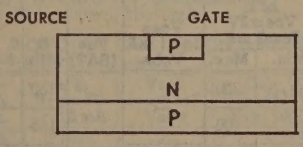
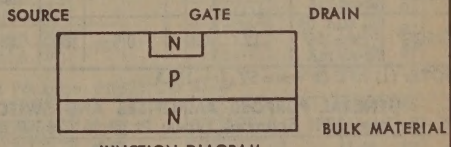


JUNCTION DIAGRAM

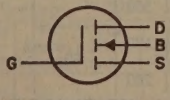
FIELD EFFECT TRANSISTOR (JUNCTION OR DEPLETION TYPE) P-CHANNEL

SCHEMATIC



JUNCTION DIAGRAM

FIELD EFFECT TRANSISTOR (ENHANCEMENT—MOS TYPE) N-CHANNEL



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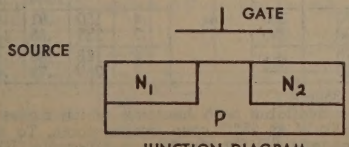

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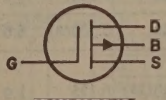
FIELD EFFECT TRANSISTOR (ENHANCEMENT—MOS TYPE) P-CHANNEL



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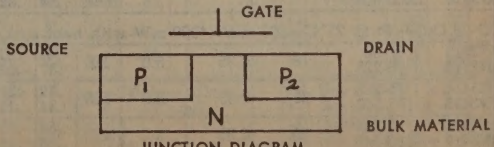


JUNCTION DIAGRAM

ECONOMY SILICON TRANSISTORS

SMALL SIGNAL AMPLIFIERS — AUDIO TO 30 MHz

TO-98 Case; NPN Planar Types; Pt@25°C = 360 mW

Type	hFE Vce=5V Ic=2mA	Vceo Ic=1mA Volts	Vce (SAT)	Ccb Vcb=10V pF	ft MHz	1-99	100-999	1000-UP
2N2711	30-90	18	0.2	7	120	.41	.27	.23
2N2712	75-225					.41	.27	.23
2N2923	90-180(1)					.29	.20	.16
2N2924	150-300(1)	25	0.2	7	120	.32	.21	.18
2N2925	235-470(1)					.38	.26	.21
2N2926	35-470(1)	18	0.2	7	120	.27	.18	.15
2N3721	60-660(1)	18	0.2	7	120	.41	.27	.23
2N3392	150-300					.29	.20	.16
2N3393	90-180					.32	.21	.18
2N3394	55-110					.27	.18	.15
2N3395	150-500	25	0.2	7	120	.50	.33	.28
2N3396	90-500					.50	.33	.28
2N3397	55-500					.47	.32	.26
2N3398	55-800					.54	.36	.30
2N3900	250-500	18	0.2	7	120	.61	.41	.34
2N3900A	250-500					.68	.45	.38
2N3391	250-500		0.2			.50	.33	.28
2N3391A	250-500	25	0.25	7	120	.54	.36	.30
2N5172	100-500(3)		max.			.20	.14	.11
GET2484	250-600	60		4	15	.73	.49	.44

NOTES: (1) hFE@Vce=10V, Ic=2 mA, f=1kHz.
(2) Supplied in 5 distinctively color coded groups with 2 to 1 hFE spreads.
(3) hFE @ Vce=10V, Ic=10 mA.

RF-IF AMPLIFIERS AND OSCILLATORS
262.5 MHz to 950 MHz

TO-98 Case; NPN Epitaxial Types; Pt @ 25°C = 200 mW

Type	hFE Vce=1 V Ic=50 mA	Vceo Ic=1 mA Volts	Vce (SAT)	Ccb Vcb=10V pF	ft MHz	1-99	100-999	1000-UP
2N3854	35-70	18	0.2	1.7	300	.34	.23	.19
2N3855	60-120				350	.36	.24	.20
2N3856	100-200				375	.39	.26	.21
2N3854A	35-70	30	0.2	1.7	300	.36	.24	.20
2N3855A	60-120				350	.38	.26	.21
2N3856A	100-200				375	.41	.27	.23
2N3843	20-40	30	0.2	2.0	135	.43	.29	.24
2N3844	35-70					.45	.30	.25
2N3845	60-120					.47	.32	.26
2N3843A	20-40	30	0.2	2.0	135	.45	.30	.25
2N3844A	35-70					.47	.32	.26
2N3845A	60-120					.50	.33	.28
2N3858	60-120	40	0.125	2.0	135	.29	.20	.16
2N3859	100-200					.32	.21	.18
2N3860	150-300					.36	.24	.20
2N5232	250-500	50	0.125	2.0	135	.36	.24	.20
2N5232A	250-500					.41	.27	.23
2N5249	400-800					.50	.33	.28
2N5249A	400-800					.54	.36	.30
2N5309	60-120(1)					.72	.48	.40
2N5310	100-300(1)					.81	.54	.45
2N5311	250-500(1)					.90	.60	.50
2N3662	20 Min. @ Vce=10V Ic=8 mA	12	0.6	0.9	1000	.52	.35	.29
2N3663						.56	.38	.31
D16G6	20 Min. @ Vce=10V Ic=5 mA	12	0.6	0.9	1000	.45	.30	.25

NOTE: (1) hFE @ Vce=5V, Ic=10μA.

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

TO-18 Case; NPN Epitaxial Types; Pt @ 25°C=360 mW.

Type	hFE Vce=4.5V Ic=2 mA	Vceo Ic=1 mA Volts	Vce (SAT)	Ccb Vcb=10V pF	ft MHz	1-99	100-999	1000 UP
GET929	60-120(11)	50	0.125	1.9	135	.65	.42	.37
GET930	100-300(1)					.69	.46	.41
GET2221	40-120(4)	30	0.300(3)	5.0	250	.52	.35	.32
GET2222	100-300(4)					.57	.38	.34
GET2221A	40-120(4)	40	0.300(3)	5.6	250	.70	.46	.39
GET2222A	100-300(4)					.74	.50	.49
2N5824	60-120	40(13)	0.125	1.9	250 max.	.32	.21	.18
2N5825	100-200					.34	.23	.19
2N5826	150-300					.38	.26	.21
2N5827	250-500				350 max.	.41	.27	.23
2N5828	400-800					.54	.36	.30

TO-98 Case; Pt @ 25°C=360 mW (*900 mW with heat sink)

2N2713	30-90	18	0.35	5.0	120	.45	.30	.25
2N2714	75-225					.47	.32	.26
2N3414	75-225	25	0.35	5.0	120	.32	.21	.18
2N3415	180-540					.34	.23	.19
2N3416	75-225	50	0.35	5.0	120	.52	.35	.29
2N3417	180-540					.68	.45	.38

(Continued next column)

GENERAL PURPOSE AMPLIFIERS AND SWITCHES (Cont'd.)

TO-98 Case; Pt@25°C=360 mW (*900 mW with heat sink)

Type	hFE Vce=4.5V Ic=2 mA	Vceo Ic=1 mA Volts	Vce (SAT)	Ccb Vcb=10V pF	ft MHz	1-99	100-999	1000 UP
2N4424	180-540	40	0.35	5.0	120	.43	.29	.24
2N3402*	75-225	25				.36	.24	.20
2N3403*	180-540	25				.38	.26	.21
2N3404*	75-225	50				.56	.38	.31
2N3405*	180-540	50				.72	.48	.40
2N4425*	180-540	40				.47	.32	.26
2N3858A	60-120	60	0.125	2.0	135	.38	.26	.21
2N3859A	100-200					.41	.27	.23
2N38660A	150-300					.36	.24	.20
2N3877	20 Min.	70	0.125	2.0	135	.50	.33	.29
2N3877A	20 Min.	85				.54	.36	.30
2N5174	40-600(7)	75	0.95	4.0	135	.65	.44	.36
2N5175	55-160(7)	100				.70	.47	.39
2N5176	140-300(7)	100				.74	.50	.41
2N4256	100-500	Vces=30	0.125	2.0	135	.68	.45	.38
2N3605	30 Min.(8)	14	0.25	4.0	300	.34	.23	.19
2N3605A	30-120(8)	15				.45	.30	.25
2N3606	30 Min.(8)	14				.32	.21	.18
2N3606A	30-120(8)	15				.38	.26	.21
2N3607	30 Min.(8)	14				.23	.15	.13

NOTES: (1) hFE @ Vce = 5V, Ic = 10μA.
(2) hFE @ Vce = 5V, Ic = 150mA.
(3) Vce (sat) @ Ic = 150mA, Ib = 15mA.
(4) hFE @ Vce = 10V, Ic = 150mA.
(5) Vce (sat) @ Ic = 50mA, Ib = 3mA.
(6) hFE @ Vce = 5V, Ic = 10mA.
(7) hFE @ Vce = 1V, Ic = 10mA.
(8) Vce (sat) @ Ic = 150mA, Ib = 15mA.

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

TO-18 Case; PNP Epitaxial Types; Pt @ 25°C = 360 mW.

Type	hFE Vce=1 V Ic=50 mA	Vceo Ic=1 mA Volts	Vce (SAT)	Ccb Vcb=10V pF	ft MHz	1-99	100-999	1000 UP
GET3638	20 min.(1)	—25	—0.25	5.0	340	.46	.31	.28
GET3638A	100 Min.(1)					.60	.40	.36

TO-98 Case; Pt @ 25°C = 360 mW.

2N5354	40-120	—25	—0.25	5.0	340	.41	.27	.23
2N5355	100-300					.45	.30	.25
2N5356	250-500					.52	.35	.29
2N5365	40-120	—40				.45	.30	.25
2N5366	100-300					.50	.33	.28
2N5367	250-500					.56	.38	.31

NOTES: (1) hFE @ Vce = —10V, Ic = —10mA.
(2) Max. switch. times @ Ic = —300 mA, Ib1 = —Ib2 = —30mA.

COMPLEMENTARY PAIRS

Pt @ 25°C = 500 mW (1000 mW with heat sink)

Type	Pol.	hFE Vce=2V Ic=2 mA Min.	hFE Vce=2V Ic=2 mA Max.	Vceo Ic=1 mA Volts	Vce (SAT)	ft MHz	1-99	100-999	1000-UP
D29E1	(P)	60	200	25	0.75	150	.52	.35	.29
D33D21	(N)	45(1)					.47	.32	.26
D29E2	(P)	150	500			165	.56	.38	.31
D33D22	(N)	60(1)					.52	.35	.29
D29E4	(P)	60	120	40		120	.47	.32	.26
D33D24	(N)	20(1)					.43	.29	.24
D29E5	(P)	100	200			135	.52	.35	.29
D33D25	(N)	25(1)					.47	.32	.26
D29E6	(P)	150	300			150	.56	.38	.31
D33D26	(N)	25(1)					.52	.35	.29
D29E7	(P)	250	500			165	.63	.42	.35
D33D27	(N)	25(1)					.59	.39	.33
D29E9	(P)	60	120	60		115	.88	.59	.49
D33D29	(N)	20(1)					.83	.55	.46
D29E10	(P)	100	200			135	.95	.63	.53
D33D30	(N)	25(1)					.88	.59	.49
*2N5998	(N)	100	250	25	.25	300	.52	.35	.29
*2N5999	(P)						.54	.36	.30
2N6000	(N)	70	300		.4	150	.61	.40	.34
2N6001	(P)	90	350		.7	225	.65	.44	.36
2N6002	(N)	175	500		.4	165	.68	.45	.38
2N6003	(P)	250			.7	250	.72	.48	.40

NOTES: (1) Ic = 550mA.
(2) All units are available with heatsink which raises power dissipation to 1000mW @ 25°C case temperatures. To select a unit with heatsink add "J1" to the type number; i.e. D29E30J1.

(Continued next page)

ECONOMY SILICON TRANSISTORS (Cont'd)

Complementary Pairs (P=PNP; N=NPN) TO-98 Case; Pt@25°C =500 mW (1000 mW with heat sink). Available with all units; suffix "j 1" to type number.

Type	Pol.	hFE Vce=2V Ic=2mA Min.	hFE Vce=2V Ic=2mA Max.	Vceo Ic=1mA Volts	Vce (SAT)	ft MHz	1-99	100-999	1000-UP
2N6004	(N)	70	300	40	1.1	150	.65	.44	.36
2N6005	(P)	95	350	40	1.2	225	.70	.46	.39
2N6006	(N)	175	500	40	1.1	165	.72	.48	.40
2N6007	(P)	235	500	40	1.2	250	.77	.51	.43
*2N6008	(N)	200	500	25	.25	300	.56	.38	.31
*2N6009	(P)	200	500	25	.25	300	.59	.39	.33
2N6010	(N)	65	300	40	.25	105	.83	.55	.46
2N6011	(P)	90	300	40	.6	75	.88	.59	.49
2N6012	(N)	150	500	40	.25	150	.90	.60	.50
2N6013	(P)	255	500	40	.6	120	.95	.63	.53
2N6014	(N)	65	30	60	.25	105	.88	.59	.49
2N6015	(P)	90	300	60	.6	75	.92	.61	.51
2N6016	(N)	155	500	60	.25	150	.95	.63	.53
2N6017	(P)	225	500	60	.6	120	.99	.66	.55
TO-18 Case; Pt @ 25°C=500 mW (700 mW with heat sink[3])									
2N5810	(N)	60	200	25	0.75	150	.47	.32	.26
2N5811	(P)	45(1)					.52	.35	.29
2N5812	(N)	150	500	25	0.75	165	.52	.35	.29
2N5813	(P)	60(1)					.56	.38	.31
2N5814	(N)	60	120	40	0.75	120	.43	.29	.24
2N5815	(P)	20(1)					.47	.32	.26
2N5816	(N)	100	200	40	0.75	135	.47	.32	.26
2N5817	(P)	25(1)					.52	.35	.29
2N5818	(N)	150	300	40	0.75	150	.52	.35	.29
2N5819	(P)	25(1)					.56	.38	.31
2N5820	(N)	60	120	60	0.75	115	.83	.55	.46
2N5821	(P)	20(1)					.88	.59	.49
2N5822	(N)	100	200	60	0.75	135	.88	.59	.49
2N5823	(P)	25(1)					.95	.63	.53

NOTES: (1)Ic=550mA. Total power with Heat Sink in free air Ta $\geq$ 25° = 700 mW. To order heat sinked versions specify as HS5810, HS5811, etc.

HIGH SPEED SWITCHES

TO-18; NPN Epitaxial Types
Pt@25°C=360 mW; ft = 350 MHz typ.

Type	hFE Vce=1V Ic=10mA	Vceo Ic=1mA Volts	Vce (SAT)	Ccb Vcb=10V Max. pF	1-99	100-999	1000-UP
GET706	20 Min.	15	0.250	4.0	.45	.30	.22
GET708	30-120				.42	.28	.26
GET914					.51	.34	.31
GET2369	40-120	15	0.250	2.0	.49	.33	.29
GET3013	30-120(1)		0.180(2)		.57	.38	.34
GET3014					.67	.44	.40
GET3646		20	0.20(2)		.53	.36	.32

NOTES: (1) hFE @ Vce=0.4V, Ic=30mA.
(2) Vce (sat) @ Ic=30mA, Ib=3mA.

MONOLITH DARLINGTON AMPLIFIER

TO-98 Case; Pt@25°C=400 mW.

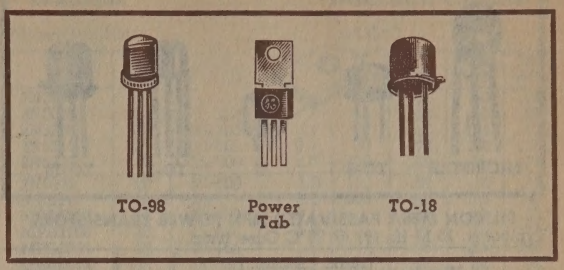
Type	Pub. No.	hFE Vce=5V Ic=2 mA	Vceo Ic=1 mA Volts	Ccb Vcb=10V Typ. pF	1-99	100-999	1000-UP
D16P1	35.55	2 Min.	12	3.5	.38	.26	.21
2N5305	40.78	2-20	25		.45	.30	.25
2N5306		7-70			.43	.29	.24
2N5307	40.79	2-20	40		.47	.32	.26
2N5308		7-70			.52	.35	.29

POWER TRANSISTORS

D40C NPN Power Tab Package. Pt@25°C=6 W; ft=75 mHz.

Type	Hfe	Vceo Ic= 1 mA	Ic Amps. (Cont.)	Vce (Sat) Volts max.	Ccb Vcb=10V Typ. pF	1-99	100-999	1000-UP
D40C1	10k-60k(1)	30(2)	0.5	1.5	5.0	.64	.42	.35
D40C2	40k Min.(1)					.89	.59	.49
D40C4	10k-60k(1)	40(2)				.71	.48	.39
D40C5	40k Min.(1)					1.02	.68	.56
D40C7	10k-60k(1)	50(2)				1.02	.68	.56
D40C8	40k Min.(1)					1.28	.85	.70
Pt@25°C=6.25w ft=50 mhz								
D40N1	30-90(3)	300	0.1	1.5	3.0 Max.	1.50	1.00	.80
D40N3		250				1.65	1.10	.89

NOTES (1) Vce=5V, Ic=200mA. (2) Ic=10mA.
(3)Vce=10V, Ic=20mA.



POWER TRANSISTORS (Cont'd)

D40D NPN Package; Pt@25°C=6W

Type	Hfe	Vceo Ic= 1 mA Volts	Ic Amps. (Cont.)	Vce (Sat) Volts max.	Ccb Vcb=10V Typ. pF	1-99	100-999	1000-UP
D40D1	50-150(4)	30	1.0	0.5	8.0	.61	.41	.34
D40D2	120-360(4)					.77	.51	.42
D40D4	50-150(4)	45				.74	.49	.41
D40D5	120-360(4)					.90	.60	.49
D40D7	50-150(4)	60		1.0		.82	.54	.45
D40D8	120-360(4)					1.02	.68	.56

D41D PNP Package; Pt@25°C=6 W

D41D1	50-150(5)	—30	—1.0	—0.5	10.0	.66	.44	.36
D41D2	120-300(5)					.87	.58	.48
D41D4	50-150(5)	—45				.79	.53	.43
D41D5	120-360(5)					1.00	.66	.55
D41D7	50-150(5)	—60		—1.0		.87	.58	.48
D41D8	120-360(5)					1.13	.75	.62

D42C NPN Package; Pt@25°C=12.5 W

D42C1	10 Min.(6)	30	3.0	0.5(8)	100 Max.	.90	.59	.49
D42C2	20 Min.(6)			0.5(9)		.95	.63	.52
D42C3	20 Min.(7)			0.5(9)		1.00	.65	.55
D42C4	10 Min.(6)	45		0.5(8)		.97	.65	.53
D42C5	20 Min.(6)			0.5(9)		1.02	.68	.56
D42C6	20 Min.(7)			0.5(9)		1.10	.73	.60
D42C7	10 Min.(6)	60		0.5(8)		1.10	.73	.60
D42C8	20 Min.(6)			0.5(9)		1.17	.78	.64

D43C PNP Package; Pt@25°C=12.5 W

D43C1	10 Min.(10)	—30	—3.0	—0.5(12)	125 Max.	1.02	.68	.56
D43C2	20 Min.(10)			—0.5(13)		1.07	.71	.59
D43C3	20 Min.(11)			—0.5(13)		1.12	.75	.62
D43C4	10 Min.(10)	—45		—0.5(12)		1.10	.73	.60
D43C5	20 Min.(10)			—0.5(18)		1.15	.76	.63
D43C6	20 Min.(4)			—0.5(13)		1.22	.82	.67
D43C7	10 Min.(10)	—60		—0.5(12)		1.22	.82	.67
D43C8	20 Min.(10)			—0.5(13)		1.30	.87	.71

D44C NPN Package; Pt@25°C= 27 W

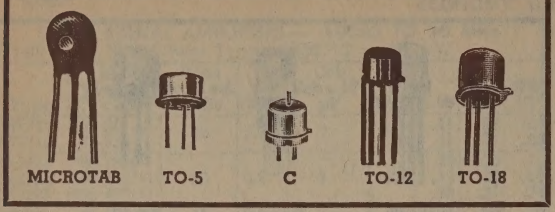
D44C1	10 Min.(6)	30	4.0	0.5(8)	100 Max.	.97	.65	.53
D44C2	20 Min.(6)			0.5(9)		1.02	.68	.56
D44C3	20 Min.(7)			0.5(9)		1.07	.72	.59
D44C5	10 Min.(6)	45		0.5(8)		1.10	.73	.60
D44C4	20 Min.(6)			0.5(9)		1.05	.70	.57
D44C6	20 Min.(7)			0.5(9)		1.17	.78	.64
D44C7	10 Min.(6)	60		0.5(8)		1.17	.78	.64
D44C8	20 Min.(6)			0.5(9)		1.25	.84	.69

D45C PNP Package; Pt@25°C=27 W

D45C1	10 Min.(10)	—30	—4.0	—0.5(12)	125 Max.	1.10	.73	.60
D45C2	20 Min.(10)			—0.5(13)		1.15	.77	.63
D45C3	20 Min.(11)			—0.5(13)		1.20	.80	.66
D45C4	10 Min.(10)	—45		—0.5(12)		1.18	.78	.64
D45C5	20 Min.(10)			—0.5(13)		1.23	.82	.67
D45C6	20 Min.(11)			—0.5(13)		1.30	.87	.71
D45C7	10 Min.(10)	—60		—0.5(12)		1.30	.87	.71
D45C8	20 Min.(10)			—0.5(13)		1.38	.92	.76

NOTES: (4) Vce =2V, Ic=100mA.
(5) Vce= —2V, Ic= —100mA.
(6) Vce=1V, Ic=1A.
(7) Vce=1V, Ic=2A.
(9) Ic=1A, Ib=50mA.
(10) Vce= —1V, Ic= —1A.
(11) Vce= —1V, Ic= —2A.
(12) Ic=1A, Ib= —100mA.
(13) Ic= —1A, Ib= —50mA

Transistors and Experimental Components



SILICON MESA PASSIVATED NPN POWER TRANSISTORS

Typical ft, 15 M Hz (†) @ 25°C Case temp.

Type	Min. Volts Vceo	Min. Volts Vcex	Max. Watts @ 25°C	Dissip. @ 100°C Case	hFE	1-99	100-999	1000-Up
2N657	100	.....	0.8	4†	30- 90	2.30	1.52	1.38
2N657A	100	.....	1.0	5†	30- 90	3.00	2.00	1.82
2N2106	60#	.....	1.0	.....	12- 56	1.97	1.32	1.19
2N2107	60#	.....	1.0	.....	30- 90	2.09	1.39	1.25
2N2108	60#	.....	1.0	.....	75-200	2.10	1.40	1.26
2N2196	60#	80	2.0	10	30- 90	4.50	3.00	2.70
2N2197	60#	80	2.0	10	75-200	4.62	3.25	2.93
2N2201	100	120	2.0	10	30- 90	6.90	4.60	4.15
2N2726	200#	.....	1.0	5†	30- 90	5.40	3.60	3.24
D7A30	40	.....	1.0	5†	12- 38	1.01	.67	.57

MICROTAB PLANAR TRANSISTORS

These devices are ideally suited for applications where space is a controlling factor such as instruments or hybrid circuits.

HIGH FREQUENCY AMPLIFIER NPN

Type	hFE Min.	hFE Max.	Nearest Equiv.	1-99	100-999	1000-Up
D26E-1	100/300 @ 10 uA		2N930	1.35	.90	.81
D26E-5	180/330 @ 100 uA		2N2484	.93	.62	.56
D26E-6	40/330 @ 100 uA		.....	.75	.49	.44

UHF AMPLFIIER NPN

D26G-1	6 @ 100 mHz	2N918	1.02	.69	.62

LOW-CURRENT SWITCH NPN

D26B-2	40/120 @ 10 mA	2N369	.83	.55	.50

MEDIUM-CURRENT SWITCH NPN (Complement to the D30A series)

D26C-1	30/90 @ 10 mA	2N2217-2222	.76	.51	.46
D26C-3	140/280 @ mA	2N2217-2222	.85	.57	.51

AMPLIFIER PNP (Complement to the D26C series)

D-30A-1	30/90 @ 10 mA	2N2907	1.16	.77	.69
D30A-3	140/280 @ 10 mA	2N2907	1.28	.86	.77

GERMANIUM ALLOY PNP TRANSISTORS

(*) VRT (**) BVceo † hfe min.

Type	Fig.	Max. Dissip. mW	Min. Volts BVcer	hFE	1-99	100-999	1000-Up
2N191	C	200	25	53-121	.97	.65	.54
2N241A	C	200	25	50-125	1.05	.70	.59
2N319	TO-5	225	20	25- 42	.44	.29	.26
2N320	TO-5	225	20	34- 65	.59	.39	.35
2N321	TO-5	225	20	53-121	.65	.43	.39
2N322	TO-5	200	18	34- 65	.42	.28	.25
2N323	TO-5	200	18	53-121	.59	.39	.35
2N396A	TO-5	200	20**	30-150	.62	.41	.37
2N404A	TO-5	150	35*	.....	.58	.39	.31
2N414	TO-5	150	15**	30-120	.42	.29	.24
2N508	TO-5	200	16	100-200	.69	.46	.39
2N508A	TO-5	200	25	100-200	.81	.54	.44
2N524	TO-5	225	30	25- 42	.59	.39	.35
2N525	TO-5	225	30	34- 65	.80	.53	.48
2N526	TO-5	225	30	53- 90	1.00	.67	.59
2N527	TO-5	225	30	72-121	1.00	.67	.60
2N1097	TO-5	200	16	34- 90	.57	.38	.28
2N1175A	TO-5	200	25	70-140	1.35	.90	.80
2N1305	TO-5	150	20*	40-200	.52	.35	.28
2N1414	TO-5	200	25	34- 65	.69	.46	.41
2N1415	TO-5	200	25	53- 90	.80	.53	.48
2N1925	TO-5	225	40	53- 90	1.56	1.04	.94
2N1926	TO-5	225	40	72-121	1.82	1.21	1.09

GERMANIUM NPN TRANSISTORS — Fig. C.

(#)Vcer @ R=10K

Type	Max. Dissip. mW	Min. Vceo Volts	Power Gain at 455 KHz db	hFE	1-99	100-999	1000-Up
2N78	65	15	26.0-31.0	45-135	2.74	1.83	1.65
2N169	65	15#	24.0-31.0	34-200	1.75	1.17	.....
2N169A	65	25#	27.0-31.0	34-200	2.68	1.77	.....

SILICON GROWN DIFFUSED NPN TRANSISTORS—TO-5

Type	Max. Diss. MW	Min. BVcbo	hFE	Min.-Max. hFE	1-99	100-999	1000-Up
2N335A	500	45	45	37-90	5.25	3.50	1.32
2N338	125	45	75	99 typ.	5.50	3.65	1.15

SILICON REFERENCE AMPLIFIER TRANSISTORS—TO-12

Type	Vceo	Max. Temp. Coeff. KT	Vref (V)	1-99	100-999	1000-Up
RA1	45	.02% 1°C	7.0 ± 10%	4.50	3.00	2.70
RA1A	45	.005% 1°C	7.0 ± 10%	7.95	5.30	4.75

GE ENTERTAINMENT TRANSISTORS

Type	Application	Use	PcMW @25°C	Ic ma	Tj°C	NET
2N107	PNP	AF	50	—10	60	.75
2N508	PNP	AF OUT	140	—100	86	.78
2N1415	PNP	AF SW	200	—200	85	.80

GE SELENIUM RECTIFIERS FOR COLOR TV

Type	Description	NET
GECR-3	Convergence	.86

UNIVERSAL REPLACEMENT TRANSISTORS

Highly dependable low cost transistors which are designed as general replacements for most types of transistors used in radio and Hi-Fi sets. Av. Wt., 2 oz.

Type	Use	Application	NET
GE-2	PNP	AF Amplifier	1.02
GE-3	PNP	AF power amplifier	1.78
GE-4	PNP	AF high power amplifier	2.94
GE-5	NPN	Mixer/oscillator converter.RF and IF amplifier	1.68
GE-6	NPN	Mixer/oscillator converter.RF amplifier	1.83
GE-7	NPN	IF amplifier	1.77
GE-8	NPN	AF amplifier	1.29
GE-9	PNP	Mixer/oscillator converter.RF and IF amplifier	1.26
GE-10	NPN	AM Amplifier, Driver Output	1.20
GE-11	NPN	TV, FM, IF amplifier & UHF oscillator	1.53
GE-12	NPN	AF amplifier	2.34
GE-13-MP	PNP	AF amplifier	3.56
GE-16	PNP	AF amplifier	3.15
GE-17	NPN	TV, RF, RF & oscillator	1.42
GE-18	NPN	Audio amplifiers, outputs & oscillators	1.46
GE-19	NPN	Audio amplifiers, outputs & oscillators	3.06
GE-20	NPN	RF-IF amplifiers, oscillators	1.10
GE-22	PNP	RF-IF amplifiers (AM & FM), oscillators	1.03
GE-25	PNP	High-voltage horizontal & vertical deflection amplifiers	7.50

EXPERIMENTAL/HOBBYIST ELECTRONIC COMPONENTS

Electronic components for experimenter, with schematic diagrams.

Type	DESCRIPTION	Net
GE-X1	SILICON CONTROLLED RECTIFIER. 117-volt solid state switch. Controls up to 4.7 amps.	2.60
GE-X2A	LIGHT ACTIVATED POWER switch. It will conduct up to 1/4 ampere, up to 25 volts.	2.80
GE-X3	HIGH CURRENT SILICON CONTROLLED RECTIFIER. For up to 13 amps @ 50 PIV.	4.00
GE-X5	HIGH SENSITIVITY SILICON CONTROLLED RECTIFIER. For special circuits up to 1.6 amps and 50 volts. Activated by extremely low signal power (a momentary sig. power of 200 micro watts or less).	2.30
GE-X7	REED SWITCH. Carries from 15 volt-amperes to micro-amps. External magnetic acuation.	.80
GE-X9	MED. SPEED, PNP TRANSISTOR. Germanium alloy. For medium power amplification and switching at low frequency.	.70
GE-X10	UNIJUNCTION TRANSISTOR. Three-terminal semiconductor. Has low value of firing current, stable negative resistance, stable firing current, high pulse current capability.	1.35
GE-X11	ZENER DIODE. Rated 8.2 volts at 1 watt.	1.80
GE-X13	DIAC—With schematic for building lamp dimmer or AC motor control.	1.60
GE-X16	SILICON CONTROLLED RECTIFIER — With schematic for building battery-operated fluorescent light.	3.45

Ask for Industrial Replacement Almanac ..... .25

ECONOMY TRANSISTORS

GENERAL PURPOSE SWITCHING & AMPLIFIER TRANSISTORS

Pd (max) = 310mW @ Ta = 125°C, Tj (max) = 135°C NPN

Type	Vcb Volts	Vceo Volts	hfe Min/Max	Ic mA	1-99	100-999	1000-4999
2N3903	60	40	50/150	10	.75	.50	.37
2N3904	60	40	100/300	10	.82	.55	.41
2N4123	40	30	50/150	2.0	.52	.35	.26
2N4124	30	25	120/360	2.0	.60	.40	.30
2N4400	60	40	50/150	150	.60	.40	.30
2N4401	60	40	100/300	150	.75	.50	.38
MPS3704	50	30	100/300	50	.34	.29	.22
MPS3705	50	30	50/150	50	.29	.25	.23
MPS3706	40	20	30/600	50	.27	.24	.20
MPS6530	60	40	40/120	100	.64	.43	.32
MPS6531	60	40	90/270	100	.75	.50	.37
MPS6532	50	30	30/...,	100	.54	.36	.27
MPS6565	60	45	40/160	10	.52	.35	.26
MPS6566	60	45	100/400	10	.57	.38	.28
PNP—Case 29							
2N3905	40	40	50/150	10	.75	.50	.37
2N3906	40	40	100/300	10	.82	.55	.41
2N4125	30	30	50/150	2.0	.52	.35	.26
2N4126	25	25	120/360	2.0	.60	.40	.30
2N4402	40	40	50/150	150	.60	.40	.30
2N4403	40	40	100/300	150	.75	.50	.38
2N5528	5.0	5.0	30/....	10	.28	.19	.17
MPS404	24	25	30/400	12	.37	.25	.19
MPS404A	35	40	30/400	12	.45	.30	.23
MPS3638	25	25	20/....	10	.45	.30	.20
MPS3638A	25	25	100/....	10	.59	.39	.33
MPS3702	25	40	60/300	50	.37	.31	.24
MPS3703	30	50	30/150	50	.34	.28	.22
MPS6533	40	40	40/120	100	.71	.47	.35
MPS6534	40	40	90/270	100	.81	.54	.40
MPS6535	30	30	30/....	100	.60	.40	.30

HIGH SPEED SATURATED SWITCHING TRANSISTORS

NPN — Case 29

Pd (max) = 310mW @ Ta = 125°C, T, = max

Type	Vceo Volts	hfe @ Min/Max	Ic mA	Ts ns	1-99	100-999	1000-4999
2N4264	15	40/160	10	20	.48	.32	.24
2N4265	12	100/400	10	20	.54	.36	.27
2N5224	12	40/400	10	55	.24	.16	.14
MPS706	15	20/-	10	60	.45	.30	.22
MPS706A	15	20/60	10	25	.63	.42	.32
MPS834	15	25/-	10	25	.52	.35	.26
MPS835	20	20/-	10	35	.60	.40	.30
MPS2369	15	40/120	10	13	.53	.35	.26
MPS2713	18	30/90	2.0	....	.41	.27	.23
MPS2714	18	75/225	2.0	....	.43	.29	.24
MPS3646	15	30/120	30	20	.52	.34	.31
PNP — Case 29							
Pd(max)=310mW @ Ta=25°C, Ts=max							
MPS3639	6.0	30/120	10	20	.34	.23	.20
MPS3640	12	30/120	10	20	.44	.29	.26
MPS-LO7	6.0	30/120	10	15	.43	.29	.26
MPS-LO8	12	30/120	10	20	.57	.38	.34

IF AMPLIFIER TRANSISTORS

NPN — Case 29

Pd(max)=310mW @ Ta=25°C, Tj=135°C

Type	Vcb V	Veb V	hFE @ Min/Max	Ic mA	1-99	100-999	1000-4999
MPS3693	45	4.0	40/160	10	.44	.29	.26
MPS3694	45	4.0	100/400	10	.44	.29	.26
MPS6511	20	3.0	25/-	10	.68	.45	.34
MPS6540	30	4.0	25/-	2.0	.75	.50	.38
MPS6544	45	4.0	20/-	30	.54	.36	.31
MPS6545	45	4.0	20/-	30	.84	.56	.46
MPS6567	40	5.0	25/-	10	1.00	.67	.50
MPS6569	20	3.0	20/200	4.0	1.11	.74	.55
MPS6570	20	3.0	20/200	4.0	.96	.64	.48
MPS-H05*	80	4.0	30/120	1.5	.32	.21	.19
MPS-H30	20	3.0	20/200	4.0	.62	.34	.29
MPS-H31	20	3.0	20/200	4.0	.51	.41	.29
MPS-H32**	30	4.0	27/200	4.0	.63	.42	.36
MPS-H37	40	5.0	25/-	5.0	.51	.34	.29

*Pd(max)=300mW @ Ta=25°C; Tj(max)=135°C
*Pd(max)=500mW @ Ta=25°C; Tj(max)=135°C

NEWARK provides off-the-shelf delivery at Original Equipment Manufacturer prices. Thus NEWARK can offer fast delivery convenience and OEM economy. Make NEWARK your dependable choice for all your electronics requirements.

SMALL-SIG[redacted]STORS (LOW CURRENT)

Pd(max)=310m[redacted]=135°C

Type	V Vc			fT MHz	1-99	100-999	1K-4999
2N5088	3			50	.75	.50	.38
2N5089	2			50	.98	.65	.49
2N5209	50	100/300	0.1	30	.66	.44	.33
2N5210	50	200/600	0.1	30	.72	.48	.36
2N5219	15	35/500	2.0	150	.28	.19	.17
2N5223	20	50/800	2.0	150	.21	.14	.12
MPS918	15	20/....	3.0	600	.83	.55	.41
MPS3707	30	100/400	0.1	—	.34	.29	.22
MPS3708	30	45/660	1.0	—	.27	.24	.21
MPS3709	30	45/165	1.0	—	.29	.25	.23
MPS3710	30	90/330	1.0	—	.29	.25	.22
MPS3711	30	180/660	1.0	—	.29	.25	.22
MPS5172*	25	100/500	10	120*	.21	.14	.11
MPS6520	25	200/400	2.0	480*	.82	.55	.41
MPS6521	25	300/600	2.0	480*	.90	.60	.45
MPS-A10**	40	40/400	5.0	50	.29	.19	.14
MPS-A20**	40	40/400	5.0	125	.33	.22	.17
PNP—Case 29							
Pd(max)=310mW @ Ta=25°C; Tj(max)=135°C							
2N5086	50	150/500	0.1	40	.75	.50	.38
2N5087	50	250/800	0.1	40	.81	.54	.40
2N5227	30	50/700	2.0	100	.24	.16	.14
MPS6522	25	200/400	2.0	420*	.90	.60	.45
MPS6523	25	300/600	2.0	420*	.97	.65	.49
MPS-A70**	40	40/400	5.0	125*	.38	.25	.19

*Pd(max)=210mW @ Ta=25°C; Tj(max)=135°C
*Pd(max)=300mW @ Ta=25°C; Tj(max)=135°C

MEDIUM CURRENT

NPN CASE 29

Pd(max)=310mW @ Ta=25°C; Tj(max)=135°C

Type	Vceo Volts	hFE @ Volts Min/Max	mA	ft MHz	1-99	100-999	1K-4999
2N5225	25	30/600	50	50	.27	.18	.16
2N5550	140	60/250	10	100	.60	.46	.41
2N5551	160	80/250	10	100	.84	.56	.50
MPS2711	18	30/90	2.0	—	.34	.23	.19
MPS2712	18	75/225	2.0	—	.32	.21	.18
MPS2923	25	90/180	2.0	—	.32	.21	.18
MPS2924	25	150/300	2.0	—	.34	.23	.19
MPS2925	25	235/470	2.0	—	.41	.27	.23
MPS2926	18	35/470	2.0	300*	.29	.19	.17
MPS3392	25	150/300	2.0	—	.32	.21	.18
MPS3393	25	90/180	2.0	—	.32	.21	.18
MPS3394	25	55/110	2.0	—	.27	.18	.15
MPS3395	25	150/500	2.0	—	.45	.30	.25
MPS3563	12	20/200	10	600	.38	.25	.21
MPS3693	45	40/160	10	200	.44	.29	.26
MPS3694	45	100/400	10	200	.44	.29	.26
MPS3721	18	60/660	2.0	—	.34	.23	.17
MPS6507	20	25/.....	2.0	700	.53	.35	.30
MPS6511	20	25/.....	10	—	.68	.45	.34
MPS6612	30	50/100	2.0	250*	.54	.36	.27
MPS6513	30	90/180	2.0	250*	.57	.38	.28
MPS6514	25	150/300	2.0	390*	.60	.40	.30
MPS6515	25	250/500	2.0	390*	.64	.43	.32
MPSL01	120	50/300	10	60	.59	.39	.35
PNP — Case 29							
2N5400	120	40/180	10	100	.75	.50	.45
2N5401	130	60/240	10	100	.91	.61	.55
MPS6516	40	50/100	2.0	200*	.60	.40	.30
MPS6517	40	90/180	2.0	200*	.63	.42	.31
MPS6518	40	150/300	2.0	340*	.67	.45	.34
MPS6519	25	250/500	2.0	340*	.75	.50	.37
MPSL51	100	40/250	50	60	.61	.42	.38

RF AMPLIFIER TRANSISTORS

NPN-CASE 29†, 29A††

Pd(max)310mW @ Ta=25°C; Tj(max)=135°C

Type	Vceo Volts	Veb Volts	hFE @ Min/Max	Ic mA	1-99	100-999	1K-4999
2N5222†	15	2.0	20/1500	4.0	.24	.16	.14
MPS918	15	3.0	20/-	3.0	.83	.55	.41
MPS3563	12	2.0	20/200	8.0	.38	.25	.21
MPS3693	45	4.0	40/160	10	.44	.29	.26
MPS3694	45	4.0	100/400	10	.44	.29	.26
MPS6539†	20	3.0	20/-	4.0	.60	.40	.34
MPS6568††	20	3.0	20/200	4.0	1.50	1.00	.75
MPS6568A†	20	3.0	20/200	4.0	.70	.47	.40
MPS-H02†*	20	3.0	20/200	4.0	.76	.51	.44
MPS-H04**	80	4.0	30/120	1.5	.38	.24	.21

*Pd=500 mW (Max.) **Pd=300 mW (Max.)

PNP — Case 29

2N5208	25	3.0	20/120	2.0	.54	.36	.27

ECONOMY TRANSISTORS (Cont.)

OSCILLATOR AND MIXER TYPES

NPN—Case 29

Po (max)=310 mW @ Ia=25°C; Tj (max)=135°C

Type	Vceo Volts	Cob Max. pf	ft (min) MHz	1-99	100-999	1000-4999	5000-9999
MPS918	15	1.7	600	.83	.55	.41	.39
MPS6507	20	2.5	700	.53	.35	.30	.26
MPS6542	20	1.5	700	1.20	.80	.60	.56
MPS6543	25	1.0	750	1.32	.88	.66	.62
MPS6546	25	0.35 Cre	600	1.24	.83	.62	.58
MPS6547	25	0.45 Cre	600	1.35	.90	.67	.63
MPS6548	25	0.7 Cre	650	.90	.60	.45	.42
MPS-H05	30	1.6 Ccb	80	.32	.21	.19	.18
MPS-H10	25	0.7 Ccb	650	.49	.33	.28	.25
MPS-H11	25	0.7 Ccb	650	.54	.36	.30	.27
MPS-H20	30	0.65 Ccb	400	.59	.39	.33	.29

NIXIE DRIVER TRANSISTORS

NPN—Case 29

Pd (max) = 310mW @ Ta=25°C; Tj (max)=135°C

Type	Vcb Volts	Vceo Volts	hFE @ Ic Min/Max	mA	1-99	100-999	1000-4999	5000-9999
2N4409	80	50	60/400	1.0	.67	.45	.34	.31
2N4410	120	80	60/400	1.0	.96	.64	.48	.45
2N5550	160	140	60/250	10	.69	.46	.41	.37
2N5551	180	160	80/250	10	.84	.56	.50	.45

PNP—Case 29

Pd(max)=310mW @ Ta=25°C; Tj(max)=135°C

2N5400	130	120	40/180	10	.75	.50	.45	.40
2N5401	160	150	60/240	10	.91	.61	.55	.49

AUDIO DRIVER AND AUDIO OUTPUT TRANSISTORS

NPN—Case 29

Pd(max)=310mW @ Ta=25°C; Tj(max)=135°C *Pd(max)=500

Type	Vceo Volts	Veb Volts	hFE @ Min/Max	Ic mA	1-99	100-999	1000-4999	5000-9999
2N5220	15	3.0	30/600	50	.27	.18	.16	.13
MPS3704	30	5.0	100/300	50	.34	.24	.22	.20
MPS3705	30	5.0	50/150	50	.29	.29	.23	.21
MPS3706	20	5.0	30/600	50	.27	.24	.20	.18
MPS6530	40	5.0	40/120	100	.64	.43	.32	.30
MPS6531	40	5.0	90/270	100	.75	.50	.37	.35
MPS6532	30	5.0	30/-	100	.54	.36	.27	.25
MPS6560*	25	4.0	50/200	500	.48	.32	.27	.24
MPS6561*	20	4.0	50/200	350	.45	.30	.26	.23
MPS-AO5*	60	4.0	50/—	100	.53	.35	.26	.23
MPS-AO6*	80	4.0	50/—	100	.60	.40	.30	.28

PNP—Case 29

Pd(max)=310mW @ Ta=25°C; Tj(max)=135°C; *Pd(max)=500mW.

2N5221	15	3.0	30/600	50	.30	.20	.18	.15
2N5226	25	4.0	30/600	50	.30	.20	.18	.15
MPS6533	40	4.0	40/120	100	.71	.47	.35	.33
MPS6534	40	4.0	90/270	100	.81	.54	.40	.38
MPS6535	30	4.0	30/-	100	.60	.40	.30	.27
MPS6562*	25	4.0	50/200	500	.51	.56	.31	.27
MPS6563*	20	4.0	50/200	350	.34	.36	.29	.26
MPS-A55*	60	4.0	50/—	100	.59	.39	.29	.27
MPS-A56*	80	4.0	50/—	100	.66	.44	.33	.31

AUDIO PREAMPLIFIER AND PREDRIVER TRANSISTORS

NPN—Case 29

Pd(Max.)=500mW @ Ta=25°C; Tj(Max.)=135°C.

Type	Vceo Volts	Veb Volts	hfe @ Min/Max	Ic mA	1-99	100-999	1000-4999	5000-9999
2N5088	30	3.0	300/900	0.1	.75	.50	.38	.35
2N5089	25	3.0	400/1200	0.1	.98	.65	.49	.46
MPS6571	20	3.0	250/1000	0.1	.60	.40	.30	.28
MPS-A09	50	.....	100/600	0.1	.54	.36	.27	.25
MPS-A10	40	4.0	40/400	5.0	.29	.19	.14	.10
MPS-A20	40	4.0	40/400	5.0	.33	.22	.17	.13

PNP—Case 29

Pd(Max.)=310mW @ Ta=25°C; Tj=135°C max.

Type	Vceo Volts	Veb Volts	hfe @ Min/Max	Ic mA	1-99	100-999	1000-4999	5000-9999
2N5086	50	3.0	150/300	0.1	.75	.50	.38	.35
2N5087	50	3.0	250/800	0.1	.81	.54	.40	.38
MPS-A70*	40	4.0	40/400	5.0	.38	.25	.19	.15

*Pd. (max.)=300 mW

DARLINGTON AUDIO DRIVERS AND AUDIO OUTPUT TRANSISTORS

NPN—Case 152

Pd (max.)=500 mW @ Ta=25°C; Tj (max.) = 135°C.

Type	Vceo Volts	Veb Volts	hfe @ Min/Max	Ic mA	1-99	100-999	1000-4999	5000-9999
MPS-A12	20	10	20k/—	10	.67	.45	.34	.32
MPS-A13	30	10	5k/—	10	.47	.32	.24	.22
MPS-A14	30	10	10k/—	10	.54	.36	.27	.25

PNP—Case 29

MPS-A65	30	10	50k/—	10	.57	.38	.29	.27
MPS-A66	30	10	75k/—	10	.63	.42	.32	.29

UNIWATT TRANSISTORS

NPN—Case 152

Type	Vceo Volts	Pd	hFE @ Min/Max	Ic mA	1-99	100-999	1000-4999	5000-9999
MPS-U01	30	8	70/—	150	1.15	.77	.58	.54
MPS-U02	40	6	50/300	150	.99	.66	.49	.46
MPS-U03	120	5	40/—	10	1.41	.94	.70	.66
MPS-U06	80	5	50/—	250	1.34	.89	.67	.62
MPS-U10	300	1.0	40/—	1.0	1.50	1.00	.90	.85

PNP—Case 152

MPS-U51	30	8	70/—	150	1.33	.89	.67	.62
MPS-U52	40	6	50/300	150	1.15	.77	.58	.54
MPS-U55	60	5	50/—	150	1.34	.89	.67	.62
MPS-U56	80	5	50/—	250	1.50	1.00	.75	.70

SILICON POWER TRANSISTORS

NPN—Case 77 **Case 90

Type	Vceo Volts	hFE @ Min/Max	Ic mA	1-99	100-999
MJE201**	40	25/150	2.0	1.75	1.15
MJE202**	60	25/150	2.0	2.35	1.55
MJE203**	60	30/150	1.0	2.05	1.35
MJE204**	80	30/150	1.0	2.40	1.60
MJE205**	50	25/100	2.0	1.92	1.25
MJE340†	300	30/240	0.05	1.06	.71
MJE520	30	25/—	1.0	.94	.72
MJE521	40	40/—	1.0	1.68	1.12

PNP

MJE101**	40	25/150	2.0	2.10	1.40
MJE102**	60	25/150	2.0	2.70	1.80
MJE103**	60	30/150	1.0	2.40	1.60
MJE104**	80	30/150	1.0	2.85	1.90
MJE105**	50	25/150	2.0	2.33	1.55
MJE370	30	25/—	1.0	1.07	.82
MJE371	40	40/—	1.0	1.96	1.31

All are Pd=25W except †Pd=20.8W

MEDIUM-POWER SWITCHING AND AMPLIFIERS

NPN—Case 77 **Case 90

Pd=30W @ Ta=25°C, Tj=150°C.

Type	Vcb Volts	Vceo Volts	hFE @ Min/Max	Ic mA	1-99	100-999
MJE2801**	60	60	25/100	3.0	1.50	1.19
MJE3055**	70	70	20/70	4000	1.50	1.19
2N4921	40	40	20/100	500	1.33	.89
2N4922	60	60	20/100	500	1.48	.99
2N4923	80	80	20/100	500	1.80	1.20
2N5190	40	40	25/100	1500	1.57	1.05
2N5191	60	60	25/100	1500	1.92	1.28
2N5192	80	80	20/80	1500	2.50	1.67

PNP—Case 77 **Case 90

Pd=30W @ Ta=25°C, Tj=150°C.

Type	Vcb Volts	Vceo Volts	hFE @ Min/Max	Ic mA	1-99	100-999
MJE2901**	60	60	25/100	3.0	2.95	1.95
MJE2955**	70	70	20/70	4.0	2.95	1.95
2N4918	40	40	20/100	500	1.65	1.11
2N4919	60	60	20/100	500	1.90	1.27
2N4920	80	80	20/100	500	2.25	1.50
2N5193	40	40	25/100	1500	2.00	1.33
2N5194	60	60	25/100	1500	2.25	1.50
2N5195	80	80	20/80	1500	2.90	1.95

NEWARK

FAST, COMPREHENSIVE SERVICE FROM ONE DEPENDABLE SOURCE.

GENERAL-PURPOSE AMPLIFIERS & SWITCHING TRANSISTORS

NPN-Case 28

Type	Vceo Volts max	hFE min/max	Vce (sat) Volts max	@ Ic mA	1-99	100-999
MMT3904	40	100/300	0.2	10	3.00	2.00
MMT3903	40	50/150	0.2	10	2.40	1.60
MMT2222	30	100/300	0.4	150	2.85	1.90
MMT76	20	50/400	....	....	.78	.52
PNP—Case 28						
MMT2907	40	100/300	0.4	150	3.50	2.35
MMT3906	40	100/300	0.25	10	3.00	2.00
MMT3905	40	50/150	0.25	10	2.40	1.60
MMT75	20	50/400	....	....	.91	.61

HIGH-SPEED SATURATED SWITCHING TRANSISTORS

NPN—Case 28

Type	Vceo Volts max	hFE min/max	Vce (sat) Volts max	@ Ic mA	1-99	100-999
MMT2369	15	40/120	0.25	10	1.95	1.30
MMT3014	20	50/200	0.22	30	2.28	1.52
MMT72	10	30/....	0.3	10	.98	.65
PNP—Case 28						
MMT3546	12	30/....	0.15	10	6.15	4.10
MMT73	5.0	30/....	0.2	10	.98	.65

HIGH-SPEED NON-SATURATED SWITCHING TRANSISTORS

Case 28

Type	Vceo Volts max	hFE min/max	Vce (sat) Volts max	@ Ic mA	1-99	999 100-
MMT3960A	.80	30/200	0.2	10	10.35	6.90

LOW NOISE AMPLIFIER TRANSISTORS

NPN—Case 28

Type	Vceo Volts max	hFE min/max	fT MHz min	@ Ic uA	1-99	100-999
MMT2484	60	250/....	60	500	5.90	3.95
MMT930	45	150/....	60	500	3.60	2.40
MMT70	20	150/....	....	....	.69	.46
PNP—Case 28						
MMT3799	60	300/900	40	500	5.55	3.70
MMT3798	60	150/450	40	500	4.40	2.95
MMT71	20	150/....	....	....	.87	.58

RF AMPLIFIER AND OSCILLATOR TRANSISTORS

NPN

Type	Vceo Volts max	hFE min	fT MHz min	@ Ic mA	1-99	100-999
MMT2857	15	30	1000	4.0	5.45	3.65
MMT918	15	20	600	10	3.30	2.20
MMT8015	10	25	1000	6.0	13.05	8.75
MMT74	10	25	700	4.0	1.35	.90

N-CHANNEL JUNCTION FIELD-EFFECT TRANSISTORS FOR RF AND MIXER APPLICATIONS

Type	Case	V(br)gss Volts min	Idss mA min/max	Ciss pf typ	Re(yis) umhos typ	1-99	100-999
MMT3823	28	—30	5.0/20	4.0	500	5.25	3.50

SILICON POWER TRANSISTOR COMPLEMENTS

NPN Type	1-99	100-999	PNP Type	1-99	100-Volts 999 Vceo	Amps Ic	Case	hFE min/max
2N5681	1.45	1.07	2N5680	1.96	1.45 100	1.0	31-1	40/150
2N5682	1.69	1.25	2N5679	1.69	1.25 120	1.0	31-1	40/150
2N4237	1.50	1.00	2N4234	1.90	1.26 40	3.0	31-1	40/160
2N4238	1.75	1.17	2N4236	2.80	1.86 60	3.0	31-1	40/160
2N4239	2.05	1.37	2N4235	2.50	1.66 80	3.0	31-1	40/160
2N4921	1.33	.89	2N4918	1.65	1.11 40	3.0	77-02	20/100
2N4922	1.48	.99	2N4919	1.90	1.27 60	3.0	77-02	20/100
2N4923	1.80	1.20	2N4920	2.25	1.50 80	3.0	77-02	20/100
MJE520	.94	.72	MJE370	1.07	.82 30	3.0	77-02	25/—
MJE521	1.68	1.12	MJE371	1.96	1.31 40	3.0	77-02	40/—
2N3766	1.62	1.20	2N3740	1.93	1.43 60	4.0	80-02	.....
2N3767	1.83	1.35	2N3741	2.15	1.60 80	4.0	80-02	.....
2N4910	1.30	.95	2N4898	1.63	1.21 40	4.0	80-02	20/100
2N4911	1.49	1.10	2N4899	2.02	1.50 60	4.0	80-02	20/100
2N4912	1.75	1.30	2N4900	2.26	1.67 80	4.0	80-02	20/100
2N5190	1.57	1.05	2N5193	2.00	1.33 40	4.0	77-02	25/100
2N5191	1.92	1.28	2N5194	2.25	1.50 60	4.0	77-02	25/100
2N5192	2.50	1.67	2N5195	2.90	1.95 80	4.0	77-02	20/80
MJ480	1.30	.95	MJ490	2.02	1.50 40	4.0	11	30/200
MJ481	1.55	1.15	MJ491	2.40	1.78 60	4.0	11	30/200
MJE205	1.92	1.25	MJE105	2.33	1.55 50	5.0	90-2	25/100

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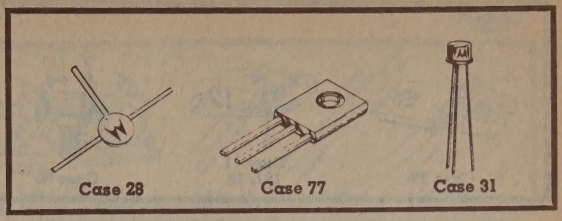

SILICON POWER TRANSISTOR COMPLEMENTS (continued)

NPN Type	1-99	100-999	PNP Type	1-99	100-999	Vceo Volts	Ic Amps	Case	hFE min/max
2N5067	1.49	1.10	2N4901	1.93	1.43	40	5.0	11	20/180
2N5068	1.69	1.25	2N4902	2.80	2.07	60	5.0	11	20/80
2N5069	1.96	1.45	2N4903	3.38	2.50	80	5.0	11	20/80
2N4913	1.73	1.28	2N4904	2.31	1.71	40	5.0	11	25/100
2N4914	2.12	1.57	2N4905	3.08	2.28	60	5.0	11	25/100
2N4915	2.89	2.14	2N4906	3.85	2.85	80	5.0	11	25/100
MJE2801	1.50	1.19	MJE2901	2.95	1.95	60	10	90-2	25/100
MJE3055	1.50	1.19	MJE2955	2.90	1.95	60	10	90-2	20/70
2N3713	2.89	2.14	2N3789	4.32	3.20	60	10	11	15/—
2N3714	3.08	2.28	2N3790	5.20	3.85	80	10	11	15/—
2N3715	3.38	2.50	2N3791	4.64	3.43	60	10	11	30/—
2N3716	3.95	2.92	2N3792	5.78	4.28	80	10	11	30/—
2N3055	1.82	1.32	.....			60	10	11	20/70
MJ2840	1.69	1.25	MJ2940	10.20	6.80	60	10	11	20/100
MJ2801	2.02	1.50	MJ2941	4.20	3.10	80	10	11	20/100
MJ2801	2.85	1.90	MJ2901	3.75	2.50	40	10	11	15/60
2N5301	5.55	4.10	2N4398	6.75	5.00	40	30	11	15/60
2N5302	7.65	5.10	2N4399	8.78	6.50	60	30	11	15/60
MJ802	7.65	5.10	MJ4502	5.26	3.90	90	30	11	25/100
•2N5685	18.00	12.00	2N5683	22.50	15.00	60	50	197	15/60
•2N5686	22.50	15.00	2N5684	27.00	18.00	80	50	197	15/60

SILICON NPN-PNP POWER TRANSISTORS

NPN

Type	Case	Hfe min/max@	Ic A	Vceo V	1-99	100-999
2N3439	31-1	40/160	0.02	350	1.93	1.43
2N3440	31-1	40/160	0.02	300	1.45	1.07
MJ420	31-1	25/250	0.03	250	1.39	1.03
MJ421	31-1	25/250	0.03	325	1.63	1.21
MJ2251	80-02	25/200	0.05	225	1.87	1.25
MJ2252	80-02	25/200	0.05	300	2.02	1.35
MJ400	80-02	30/300	0.05	325	1.65	1.10
MJ3201	80-02	30/200	0.05	225	1.72	1.15
MJ3202	80-02	30/200	0.05	300	1.87	1.25
MJE340	77-02	30/240	0.05	300	1.06	.71
MJE341	77-02	25/200	0.05	150	.98	.65
MJE344	77-02	30/300	0.05	200	1.07	.67
MJ5655	77-02	30/250	0.05	250	1.15	.75
2N5656	77-02	30/250	0.05	300	1.35	.90
2N5657	77-02	30/250	0.05	350	1.65	1.10
2N3738	80-02	40/200	0.1	225	1.54	1.14
2N3739	80-02	40/200	0.1	300	1.82	1.35
2N4237	31-1	30/150	0.25	40	1.50	1.00
2N4238	31-1	30/150	0.25	60	1.75	1.77
2N4239	31-1	30/150	0.25	80	2.05	1.37
MJ440	31-1	25/150	0.25	40	1.25	.92
2N5681	31-1	40/150	0.25	100	1.45	1.07
2N5682	31-1	40/150	0.25	120	1.69	1.25
MJ3029	11	30/—	0.4	250	6.00	4.44
MJ1800	11	40/120	0.4	250	3.54	2.35
2N3054	80-02	25/100	0.5	60	1.25	.82
2N4910	80-02	20/100	0.5	40	1.30	.95
2N4911	80-02	20/100	0.5	60	1.49	1.10
2N4912	80-02	20/100	0.5	80	1.75	1.30
2N4921	77-02	20/100	0.5	40	1.33	.89
2N4922	77-02	20/100	0.5	60	1.48	.99
2N4923	77-02	20/100	0.5	80	1.80	1.20
MJ413	11	20/80	0.5	325	6.50	4.82
MJ2249	80-02	25/200	0.5	60	1.49	1.10
MJ2250	80-02	25/200	0.5	80	1.65	1.25
MJ3101	80-02	25/200	0.5	40	1.30	.95
2N3766	80-02	40/160	0.5	60	1.62	1.20
2N3767	80-02	40/160	0.5	80	1.83	1.35
2N5050	80-02	25/100	0.75	120	2.50	1.70
2N5051	80-02	25/100	0.75	150	3.75	2.50
2N5052	80-02	25/100	0.75	200	4.85	3.25
MJ423	11	30/90	1.0	325	8.00	5.93
MJ480	11	30/200	1.0	40	1.30	.95
MJ481	11	30/200	1.0	60	1.55	1.15

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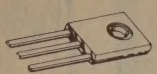
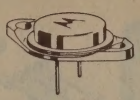
NEWARK CAN SUPPLY ALL OF YOUR SEMICONDUCTOR NEEDS


Case 77


Case 11
197, 12

Case 88

Case 177

Case 79

CASE 198-2

SILICON NPN—PNP POWER TRANSISTORS (Cont'd)

NPN

Type	Case	hFE @ Ic min/max	Ic A	Vceo V	1-99	100-999
MJE520	77-02	40/—	1.0	30	.94	.72
MJE521	77-02	40/—	1.0	40	1.68	1.12
2N3902	11	20/100	1.0	400	6.75	5.00
2N5067	11	20/80	1.0	40	1.49	1.10
2N5068	11	20/80	1.0	60	1.69	1.25
2N5069	11	20/80	1.0	80	1.96	1.45
2N5334	79-1	30/150	1.0	60	3.38	2.50
2N5335	79-1	30/150	1.0	80	3.95	2.92
2N4231	80-02	25/150	1.5	40	1.69	1.25
2N4232	80-02	25/150	1.5	60	1.89	1.40
2N4233	80-02	25/150	1.5	80	2.30	1.70
2N5190	77-02	25/100	1.5	40	1.57	1.05
2N5191	77-02	25/100	1.5	60	1.92	1.28
2N5192	77-02	20/80	1.5	80	2.50	1.67
MJE205	90-2	25/100	2.0	50	1.92	1.25
2N5336	79-1	30/120	2.0	80	5.67	4.20
2N5337	79-1	60/240	2.0	80	7.21	5.35
2N5338	79-1	30/120	2.0	100	8.00	5.92
2N5339	79-1	60/240	2.0	100	9.55	7.07
2N5346	160	30/120	2.0	80	36.00	24.00
2N5347	160	60/240	2.0	80	41.20	26.75
2N5348	160	30/120	2.0	100	45.80	30.50
2N5349	160	60/240	2.0	100	52.50	34.95
2N5427	80-02	30/120	2.0	80	5.96	4.42
2N5428	80-02	60/240	2.0	80	7.53	5.57
2N5429	80-02	30/120	2.0	100	8.30	6.15
2N5430	80-02	60/240	2.0	100	9.75	7.23
2N5477	160A	30/120	2.0	80	33.00	22.00
2N5478	160A	60/240	2.0	80	37.10	24.75
2N5479	160A	30/120	2.0	100	42.50	28.30
2N5480	160A	60/240	2.0	100	49.40	32.95
MJ431	11	15/35	2.5	400	17.30	11.50
2N4913	11	25/100	2.5	40	1.73	1.28
2N4914	11	25/100	2.5	60	2.12	1.57
2N4915	11	25/100	2.5	80	2.89	2.14
MJ2840	11	20/100	2.5	60	1.69	1.25
MJ3030	11	3.75/—	2.5	325	9.00	6.67
MJ8400	11	—	—	600	9.60	6.40
MJE2801	90-2	25/100	3.0	60	1.50	1.19
2N3232	11	15/75	3.0	60	1.62	1.20
2N3445	11	20/60	3.0	60	9.00	6.00
2N3446	11	20/60	3.0	80	13.50	9.00
2N3487	9	20/60	3.0	60	42.00	28.00
2N3713	11	15/—	3.0	60	2.89	2.14
2N3714	11	15/—	3.0	80	3.08	2.28
2N3715	11	30/—	3.0	60	3.38	2.50
2N3716	11	30/—	3.0	80	3.95	2.92
MJ2841	11	20/100	4.0	80	2.02	1.50
MJE3055	90-2	20/70	4.0	60	1.50	1.19
2N3055	11	20/70	4.0	60	1.82	1.32
2N3235	11	20/70	4.0	55	1.75	1.30
2N4877	79-1	20/100	4.0	60	3.75	2.50
2N3447	11	40/120	5.0	60	14.40	9.60
2N3448	11	40/120	5.0	80	18.00	12.00
2N3491	9	40/120	5.0	80	63.00	42.00
2N5632	11	25/100	5.0	90	5.90	3.95
2N5633	11	20/80	5.0	120	6.50	4.35
2N5634	11	15/60	5.0	120	7.55	5.10
MJ3801	198-2	1k/20k	6.0	80	17.95	11.95
MJ3802	198-2	10k/60k	6.0	80	11.95	7.95
MJ9000	11	—	—	325	8.10	5.40
MJ2801	11	15/60	8.0	40	2.85	1.90
2N3773	11	15/60	8.0	120	7.80	5.42
2N5629	11	25/100	8.0	90	6.90	4.60
2N5630	11	20/80	8.0	120	7.65	5.10
2N5631	11	15/60	8.0	120	7.80	5.78
MJ3772	11	15/60	10	60	3.75	2.50
MJ7000	188	20/100	10	100	74.00	49.50
2N3772	11	15/60	10	60	4.95	3.42
2N5303	12	15/60	10	80	10.20	7.50
MJ3771	11	15/60	15	40	3.75	2.50
2N3771	11	15/60	15	40	4.95	3.42
2N5301	12	15/60	15	40	5.55	4.10
2N5302	12	15/60	15	60	7.65	5.10
MJ7200	177	20/100	20	80	135.00	90.00
MJ7201	177	20/100	20	100	145.00	97.00

Continued Next Column

SILICON NPN—PNP POWER TRANSISTORS (Cont'd)

NPN

Type	Case	hFE @ Ic min/max	Ic A	Vceo V	1-99	100-999
2N5685	197	15/60	25	80	18.00	12.00
2N5686	197	15/60	25	60	22.50	15.00

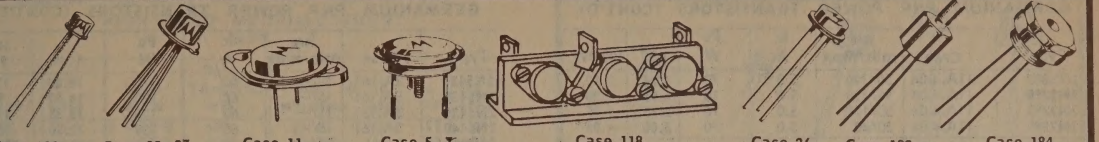
PNP

MJ430	31-1	25/150	0.25	40	1.62	1.08
MJ2253	80-02	20/100	0.25	60	1.93	1.43
MJ2254	80-02	20/100	0.25	80	2.16	1.60
MJ3701	80-02	20/100	0.25	40	1.63	1.21
2N3740	80-02	30/100	0.25	60	1.93	1.43
2N3741	80-02	30/100	0.25	80	2.16	1.60
2N4234	31-1*	30/150	0.25	40	1.90	1.26
2N4235*	31-1	30/150	0.25	60	2.50	1.66
2N4236*	31-1	30/150	0.25	80	2.80	1.86
2N5679*	31-1	40/150	0.25	100	1.69	1.25
2N5680*	31-1	40/150	0.25	120	1.96	1.45
2N4898*	80-02	20/100	0.5	40	1.63	1.21
2N4899*	80-02	20/100	0.5	60	2.02	1.50
2N4900*	80-02	20/100	0.5	80	2.26	1.67
2N4918*	77-02	20/100	0.5	40	1.65	1.11
2N4919*	77-02	20/100	0.5	60	1.90	1.27
2N4920*	77-02	20/100	0.5	80	2.25	1.50
2N5344*	80-02	25/100	0.5	250	18.00	12.00
2N5345*	80-02	25/100	0.5	300	22.50	15.00
MJ490*	11	30/200	1.0	40	2.02	1.50
MJ491*	11	30/200	1.0	60	2.40	1.78
MJE370	77-02	25/—	1.0	30	1.07	.82
MJE371	77-02	30/—	1.0	40	1.96	1.31
2N3719*	31-1*	25/180	1.0	40	9.75	6.50
2N3720*	31-1*	25/180	1.0	60	10.85	7.25
2N4901*	31-1*	20/80	1.0	40	1.93	1.43
2N4902*	31-1*	20/80	1.0	60	2.80	2.07
2N4903*	31-1*	20/80	1.0	80	3.38	2.50
2N3867*	31-1	40/200	1.5	50	14.85	9.90
2N3868*	31-1	30/150	1.5	60	16.57	11.05
2N5193*	77-02	25/100	1.5	40	2.00	1.33
2N5194*	77-02	25/100	1.5	60	2.25	1.50
2N5195*	77-02	20/80	1.5	80	2.90	1.95
MJ500*	160A	25/180	2.0	60	40.00	26.50
MJ501*	160A	25/180	2.0	80	45.00	29.50
MJ6700*	160	25/180	2.0	60	42.00	28.00
MJ6701*	160	25/180	2.0	80	51.00	31.50
MJ8100*	79-1	25/180	2.0	60	15 00	9.95
MJ8101*	79-1	25/180	2.0	80	18.00	11.95
MJE105*	90-2	25/100	2.0	50	2.33	1.55
2N4904*	—	25/100	2.5	40	2.31	1.71
2N4905*	11	25/100	2.5	60	3.08	2.28
2N4906*	11	25/100	2.5	80	3.85	2.85
MJ2940*	11	20/100	3.0	60	10.20	6.80
MJE2901*	90.2	25/100	3.0	60	2.95	1.95
2N3789*	11	15/—	3.0	60	4.32	3.20
2N3790*	11	15/—	3.0	80	5.20	3.85
2N3791*	11	30/—	3.0	60	4.64	3.43
2N3792*	11	30/—	3.0	80	5.78	4.28
MJ2267	11	20/100	4.0	40	4.95	3.30
MJ2268*	11	20/100	4.0	55	5.45	3.65
MJ2941*	11	20/100	4.0	80	4.20	3.10
MJE2955*	90-2	20/70	4.0	60	2.90	1.95
MJ4502*	12	20/100	7.5	90	5.26	3 90
MJ6701	11	15/60	8.0	60	2.02	1.50
MJ450*	12	20/—	10	40	6.62	4.90
2N4398*	12	15/60	15	40	6.75	5.00
2N4399*	12	15/60	15	60	8.78	6.50
2N5683*	197	15/60	25	60	22 50	15.00
2N5684*	197	15/60	25	80	27.00	18.00

*Solid Header

YOU CAN DEPEND ON
NEWARK
FOR EVERYTHING
IN INDUSTRIAL ELECTRONICS

Motorola Germanium Power Transistors



GERMANIUM PNP POWER TRANSISTORS

Type	Case	hFE min/max	@ IC amp	PD Watts	1-99	100-999
MP3730	11, 4-04	10/200	0.05	56	1.75	1.35
MP3731	11, 4-04	10/200	0.05	56	2.25	1.85
2N307	11, 4-04	20/—	0.2	106	1.00	.60
2N307A	11, 4-04	30/—	0.2	106	1.87	1.25
2N176	11, 4-04	25/—	0.5	90	1.00	.65
2N178	11, 4-04	15/45	0.5	40	1.10	.80
2N242	11, 4-04	30/120	0.5	106	1.60	.91
2N297A**	11, 4-04	40/100	0.5	85	1.60	1.17
2N554	11, 4-04	50 typ	0.5	40	.80	.50
2N555	11, 4-04	50 typ	0.5	40	.75	.50
2N665**	11, 4-04	40/80	0.5	35	4.05	2.70
2N669	11, 4-04	75/250	0.5	90	1.42	.95
2N2137	11, 4-04	30/60	0.5	70	2.00	1.40
2N2138	11, 4-04	30/60	0.5	70	2.10	1.40
2N2139	11, 4-04	30/60	0.5	70	2.25	1.50
2N2140	11, 4-04	30/60	0.5	70	3.90	2.60
2N2142*	11, 4-04	50/100	0.5	70	2.50	1.75
2N2143*	11, 4-04	50/100	0.5	70	2.75	1.90
2N2144*	11, 4-04	50/100	0.5	70	4.00	2.75
2N5887*	80	15/350	0.5	57	.73	.49
2N5888*	80	15/350	0.5	57	.88	.59
2N5889*	80	30/70	0.5	57	1.09	.73
2N5890*	80	60/120	0.5	57	1.24	.83
2N5891*	80	100/200	0.5	57	1.39	.93
2N5892*	80	175/350	0.5	57	1.65	1.10
2N5893*	80	30/70	0.5	57	1.18	.79
2N5894*	80	60/120	0.5	57	1.33	.89
2N5895*	80	100/200	0.5	57	1.48	.99
2N5896*	80	30/70	0.5	57	1.80	1.20
2N5897*	80	60/120	0.5	57	1.27	.85
2N5898*	80	100/200	0.5	57	1.42	.95
2N5899	80	30/70	0.5	57	1.72	1.15
2N5900	80	60/120	0.5	57	1.87	1.25
2N5901	80	100/200	0.5	57	1.72	1.15
2N350A	11	20/60	0.7	90	1.65	1.10
2N351A	11	25/90	0.7	90	1.70	1.15
2N375	11	35/90	1.0	106	3.85	2.55
2N376A	11	20/60	0.7	90	1.85	1.25
2N618	11	35/90	1.0	106	2.65	2.00
2N1038	180	20/60	1.0	20	2.85	1.90
2N1039	180	20/60	1.0	20	3.75	2.50
2N1040	180	20/60	1.0	20	5.70	3.80
2N1041	180	20/60	1.0	20	7.50	5.00
2N1359	11	35/90	1.0	106	2.05	1.35
2N1360	11	60/140	1.0	106	2.00	1.40
2N1362	11	35/90	1.0	106	3.25	2.40
2N1363	11	60/140	1.0	106	3.50	2.60
2N1364	11	35/90	1.0	106	6.00	4.00
2N2552	183	20/60	1.0	20	2.30	2.05
2N2553	183	20/60	1.0	20	3.05	2.65
2N2554	183	20/60	1.0	20	4.75	3.95
2N2555	183	20/60	1.0	20	6.20	5.15
2N2556	184	20/60	1.0	20	2.60	2.15
2N2557	184	20/60	1.0	20	3.30	2.75
2N2558	184	20/60	1.0	20	4.80	4.00
2N2559	184	20/60	1.0	20	6.25	5.20
MP110	11	74/250	1.0	106	1.67	1.12
MP1613	11	40/—	1.0	85	1.35	1.00
2N378	11	40/80	2.0	106	1.80	1.20
2N379	11	20/70	2.0	106	1.90	1.39
2N380	11	30/70	2.0	106	1.70	1.26
2N459	11	20/70	2.0	106	4.35	2.90
2N459A	11	40/70	2.0	106	4.65	3.10
2N1011**	11	30/75	3.0	90	1.95	1.45
2N1042	184	20/60	3.0	20	3.60	2.40
2N1043	184	20/60	3.0	20	4.75	3.50
2N1044	184	20/60	3.0	20	6.00	4.00
2N1045	184	20/60	3.0	20	9.00	6.00
2N1529	11, 4-04	20/40	3.0	106	1.80	1.20
2N1530	11, 4-04	20/40	3.0	106	2.00	1.30
2N1531	11, 4-04	20/40	3.0	106	2.70	1.90
2N1532	11, 4-04	20/40	3.0	106	3.50	2.60
2N1533	11, 4-04	20/40	3.0	106	5.00	3.75
2N1534	11, 4-04	35/70	3.0	106	1.40	1.05
2N1535	11, 4-04	35/70	3.0	106	1.50	1.14
2N1536*	11, 4-04	35/70	3.0	106	1.70	1.25
2N1537*	11, 4-04	35/70	3.0	106	3.90	2.90
2N1538	11, 4-04	35/70	3.0	106	5.10	3.40
2N1539*	11, 4-04	50/100	3.0	106	1.42	1.05
2N1540*	11, 4-04	50/100	3.0	106	1.58	1.18

GERMANIUM PNP POWER TRANSISTORS (CONT'D)

Type	Case	hFE min/max	@ IC Amp	PD Watts	1-99	100-999
2N1541	11, 4-04	50/100	3.0	106	1.85	1.38
2N1542	11, 4-04	50/100	3.0	106	2.35	1.75
2N1543	11, 4-04	50/100	3.0	106	3.60	2.65
2N1544*	11, 4-04	75/150	3.0	106	1.65	1.24
2N1545*	11, 4-04	75/150	3.0	106	1.85	1.35
2N1546*	11, 4-04	75/150	3.0	106	2.30	1.70
2N1547*	11, 4-04	75/150	3.0	106	2.75	2.05
2N1548	11, 4-04	75/150	3.0	106	6.00	4.00
2N2527	11, 4-04	35/70	3.0	106	9.30	6.20
2N2528**	11, 4-04	35/70	3.0	106	14.85	9.90
2N3311	5	60/120	3.0	170	2.00	1.35
2N3312	5	60/120	3.0	170	2.50	1.50
2N3313	5	60/120	3.0	170	3.50	2.35
2N3314	5	100/200	3.0	170	3.15	1.50
2N3315	5	100/200	3.0	170	3.25	2.15
2N3316	5	100/120	3.0	170	4.25	.94
2N3611	11, 4-04	35/70	3.0	170	1.15	.78
2N3612	11, 4-04	35/70	3.0	170	1.30	.88
2N3613	11, 4-04	60/120	3.0	170	1.25	.85
2N3614	11, 4-04	60/120	3.0	170	1.40	.94
2N3615	11, 4-04	30/60	3.0	170	1.65	1.10
2N3616	11, 4-04	30/60	3.0	170	2.10	1.39
2N3617	11, 4-04	45/90	3.0	170	1.88	1.25
2N3618	11, 4-04	45/90	3.0	170	2.37	1.58
2N2560	183	20/60	3.0	20	2.50	2.10
2N2561	183	20/60	3.0	20	3.25	2.70
2N2562	183	20/60	3.0	20	4.80	4.00
2N2563	183	20/60	3.0	20	6.25	5.20
2N2564	180	20/60	3.0	20	2.60	2.15
2N2565	180	20/60	3.0	20	3.30	2.75
2N2566	180	20/60	3.0	20	4.85	4.05
2N2567	180	20/60	3.0	120	6.30	5.25
MP525	11	30/150	3.0	106	1.00	.75
MP2060	11,4-04	30/200	3.0	85	1.05	.75
MP2061	11,4-04	30/200	3.0	85	1.15	.85
MP2062	11,4-04	30/200	3.0	85	1.35	1.00
MP2063	11,4-04	30/200	3.0	85	1.65	1.25
2N174	5	25/50	5.0	150	3.60	2.67
2N174A**	5	25/50	5.0	150	3.80	2.79
2N277	5	35/70	5.0	170	2.35	1.75
2N278	5	35/70	5.0	170	2.80	2.07
2N441	5	20/40	5.0	150	1.65	1.25
2N442	5	20/40	5.0	150	1.95	1.45
2N443	5	20/40	5.0	150	2.35	1.75
2N456A	11	30/90	5.0	50	1.80	1.20
2N457A	11	30/90	5.0	50	1.95	1.30
2N458A	11	30/90	5.0	50	2.35	1.58
2N1021	11	30/90	5.0	85	3.10	2.05
2N1022	11	30/90	5.0	85	3.60	2.40
2N1073	11A,4-04	20/60	5.0	85	2.40	1.78
2N1073A	11A,4-04	20/60	5.0	85	3.60	2.67
2N1073B	11A,4-04	20/60	5.0	85	4.50	3.30
2N1099	5	35/70	5.0	170	3.90	2.87
2N1100	5	25/50	5.0	150	4.50	3.34
2N1358**	5	25/50	5.0	150	4.15	3.06
2N1970	5	17/40	5.0	170	2.35	1.85
2N1980	5	50/100	5.0	170	4.50	3.00
2N1981	5	50/100	5.0	170	5.50	3.70
2N1982	5	50/100	5.0	170	5.50	3.65
2N2075	5	20/40	5.0	170	5.75	3.84
2N2076*	5	20/40	5.0	170	3.60	2.67
2N2077	5	20/40	5.0	170	2.85	2.12
2N2078	5	20/40	5.0	170	2.08	1.90
2N2079**	5	35/70	5.0	170	8.00	5.34
2N2080	5	35/70	5.0	170	5.65	3.78
2N2081	5	35/70	5.0	170	3.50	2.32
2N2082	5	35/70	5.0	170	2 40	1.78
2N2152	5	50/100	5.0	170	4.25	2.90
2N2153*	5	50/100	5.0	170	5.55	4.45
2N2154	5	50/100	5.0	170	10.10	7.75
2N2156*	5	80/160	5.0	170	4.10	3.30
2N2157	5	80/160	5.0	170	6.35	5.10
2N2158	5	80/160	5.0	170	10.85	8.25
2N2212	4-04	50/120	5.0	102	8.60	8.00
2N2288	11A,4-04	20/60	5.0	70	2.65	1.78

*Military Units available Add Suffix A.
***"MEG-A-LIFE" Units Available

Continued next page

Motorola Transistors

GERMANIUM PNP POWER TRANSISTORS (CONT'D)

Type	Case	h_{FE} min/max	I_C A	P_D W	1-99	100-999
2N2289	11A,4-04	50/120	5.0	70	4.00	2.65
2N2290	11A,4-04	50/120	5.0	70	4.95	3.30
2N2291	11A,4-04	50/120	5.0	70	2.75	1.85
2N2292	11A,4-04	20/40	5.0	70	6.00	4.00
2N2293	11A,4-04		5.0	70	9.85	6.57
2N2490	5	35/70	5.0	170	2.50	1.75
2N2491	5	25/50	5.0	170	2.63	1.95
2N2492	5	25/50	5.0	170	3.75	3.00
2N2493	5		5.0	170	6.00	4.45
2N5324	11,4-04	20/60	5.0	56	4.50	3.50
2N5325	11,4-04	20/60	5.0	56	6.00	4.00
MP110B	11A,4-04	55/—	5.0	106	4.50	2.50
MP600	11A,4-04	50/—	5.0	85	1.85	1.25
MP601	11A-4-04	50/—	5.0	85	2.25	1.50
MP602	11A,4-04	50/—	5.0	85	3.00	2.00
MP603	11A,4-04	50/—	5.0	85	3.65	2.45
2N5155	11A,4-04	25/100	8.0	106	7.85	5.25
MP2000A	11A-4-04	25/—	8.0	106	1.75	1.15
MP2100A	11A-4-04	25/—	8.0	106	2.15	1.45
MP2200A	11A,4-04	25/—	8.0	106	2.75	1.85
MP2300A	11A,4-04	25/—	8.0	106	4.40	2.95
MP2400A	11A,4-04	25/—	8.0	106	7.85	5.25
2N1120**	11A,4-04	20/50	10	90	7.50	4.90
2N1549*	11A,4-04	10/30	10	106	3.00	2.00
2N1550	11A,4-04	10/30	10	106	3.50	2.40
2N1551*	11A,4-04	10/30	10	106	5.50	3.75
2N1552*	11A,4-04	10/30	10	106	6.40	4.00
2N1553*	11A,4-04	30/60	10	106	1.85	1.35
2N1554*	11A,4-04	30/60	10	106	2.30	1.70
2N1555*	11A,4-04	30/60	10	106	3.00	2.25
2N1556*	11A,4-04	30/60	10	106	4.50	3.10
2N1557*	11A,4-04	50/100	10	106	2.15	1.58
2N1558*	11A,4-04	50/100	10	106	2.80	2.06
2N1559*	11A,4-04	50/100	10	106	3.25	2.40
2N1560*	11A,4-04	50/100	10	106	4.45	3.30
2N2832	11A,4-04	25/100	10	85	3.35	2.25
2N2833	11A,4-04	25/100	10	85	4.85	3.25
2N2834**	11A,4-04	25/100	10	85	7.10	4.75
2N2912	8	150/—	10	75	8.10	5.40
MP1612	11A,4-04	25/100	10	85	3.55	2.65
MP1612A	11A,4-04	25/100	10	85	3.90	2.90
MP1612B	11A,4-04	25/100	10	85	4.20	3.10
MP500*	7	30/60	15	170	5.70	3.80
MP501	7	30/60	15	170	9.00	6.00
MP502	7	30/60	15	170	12.00	8.00
MP504	7	50/100	15	170	6.60	4.40
MP505	7	50/100	15	170	10.20	6.80
MP506*	7	50/100	15	170	13.85	9.25
MP751	3A	30/90	20	106	14.25	9.50
2N2728	7	40/130	25	170	16.25	12.50
2N1162	8	15/—	25	106	4.45	3.30
2N1163*	3,4-04	15/—	25	106	4.45	2.95
2N1165**	3,4-04	15/—	25	106	6.35	4.70
2N1167	3,4-04	15/—	25	106	7.55	5.60
2N1651	161	20/—	25	106	4.85	3.55
2N1652	161	20/—	25	106	10.10	6.75
2N1653	161	20/—	25	106	14.60	9.75
2N2285	3A	20/—	25	106	4.85	3.55
2N2286	3A	20/—	25	106	10.10	6.75
2N2287	3A	20/—	25	106	14.60	9.75
2N5692	3A	20/65	25	120	8.25	5.50
2N5693	3A	20/65	25	120	9.75	6.50
2N5694	3A	20/65	25	120	12.00	8.00
2N5695	3A	20/65	25	120	14.25	9.50
2N5696	3A	20/65	25	120	18.00	12.00
2N2357	3A	15/—	50	170	7.10	5.00
2N2358	3A	15/—	50	170	14.25	9.50
2N2359	3A	15/—	50	170	17.60	11.75
2N4276	3A,161	15/—	60	170	3.50	2.80
2N4277	3A,161	15/—	60	170	4.20	3.35
2N4278	3A,161	15/—	60	170	4.65	3.50
2N4279	3A,161	15/—	60	170	5.30	4.25
2N4280	3A,161	15/—	60	170	5.70	4.55
2N4281	3A,161	15/—	60	170	6.80	5.45
2N4282	3A,161	15/—	60	170	7.05	5.65
2N4283	3A,161	15//—	60	170	8.45	6.65
2N4048	7	15/—	60	170	5.60	4.50
2N4049	7	15/—	60	170	7.50	6.00
2N4050	7	15/—	60	170	9.30	7.20
2N4051	7	15/—	60	170	6.45	5.15
2N4052	7	15/—	60	170	8.25	6.50
2N4053	7	15/—	60	170	10.10	7.75
2N5435	3A,161	10/—	60	120	10.85	7.25
2N5436	3A,161	10/—	60	120	15.35	10.25

**Military units available.
*MEG-A-LIFE" units available add Suffix A.
Continued next column

GERMANIUM PNP POWER TRANSISTORS (CONT'D)

Type	Case	h_{FE} min/max	I_C A	P_D W	1-99	100-999
2N5437	3A,161	10/—	60	120	18.00	12.00
2N5438..	3A,161	15/—	60	120	14.60	9.75
2N5439	3A,161	15/—	60	120	18.35	12.25
2N5440	3A,161	15/—	60	120	22.50	15.00
MP900	118	20/—	70	250	110.00	100.00
MP901	118	20/—	70	250	121.00	110.00
MP902	118	20/—	70	250	132.00	120.00
MP800	118	15/—	15	250	51.00	46.00
MP801	118	15/—	150	250	42.00	37.75

SWITCHING AND GENERAL PURPOSE TRANSISTORS
Silicon Annular Switching Transistors
High-Speed Low-Current
NPN

Type	Case	V_{CEO} V	P_D @ T_A=25°C mW	h_{FE} min/max	@ I_C mA	1-99	100-499	500-999
2N702	22-1	25	300	20/160	10	6.75	4.50	. . .
2N703*	22-1	25	300	40/100	10	6.75	4.50	. . .
2N706*	22-1	20 VCER	300	20/—	10	.69	.46	.41
2N706A	22-1	20 VCER	300	20/60	10	1.18	.79	. . .
2N706B	22-1	20 VCER	300	20/60	10	1.48	.99	. . .
2N708	22-1	15	360	30/120	10	.80	.45	....
2N743	22-1	12	200	40/120	10	6.20	4.15	. . .
2N744	22-1	12	300	20/60	10	2.90	1.95	. . .
2N834	22-1	30 VCES	300	25/—	10	2.00	1.35	. . .
2N914	22-1	15	360	30/120	10	.95	.63	. . .
2N1708	26	12	300	20/—	10	3.20	2.20	. . .
2N2242	22-1	15	360	40/120	10	5.80	3.90	. . .
2N2256	22-1	7.0	150	17/—	10	1.12	.75	. . .
2N2257	22-1	7.0	150	40/—	10	1.27	.85	. . .
'2N2368	22-1	15	360	20/60	10	1.07	.82	....
2N2369	22-1	15	360	40/120	10	1.25	.84	.76
2N2369A	22-1	15	360	40/—	10	1.50	.89	....
2N2501	22-1	20	360	50/150	10	4.70	3.15	. . .
2N2710	22-1	20	360	40/—	10	7.50	5.00	. . .
2N3009	27	15	360	30/120	30	1.98	1.32	. . .
2N3010	22-1	6.0	300	25/125	10	1.90	1.27	. . .
2N3011	22-1	12	360	30/120	10	1.00	.67	. . .
2N3013	27	15	360	30/120	30	2.10	1.25	....
2N3014	27	20	360	30/120	30	1.75	1.04	....
2N3210	22-1	15	360	30/120	10	.83	.55	. . .
2N3211	22-1	15	360	50/150	10	1.27	.85	. . .
2N3227	22-1	20	360	100/300	10	2.40	1.60	. . .
2N3509	26	20	400	100/300	10	5.40	3.60	. . .
2N3946	22-1	40	360	50/150	10	2.40	1.60	. . .
2N3947	22-1	40	360	100/300	10	2.75	1.85	. . .
MM709	27	8.0	400	15/200	10	.91	.55	....
MM1748A	27	6.0	300	30/90	10	3.15	2.10	. . .

PNP

2N869A*	22-1	18	360	40/120	10	4.50	3.00
2N2894	22-1	12	360	30/—	10	1.95	1.30
2N3248	22-1	12	360	50/150	10	3.90	2.60
2N3249	22-1	12	360	100/300	10	4.65	3.10
2N3250	22-1	40	360	50/150	10	3.20	1.94
2N3250A*	22-1	60	360	50/150	10	3.55	2.14
2N3251	22-1	40	360	100/300	10	3.55	2.14
2N3251A*	22-1	60	360	100/300	10	3.90	2.33
2N3304	22-1	6.0	300	30/120	10	4.50	3.00
2N3546	22-1	12	360	30/120	10	2.50	1.65
2N4260	20-10	15	200	30/150	10	12.35	8.25
2N4261	20-10	15	200	30/150	0.5	14.60	9.75
2N4411	20-10	12	150	40/160	10	18.00	12.00
MM2894	22-1	12	360	40/150	30	1.80	1.20
MM4261H*	20-10	15	200	30/150	10	19.75	15.80

*Mil type available

NEWARK carries complete lines of the top quality electronic equipment. Newark can supply all your needs.

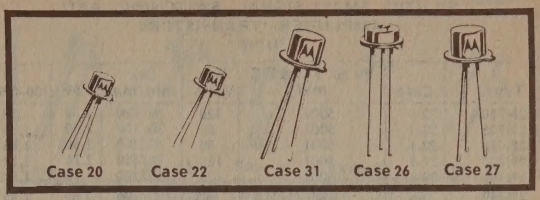
SILICON ANNULAR SWITCHING TRANSISTORS
HIGH-SPEED MEDIUM-CURRENT
NPN

Type	Case	V_{CEO} Volts	P_D @ TA=25°C mW	h_{FE} min/max	@ Ic mA	1-99	100-999
2N696	31-1	40 VCER	600	20/60	150	.52	.40
2N697	31-1	40 VCER	600	40/120	150	.52	.40
2N699	79-1	80 VCER	600	40/120	150	1.32	.88
2N718	22-1	40 VCER	400	40/120	150	.46	.35
2N718A*	22-1	50 VCER	500	40/120	150	.79	.60
2N956	22-1	50 VCER	500	100/300	150	.85	.65
2N1613*	31-1	50 VCER	800	40/120	150	.79	.60
2N1711	31-1	50 VCER	800	100/300	150	.85	.65
2N1959	31-1	40	600	40/120	150	4.45	2.95
2N2224	31-1	40	800	40/120	100	3.75	2.50
2N2410	31-1	40	800	30/120	150	4.50	3.00
2N2476	31-1	20	600	20/—	150	1.65	1.14
2N2477	31-1	20	600	40/—	150	2.06	1.35
2N2538	31-1	30	800	100/300	150	5.85	3.90
2N2540	22-1	30	500	100/300	150	5.85	3.90
2N2845	22-1	30	360	30/120	150	4.95	3.30
2N2846	31-1	30	800	30/120	150	4.95	3.30
2N2847	22-1	20	360	40/140	150	5.10	3.40
2N2848	31-1	20	800	40/140	150	5.10	3.40
2N2895	22-1	65	500	40/120	150	1.41	.97
2N2896	22-1	90	500	60/200	150	2.06	1.43
2N2897	22-1	45	500	50/200	150	1.16	.80
2N2958	31-1	60	600	40/120	150	2.25	1.50
2N2959	31-1	60	600	100/300	150	2.70	1.80
2N3015	31-1	30	800	30/120	150	1.93	1.29
2N3053	31-1	40	—	50/250	150	.83	.57
2N3115	22-1	60	400	40/120	150	1.95	1.30
2N3116	22-1	60	400	100/300	150	2.40	1.60
2N3299	31-1	30	800	40/120	150	.75	.50
2N3300	31-1	30	800	100/300	150	1.05	.70
2N3301	22-1	30	20	35/—	10	.75	.50
2N3510	27	10	360	25/150	150	1.45	.87
2N3511	27	15	360	30/120	150	1.95	1.16
2N3647	26	10	400	25/150	150	2.25	1.50
2N3648	26	15	400	30/120	150	2.70	1.80
2N5581	26	40	500	40/120	150	8.70	5.80
2N5582	26	40	500	100/300	150	10.20	6.80
			PNP				
2N722	22-1	35	400	30/90	150	1.46	1.27
2N1131*	31-1	35	600	20/45	150	5.60	3.75
2N1132*	31-1	35	600	30/90	150	1.46	1.10
2N1991	31-1	20	600	15/60	150	3.95	2.96
2N2303	31-1	35	600	75/200	150	8.25	5.50
2N2695	26	25	360	30/130	50	4.35	2.90
2N2800	31-1	35	800	30/90	150	6.75	4.50
2N2801	31-1	35	800	75/225	150	7.10	4.75
2N2838	22-1	35	500	75/225	150	7.10	4.75
2N3133	31-1	35	600	40/120	150	4.95	3.30
2N3134	31-1	35	600	100/300	150	5.85	3.90
2N3135	22-1	35	400	40/120	150	4.95	3.30
2N3136	22-1	35	400	100/300	150	5.85	3.90
2N3485	26	40	400	40/120	150	8.70	5.80
2N3486	26	40	400	100/300	150	10.20	6.80
2N3671	31-1	50	600	70/225	150	4.50	3.00
2N3673	26	50	350	70/225	150	5.20	3.40

†Mil type available

HIGH-CURRENT
NPN

Type	Case	V_{CEO} Volts	P_D @ TA=25°C mW	h_{FE} min/max	@ Ic mA	1-99	100-999
2N656	31-1	60	1000	30/90	200	2.03	1.35
2N657	31-1	100	1000	30/90	200	2.20	1.47
2N1893	31-1	80	800	40/120	150	1.57	1.05
2N2192	31-1	40	800	100/300	150	4.20	2.80
2N2192A	31-1	40	800	100/300	150	4.40	2.95
2N2192B	31-1	40	800	100/300	150	12.45	8.30
2N2193	31-1	50	800	40/120	150	2.90	1.95
2N2193A	31-1	50	800	40/120	150	3.15	2.10
2N2193B	31-1	50	800	40/120	150	10.80	7.20
2N2194	31-1	40	800	20/60	150	2.18	1.45
2N2194A	31-1	40	800	20/60	150	2.40	1.60
2N2194B	31-1	40	800	20/60	150	8.25	5.50
2N2195	31-1	25	600	20/—	150	1.38	.92
2N2195A	31-1	25	600	20/—	150	1.53	1.02
2N2195B	31-1	25	600	20/—	150	2.40	1.60
2N2405	31-1	90	800	60/200	150	1.82	1.25
2N3252	31-1	30	1000	30/90	500	9.75	6.50
2N3253*	31-1	40	1000	25/75	500	9.75	6.50
2N3303	94	12	600	30/120	300	13.50	9.00
2N3444	31-1	50	1000	20/60	500	12.00	8.00



HIGH CURRENT
NPN (Cont'd.)

Type	Case	V_{CEO} Volts	P_D @ TA=25°C mW	h_{FE} min/max	@ Ic mA	1-99	100-999
2N3506*	31-1	40	1000	40/200	500	11.55	7.70
2N3507*	31-1	50	1000	30/150	500	13.20	8.80
2N3734	31-1	30	1000	30/120	500	6.00	4.00
2N3735	31-1	50	1000	20/80	500	6.00	4.00
2N3736	26	30	500	30/120	500	6.60	4.40
2N3737	26	50	500	20/80	500	6.60	4.40
MM3724	31-1	30	1000	15/—	500	5.25	3.50
MM3725	31-1	50	1000	15/—	500	5.60	3.75

*Mil type available

			PNP				
2N3244	31-1	40	1000	50/150	500	15.75	10.50
2N3245	31-1	50	1000	30/90	500	15.75	10.50
2N3467	31-1	40	1000	40/120	500	9.75	6.50
2N3468	31-1	50	1000	25/75	500	11.25	7.50
2N3762	31-1	40	1000	30/120	1.0A	7.50	5.00
2N3763	31-1	60	1000	20/80	1.0A	7.50	5.00
2N3764	26	40	500	30/120	1.0A	8.25	5.50
2N3765	26	60	500	20/80	1.0A	8.25	5.50
2N4890	79-1	40	1000	50/250	150	1.12	.75
MM3726	31-1	50	1000	30/120	500	6.75	4.50
			HIGH-VOLTAGE NPN				
2N3498*	31-1	100	1000	40/120	150	6.60	4.40
2N3499*	31-1	100	1000	100/300	150	7.40	4.95
2N3500*	31-1	150	1000	40/120	150	11.25	7.50
2N3501*	31-1	150	1000	100/300	150	12.60	8.40
2N3742	31-1	300	1000	20/200	30	12.60	8.40
2N4926	79-1	200	1000	20/200	30	2.95	1.95
2N4927	79-1	250	1000	20/200	30	3.15	2.10
MM3000	79-1	100	1000	20/—	10	1.25	.83
MM3001	79-1	150	1000	20/—	10	1.40	.93
MM3002	79-1	200	1000	20/—	10	1.65	1.10
MM3003	79-1	250	1000	20/—	10	1.90	1.25
			PNP				
2N3494	31-1	80	600	40/—	10	9.75	6.50
2N3495	31-1	120	600	40/—	10	12.75	8.50
2N3496	22-1	80	400	40/—	10	9.75	6.50
2N3497	22-1	120	400	40/—	10	12.75	8.50
2N3634	31-1	140	1000	50/150	50	13.20	8.80
2N3635	31-1	140	1000	50/150	50	14.40	9.60
2N3636	31-1	175	1000	100/300	50	19.40	12.95
2N3637	31-1	175	1000	100/300	50	21.30	14.20
2N3743	31-1	300	1000	25/250	30	29.95	19.50
2N4928	79-1	100	600	25/200	10	4.05	2.70
2N4929	79-1	150	1000	25/200	10	4.95	3.30
2N4930	79-1	200	1000	20/200	10	5.90	3.95
2N4931	79-1	250	1000	20/200	10	6.75	4.50
2N5357	39	300	30 A**	25/100	500	15.00	10.00
MM4000	79-1	100	600	20/—	10	1.24	.83
MM4001	79-1	150	1000	20/—	10	1.39	.93
MM4002	79-1	200	1000	20/—	10	1.65	1.10
MM4003	79-1	250	1000	20/—	10	1.85	1.25
MM4545	39	200	25 W	25/—	100	9.00	6.00
MM4546	39	300	25 W	25/—	100	10.50	7.00
MM4547	39	400	25 W	25/—	100	15.00	10.00
MM4645	79-1	200	5.0 W	25/—	100	7.85	5.25
MM4646	79-1	300	5.0 W	25/—	100	9.30	6.20
MM4647	79-1	400	5.0 W	25/—	100	13.35	8.90

*Mil type available **@TC=75°C

			CHOPPERS PNP				
2N3977	26	10	400	40/—	5.0	3.30	2.20
2N2944	26	10	500	80/180	1.0	2.76	1.84
2N2945	26	20	500	40/160	1.0	2.52	1.68
2N2946	26	35	500	30/130	1.0	2.88	1.92
2N3677	26	30	400	40/—	1.0	2.76	1.84
2N3978	26	20	400	30/—	5.0	3.00	2.00
2N5229	26	10	500	50/—	0.1	2.49	1.66
2N5230	26	20	500	50/—	0.1	3.00	2.00
2N5231	26	30	500	50/—	0.1	3.75	2.50
MM4052	26	30	500	20/—	10	4.50	3.00

Motorola Transistors

SILICON SMALL-SIGNAL SWITCHING AND AMPLIFIER *TRANSISTORS

NPN

Type	Case	PD @ TA=25°C mW	VCB Volts	hFE min/max	1-99	100-499
2N720A	22-1	5001	120	40/120	1.32	.88
2N735	22-1	5001	80	30/100	2.50	1.65
2N736	22-1	5001	80	60/200	2.50	1.65
2N739	22-1	5001	125	30/100	2.70	1.80
2N740	22-1	5001	125	60/200	2.70	1.80
2N840	22-1	500	40	30/100	3.60	2.45
2N841	22-1	500	40	60/400	4.40	2.95
2N910	22-1	500	100	75/—	2.37	1.58
2N911	22-1	500	100	30/—	5.55	3.70
2N929†*	22-1	500	45	40/120	2.25	1.50
2N929A†	22-1	500	60	40/120	4.50	3.00
2N930†*	22-1	500	45	100/300	1.50	.99
2N930A†	22-1	500	60	100/300	1.80	1.09
2N1983	31-1**	600	50	70/210	2.50	1.67
2N1984	31-1**	600	50	35/100	2.33	1.56
2N1990	79-1	600	100	20/—	2.25	1.50
2N2217	31-1	800	60	20/60	3.35	2.25
2N2218*	31-1	800	60	40/120	1.05	.62
2N2218A*	31-1	800	75	40/120	1.50	.89
2N2219*	31-1	800	60	100/300	1.15	.69
2N2219A*	31-1	800	75	100/300	1.75	1.04
2N2220	22-1	500	60	20/60	3.35	2.25
2N2221*	22-1	500	60	40/120	1.05	.62
2N2221A*	22-1	500	75	40/120	1.65	.97
2N2222*	22-1	500	60	100/300	.95	.57
2N2222A*	22-1	500	75	100/300	1.20	.71
2N2708*	20-10	200	35	30/200	5.15	3.42
2N2895	22-1	500	120	40/120	1.41	.97
2N2896	22-1	500	140	60/200	2.06	1.43
2N2897	22-1	500	60	50/200	1.16	.80
2N3019	31-1	800	140	100/300	6.00	4.00
2N3020	31-1	800	140	40/120	5.70	3.80
2N3114	31-1	800	150	30/120	6.00	4.00
2N3712	31-1	1000	150	30/150	2.25	1.50
MM1812	31-1	1000	175	35/200	3.75	2.50
MM2258	31-1	1000	120	50/—	3.90	2.60
MM2259	31-1	1000	175	25/—	4.20	2.80
MM2260	31-1	1000	175	50/—	4.50	3.00
MM2483	22-1	360	60	40/120	3.15	2.10
MM2484	22-1	360	60	100/500	3.50	2.35

PNP

Type	Case	PD @ TA=25°C mW	VCB Volts	hFE min/max	1-99	100-499
2N721	22-1	400	50	20/45	1.46	1.27
2N869	22-1	360	25	20/120	5.85	3.90
2N915	22-1	360	70	50/200	4.95	3.30
2N916*	22-1	360	45	50/200	3.65	2.45
2N995	22-1	360	20	35/140	5.85	3.90
2N2604	26	400	60	40/120	3.50	2.30
2N2605	m26	400	60	100/300	4.00	2.70
2N2904*	31-1	600	40	40/120	1.95	1.16
2N2904A*	31-1	600	60	40/120	2.55	1.52
2N2905*	31-1	600	40	100/300	2.20	1.31
2N2905A*	31-1	600	60	100/300	2.65	1.59
2N2906*	22-1	400	40	40/120	1.85	1.12
2N2906A*	22-1	400	60	40/120	2.40	1.45
2N2907*	22-1	400	40	100/300	2.00	1.19
2N2907A	22-1	400	60	100/300	2.20	1.33
2N3798	22-1	360	60	150/450	3.20	2.15
2N3799	22-1	360	60	300/900	3.50	2.35
2N4404	79-1	1250	80	40/120	8.25	5.50
2N4405	79-1	1250	80	100/300	9.75	6.50
2N4406	79-1	1250	80	25/100	11.25	7.50
2N4407	79-1	1250	80	75/225	12.75	8.50
2N5332	26	360	20	20/80	14.10	9.40
MM4048	22	360	45	150/450	4.10	2.75
MM5005	79-1	1500	80	50/250	1.12	.75
MM5006	79-1	1500	100	50/250	1.35	.90
MM5007	79-1	1500	200	50/250	1.73	1.15

†TJ=175°C *Mil type available **Solid Header TO-5

GERMANIUM MESA PNP SWITCHING TRANSISTORS HIGH-SPEED LOW-CURRENT

Type	Case	PD @ TA=25°C mW	hFE min/max	IC mA	1-99	100-499
2N499*	149-02	60	20/80	1.0	3.60	2.40
2N499A*	149-02	60	20/80	1.0	4.30	2.85
2N502	31-1	60	9.0/—	2.0	3.25	2.15
2N502A*	31-1	75	15/—	2.0	3.75	2.50
2N502B*	31-1	75	20/80	2.0	4.20	2.80
2N705	22-1	150	—	10	1.03	.69
2N711	22-1	150	20/—	10	.88	.59
2N711A	22-1	150	25/150	10	.88	.59
2N711B	22-1	150	30/150	10	.94	.63
2N779A	22-1	60	50/200	10	3.75	2.50
2N827	22-1	150	100/—	10	2.50	1.65

*Available Jan/Jantx

Continued next column

GERMANIUM MESA PNP SWITCHING TRANSISTORS HIGH-SPEED LOW-CURRENT (CONT'D)

Type	Case	VCEO Volts	PD @ TAC25°C mW	hFE @ IC min/max	mA	1-99	100-999
2N828	22-1	10	150	25/—	10	3.30	2.20
2N838	22-1	...	150	30/—	10	5.40	3.60
2N960	22-1	15	150	20/—	10	.96	.64
2N962	22-1	12	150	20/—	10	.85	.57
2N964	22-1	15	150	40/—	10	.99	.66
2N965	22-1	12	150	40/—	10	.94	.63
2N966	22-1	12	150	40/—	10	.88	.59
2N967	22-1	...	150	40/—	10	.87	.58
2N968	22-1	...	150	17/—	10	.90	.60
2N970	22-1	...	150	17/—	10	.81	.54
2N972	22-1	...	150	40/—	10	.93	.62
2N974	22-1	...	150	40/—	10	.83	.55
2N985	22-1	7.0	150	40/—	10	2.84	1.89
2N1500	22-1	12	60	20/—	10	7.65	5.10
2N1742*	31-1	...	50	—	—	2.70	1.80
2N1754†	143	...	150	20/—	10	1.42	.95
2N2258	22-1	7.0	150	17/—	10	1.12	.75
2N2259	22-1	7.0	150	40/—	10	1.27	.85
2N2956	22-1	20	150	30/—	10	2.63	1.75
2N2957	22-1	18	150	60/—	10	3.37	2.25

*TJ=125°C†TJ=85°

HIGH-SPEED MEDIUM-CURRENT

2N1204	31-1	15	300	15/—	400	1.65	1.10
2N1204A	31-1	15	300	25/—	200	1.65	1.10
2N1494A	25	15	500	25/—	200	2.17	1.45
2N1495	31-1	25	300	25/—	200	3.30	2.20
2N1496	25	25	500	25/—	200	3.80	2.55
2N2096	25	...	500	15/—	400	1.65	1.10
2N2097	25	...	500	30/—	200	3.30	2.20
2N2099	31-1	12	300	15/—	400	2.17	1.45
2N2100	31-1	20	300	20/—	400	3.80	2.55
2N2382	31-1	20	300	25/—	200	5.15	3.45
2N2635	22-1	15	150	30/—	100	.94	.63
2N3883	31-1	15	300	30/—	200	1.35	.90

CURRENT MODE SWITCHING

NPN

Type	Case	Material	VCEO Volts	PD @ TA=25°C mW	1-99	100-499	500-999
2N2256	22-1	Si	7.0	300	1.12	.75	.....
2N2257	22-1	Si	7.0	300	1.27	.85	.....
2N3959*	22-1	Si	12	400	10.50	7.00	6.30
2N3960*	22-1	Si	12	400	13.10	8.75	7.90
2N5835	20-10	Si	10	200	13.00	10.00	.....
2N5836	26	Si	10	2000	13.40	10.30	.....
2N5837	26	Si	5.0	2000	14.30	11.00	.....
MM1605	20-10	Si	10	350	13.50	9.00	.....
MM1606	20-10	Si	10	350	11.25	7.50	6.75
MM1607	20-10	Si	10	350	8.25	5.55	5.00

PNP

2N2258	22-1	Ge	7.0	150	1.12	.75	.....
2N2259	22-1	Ge	7.0	150	1.27	.85	.....
2N4260	20-10	Si	15	200	12.35	8.25	.....
2N4261	20-10	Si	15	200	14.60	9.75	.....
2N5583	79-1	Si	30	1000	7.35	4.90	.....
MM4049	20-10	Si	10	200	13.10	8.75	.....

*Mil type available

Ge MILLIWATT TRANSISTORS GERMANIUM PNP

Case 31-1 All leads isolated from case unless otherwise specified.

Type	BV ces Volts	hFE @ IC Min/Max mA		MHz Min	Pd mW	1-99	100-999
IC=100mA max							
2N398	150	20/—	5.0	1.0	50	1.20	.80
IC=200mA max							
2N331**	12 Veb	30/70	1.0	0.4	75	1.88	1.25
2N398A**	105	20/80	5.0	1.0	50	1.28	.85
2N1191	25	20/80	10	1.5	200	1.43	.95
2N1192	25	40/135	10	2.0	200	1.43	.95
2N1193	25	70/300	10	2.5	200	1.88	1.25
2N1194	25	125/600	10	3.0	200	2.03	1.35
2N1408	50	10/—	1.0	. .	150	1.05	.70
2N2042*	105	20/50	5.0	0.5	200	2.85	1.90
2N2043*	105	40/100	5.0	0.75	200	3.25	2.15
IC=250 mA max							
2N653	25	30/70	1.0 le	1.5	200	2.50	1.65
2N654	25	50/125	1.0 le	2.0	200	2.65	1.75
2N655	25	100/250	1.0 le	2.5	200	2.80	1.85
IC=300 mA max							
2N1008	20	40/150	10	. . .	200	1.13	.75
2N1008A	40	40/150	10	. . .	200	1.20	.80
2N1008B	60	40/150	10	. . .	200	1.28	.85
IC=400 mA (Base Connected to Case)							
2N381	25	35/65	20	3.0	225	1.43	.95
2N382	25	60/95	20	4.0	225	1.88	1.25

*Available as "MEG-A-Life" units **Military type available

Continued next page

Motorola Germanium & R.F. Power Transistors

MILLIWATT TRANSISTORS CONT'D.
GERMANIUMPNP

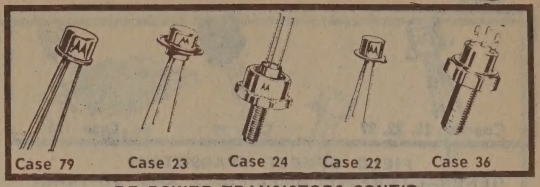
Case 31-1 All leads isolated from case unless otherwise specified.

Type	BV ces Volts	hfe @ Ic Min/Max	mA	fab MHz Min	Pd mW	1-99	100-999
Ic=400 mA (Base Connected to Case)							
2N383	25	75/120	20	5.0	225	.40	1.60
2N460	35R=1.0kΩ	17/36	1.0 1e	1.2	225	2.50	1.65
2N461*	35R=1.0kΩ	31/200	1.0 1e	4.0	225	2.50	1.65
2N1706	18	50/150	10	3.0	200	.90	.60
2N2171	25	110/250	20	7.5	225	2.20	1.45
Ic=500 mA max							
2N464*	40	14/—	1	0.7	200	1.88	1.25
2N465*	30	27/—	1	0.8	200	1.88	1.25
2N466*	20	56/—	1	1.0	200	2.10	1.40
2N467*	15	112/—	1	1.2	200	2.55	1.70
2N650*	30	33/—	10	0.75	200	2.03	1.35
2N651*	30	45/—	10	1.0	200	2.03	1.35
2N652*	30	80/—	10	1.25	200	2.35	1.55
2N1185	30	130/—	10	1.75	200	3.60	2.40
2N1186	45	33/—	10	0.75	200	3.85	2.55
2N1187	45	45/—	10	1.0	200	3.85	2.55
2N1188	45	80/—	10	1.25	200	4.75	3.15
2N1189	30	60/—	10	1.75	200	2.25	1.50
2N1190	30	100/—	10	2.25	200	2.40	1.60
2N3427	30	100/350	100	4.0	200	1.95	1.30
2N3428	30	150/400	100	5.0	200	2.25	1.50
Ic=500 mA (Base connected to case)							
2N319	20	25/42	....	....	200	.59	.39
2N320	20	34/65	....	....	200	.83	.55
2N321	20	53/121	....	....	200	.90	.60
2N322	18	34/65	....	....	200	.60	.40
2N323	18	53/121	....	....	200	.60	.40
2N324	18	72/198	....	....	200	.83	.55
2N508	18	99/198	....	....	200	.83	.55
2N524	30	25/42	....	....	200	1.34	.90
2N525*	30	34/65	....	....	200	1.35	.90
2N526*	30	53/90	....	....	200	1.35	.90
2N527	30	72/121	....	....	200	1.58	1.05
2N1175	25	70/140	....	....	200	1.13	.75
2N1413	25	25/42	....	....	200	.90	.60
2N1414	25	34/65	....	....	200	.98	.65
2N1415	25	53/90	....	....	200	1.20	.80
2N1924	40	34/65	....	....	200	2.03	1.35
2N1925	40	53/90	....	....	200	2.25	1.50
2N1926	40	72/121	....	....	200	2.65	1.75

* Military Type Available.

RF POWER TRANSISTORS
(Amplifiers/OSCILLATORS)

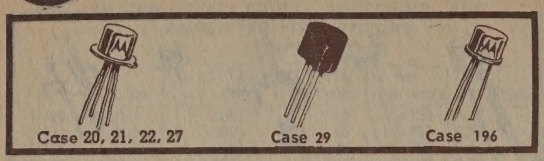
Type	Case	Pd (MAX) Watts	MAX Vcb Volts	ft MHztyp	1-99	100-999
PNP GERMANIUM MESA						
2N1561	23	3.0	25	500	21.75	14.50
2N1562	23	3.0	25	450	14.25	9.50
2N1692	24	3.0	25	500	22.50	17.00
2N1693	24	3.0	25	450	18.00	12.00
NPN SILICON ANNULAR						
2N707	22-1	1.0	56	350	6.30	4.20
2N707A	22-1	1.2	70	350	22.50	15.00
2N2947	11	25	60	200	22.50	15.00
2N2948	11	25	40	200	20.25	13.50
2N2949	23	6.0	60	200	10.50	7.00
2N2950	24	6.0	60	200	11.25	7.50
2N2951	31-1	3.0	60	400	4.50	3.00
2N2952	22-1	1.8	60	400	4.95	3.30
2N3137	31-1	2.0	40	500†	3.45	2.30
2N3295	31-1	2.0	60	200†	6.00	4.00
2N3296	24	6.0	60	100†	15.00	10.00
2N3297	11	25	60	100†	52.50	35.00
2N3298	22-1	1.0	25	200†	2.40	1.60
2N3375	36	11.6	65	500	9.90	7.60
2N3544	22-1	0.4	25	900	7.50	5.00
2N3553	79-1	7.0	65	500	3.25	2.50
2N3632	36	23	65	400	12.75	10.55
2N3733	36	23	65	400	15.00	11.50
2N3866	79-1	5.0	55	800	1.60	1.23
2N3924	79-1	7.0	36	350	4.00	2.80
2N5591	145A-01	70	36	—	24.60	19.40
2N5635	144B-02	7.5	60	—	5.60	4.30
2N5636	144B-02	15	60	—	17.50	13.50
2N5637	145A-01	30	60	—	30.65	23.60
2N5641	144B-02	15	65	—	6.40	4.28
2N5642	145A-01	30	65	—	21.30	14.20
2N5643	145A-01	60	65	—	40.40	26.90
2N5644	145A-01	3.5	36	400†	11.80	8.30
2N5645	145A-01	12	36	400†	15.50	11.90
2N5646	145A-01	30	36	400†	29.20	22.50



RF POWER TRANSISTORS CONT'D.

Type	Case	Pd (Max) Watts	Max Vcb Volts	ft MHz typ	1-99	100-999
NPN SILICON ANNULAR						
MM1500	23	3.5	30	1500	42.00	28.00
MM1501	23	3.5	30	1000	27.00	18.00
MM1552	145C-01	80	65	—	56.50	43.50
MM1553	145C-01	80	100	—	56.50	43.50
MM1620	145A-02	100	48	—	45.50	35.00
MM3375	36	11.6	65	—	13.35	8.90
MM3375A	36	11.6	65	—	14.85	9.90
MM4429	145-A01	5.0	55	800	9.75	7.50
MM4430	145A-01	5.0	55	600*	13.00	10.00
MM8008	23	3.5	35	1100	22.00	17.50
MM8009	79-1	3.5	55	1000*	8.45	6.50
MM8010	23	3.5	35	1100	16.00	12.00
MM8011	23	3.5	35	1100	9.23	7.10
PNP SILICON ANNULAR						
2N5160	79-1	5.0	60	900	4.75	3.65
2N5161	36	20	60	500	18.75	12.50
2N5162	36	20	60	500	27.00	18.00
MM4018	79-1	5.0	40	900	2.20	1.55
MM4019	79-1	5.0	60	750	6.50	5.00
MM4020	208-01	25	36	—	8.05	6.20
MM4021	208-01	29	36	—	19.50	15.00
MM4022	208-01	70	36	—	30.00	23.00
MM4023	208-01	87	36	—	49.40	38.00
GERMANIUM RF SMALL SIGNAL (Amp/Osc) PNP GERMANIUM MESA						
2N700*	21	75	25	500	6.00	4.00
2N700A*	21	75	25	1000	10.50	7.00
2N741	22-1	150	15	360	2.18	1.45
2N741A	22-1	150	20	300	3.30	2.20
2N1141	31-1	300	35	800	4.50	3.00
2N1142*	31-1	300	30	800	3.90	2.60
2N1143	31-1	300	25	800	3.15	2.10
2N1195*	31-1	225	30	800	3.95	2.63
2N2273*	22-1	150	25	250	2.45	1.65
2N2415	20-10	75	15	500	5.63	3.75
2N2416	20-10	75	15	400	3.35	2.25
2N2929	31-1	300	25	1100†	6.75	4.50
2N3127*	20-10	100	25	400	5.10	3.40
2N3279	20-10	100	30	500	4.50	3.00
2N3280	20-10	100	30	500	4.10	2.75
2N3282	20-10	100	30	400	2.15	1.45
2N3283	20-10	100	25	400†	1.50	1.00
2N3284	20-10	100	25	400†	1.42	.95
2N3285	20-10	100	20	400†	1.12	.75
2N3286	20-10	100	20	400†	.97	.65
2N3323	22-1	150	35	200	.90	.60
2N3324	22-1	150	35	200	.82	.55
2N3325	22-1	150	35	200	.75	.50
2N3783	20-10	150	30	800	30.00	20.00
2N3784	20-10	150	30	700	15.00	10.00
2N3785	20-10	150	15	700	6.75	4.50
AF139	20-10	60	20	450	1.95	1.30
AF239	20-10	60	20	600	2.17	1.45
MM380	22-1	250	25	400	1.26	.84
MM1139	20-10	125	30	400	1.35	.90
MM5000	20-10	150	30	800	4.40	2.95
MM5001	20-10	150	30	800	3.15	2.10
MM5002	20-10	150	30	800	2.25	1.50
2N3925	24	10	36	350	6.00	4.10
2N3926	36	11.6	36	350	12.50	9.00
2N3927	36	23.2	36	350	13.50	10.00
2N3948	79-1	1.0	36	700*	5.15	3.42
2N3950	36	70	65	150	34.20	22.80
2N3961	24	10	65	500	8.70	5.80
2N4012	79-1	11.6	65	500	14.20	11.75
2N4072	22-1	0.8	40	550	2.35	1.50
2N4073	31-1	1.5	40	550	2.70	1.80
2N4427	79-1	3.5	40	500*	1.90	1.46
2N4428	79-1	3.5	55	1000	5.85	4.50
2N4924	79-1	5.0	100	100*	2.03	1.35
2N4925	79-1	5.0	200	100*	2.50	1.65
2N4926	79-1	5.0	200	30*	2.95	1.95
2N4927	79-1	5.0	250	30*	3.15	2.10
2N5016	36	30	65	500*	35.00	27.00
2N5090	36	5.0	55	500*	7.80	6.00
2N5108	79	3.5	55	1200*	10.70	8.25
2N5589	144B-02	15	36	—	7.10	4.75
2N5590	145A-01	30	36	—	14.30	11.10

Motorola Field Effect Transistors



FIELD EFFECT TRANSISTORS
GENERAL-PURPOSE AMPLIFIERS AND SWITCHES

Type	Case	BVDss Volts min	Idss mA min/max	VGS Volts min/max	1-99	100-999	1K-4999
2N3796	22	25	0.5/3.0	—/4.0	3.45	2.30	2.07
2N3797	22	20	2.0/6.0	—/7.0	3.45	2.30	2.07
2N4066*	196	30	—/1.0nA	3.0/6.0	17.00	11.30	. . .
2N4067*	196	30	—/1.0nA	3.0/6.0	22.00	15.00	. . .
3N157*	20	35	—/10nA	1.5/3.2	3.30	2.20	1.98
3N157A*	20	50	—/10nA	1.5/3.2	6.30	4.20	3.75
3N158*	20	35	—/10nA	3.0/5.0	3.30	2.20	1.98
3N158A*	20	50	—/10nA	3.0/5.0	6.30	4.20	3.75
MFE3001	20	20	0.5/6.0	—/8.0	2.25	1.50	1.35
VHF RF AMPLIFIERS AND MIXERS							
3N140	20	—	5.0/30	0.5/4.0	1.65	1.10	.99
MFE3004	20	20	2.0/10	—/5.0	1.80	1.20	1.08
MFE3005	20	20	2.0/10	—/5.0	6.75	4.50	3.60
MFE3006	20	25	2.0/18	—/3.0	1.50	1.00	.90
MFE3007	20	25	5.0/20	—/3.0	1.65	1.10	.99
MFE3008	20	25	2.0/20	—/3.0	1.29	.86	.78
CHOPPERS AND SWITCHES (enhancement type)							
2N4351	20	25	—/10nA	1.0/5.0	2.85	1.90	1.70
2N4352*	20	25	—/10nA	1.0/5.0	2.70	1.80	1.62
3N155*	20	35	—/1.0nA	1.5/3.2	3.30	2.20	1.98
3N155A*	20	35	—/0.25nA	1.5/3.2	6.30	4.20	3.75
3N156*	20	35	—/1.0nA	3.0/5.0	3.30	2.20	1.98
3N156A*	20	35	—/0.25nA	3.0/5.0	6.30	4.20	3.75
3N169	20	25	—/10nA	0.5/1.5	6.40	4.25	3.80
3N171	20	25	—/10nA	1.0/2.0	4.20	2.80	2.50
MFE3002	20	25	—/10nA	1.5/3.0	4.20	2.80	2.50
MFE3003*	20	15	—/10nA	—/3.0	3.35	2.25	1.75
MFE3020*	196	15	—/10nA	—/4.0	3.00	2.00	1.60
MFE3021*	196	25	—/10nA	2.0/6.0	10.20	6.78	6.10

*P channel. All other types MOS N-channel

MATCHED PAIRS

Silicon N-Channel Junction FETs carefully matched for applications such as differential amplifiers. 1YFS =1500 μmhos min and 6500 μmhos max—all types. All TO-72 Packages, pairs fastened in metal clip.

Type	$\frac{\Delta\lvert Vgs1 - Vgs2\rvert}{\Delta T}$ Max (μV/°C)	$\lvert Vgs1 - Vgs2\rvert$ Max (mv)	Yfs1/Yfs2 Min	1-99	100-999	1K-4999
MMF1	10	5.0 @ 300 μ	0.98	23.25	15.50	13.95
MMF2	10	5.0 @ 750 μ	0.98	23.25	15.50	13.95
MMF3	25	5.0 @ 300 μ	0.95	15.75	10.50	9.45
MMF4	25	5.0 @ 750 μ	0.95	15.75	10.50	9.45
MMF5	50	5.0 @ 300 μ	0.95	12.75	8.50	7.65
MMF6	50	5.0 @ 750 μ	0.95	12.75	8.50	7.65

JUNCTION N CHANNEL/*JUNCTION P CHANNEL
GENERAL-PURPOSE AMPLIFIERS AND SWITCHES

Types	Case	V(br)gss** BVgss Volts min	Idss mA min/max	Vgs (off) Volts max	1-99	100-999	1K-4999
2N3330	20	20**	2.0/6.0	—	3.10	2.05	1.85
2N3821	20	50	0.5/2.5	4.0	2.50	1.66	1.49
2N3822	20	50	2.0/10	6.0	2.20	1.45	1.30
2N3909	20	20**	0.3/15	—	1.65	1.10	.99
2N3909A	20	20**	1.0/15	—	1.72	1.15	1.04
2N3993	20	25**	10/—	—	3.75	2.50	2.25
2N3993A	20	25**	2.0/—	—	7.00	4.90	4.40
2N3994	20	25**	10/—	—	3.35	2.25	2.02
2N3994A	20	25**	2.0/—	—	6.20	4.15	3.75
2N4220	20	30	0.5/3.0	4.0	1.50	1.00	.90
2N4220A	20	30	0.5/3.0	4.0	1.72	1.15	1.04
2N4221	20	30	2.0/6.0	6.0	1.40	.95	.85
2N4221A	20	30	2.0/6.0	6.0	1.65	1.10	.99
2N4222	20	30	5.0/15	8.0	1.42	.95	.85
2N4222A	20	30	5.0/15	8.0	1.65	1.10	.99
2N4342	29	25**	4.0/12	5.5	1.12	.75	.67
2N4343	29	25**	10/30	10	1.35	.90	.81
2N4360	29	20**	3.0/30	10	.63	.42	.38
2N5265	20	60**	0.5/1.0	3.0	4.65	3.10	2.80
2N5266	20	60**	0.8/1.6	3.0	3.75	2.50	2.25
2N5267	20	60**	1.5/3.0	6.0	3.45	2.30	2.05
2N5268	20	60**	2.5/5.0	6.0	3.30	2.20	1.98
2N5269	20	60**	4.0/8.0	8.0	3.45	2.30	2.05
2N5270	20	60**	7.0/14	8.0	3.75	2.50	2.25

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JUNCTION N CHANNEL/*JUNCTION P CHANNEL
General-Purpose Amplifiers and Switches (cont'd.)

Type	Case	Vbrgss ** Bvgss Volts min	IGSS mA min/max	VGS(off) Volts max	1-99	100-999	1K-4999
2N5358	20	40**	0.5/1.0	3.0	3.95	2.65	2.38
2N5359	20	40**	0.8/1.6	4.0	3.45	2.30	2.05
2N5360	20	40**	1.5/3.0	4.0	3.00	2.00	1.80
2N5361	20	40**	2.5/5.0	6.0	2.65	1.76	1.58
2N5362	20	40**	4.0/8.0	7.0	3.00	2.00	1.80
2N5363	20	40**	7.0/14	8.0	3.45	2.30	2.05
2N5364	20	40**	9.0/18	8.0	3.95	2.65	2.38
2N5457	29	25	1.0/5.0	6.0	.80	.54	.43
2N5458	29	25	2.0/9.0	7.0	.73	.49	.39
2N5459	29	25	4.0/16	8.0	.80	.54	.43
2N5460	29	40	1.0/5.0	6.0	.90	.60	.48
2N5461	29	40	2.0/9.0	7.5	.67	.45	.36
2N5462	29	40	4.0/16	9.0	.90	.60	.48
2N5463	29	60	1.0/5.0	6.0	1.35	.90	.72
2N5464	29	60	2.0/9.0	7.5	1.08	.72	.58
2N5465	29	60	4.0/16	9.0	1.35	.90	.72
2N5471	20	40**	0.02/0.06	4.0	2.55	1.70	1.50
2N5472	20	40**	0.05/0.12	4.0	2.33	1.55	1.40
2N5473	20	40**	0.10/0.25	6.0	2.15	1.45	1.30
2N5474	20	40**	0.20/0.50	7.0	2.00	1.35	1.20
2N5475	20	40**	0.40/1.0	8.0	1.80	1.20	1.05
2N5476	20	40**	0.80/2.0	9.0	2.00	1.35	1.20
2N5484	29	25**	1.0/5.0	3.0	.98	.65	.52
2N5485	29	25**	4.0/10	4.0	1.05	.70	.56
2N5486	29	25**	8.0/20	6.0	1.05	.70	.56
2N5556	20	30**	0.5/2.5	4.0	12.00	9.50	8.00
2N5557	20	30**	2.0/5.0	5.0	10.00	8.00	7.00
2N5558	20	30**	4.0/10	6.0	9.50	7.50	6.50
2N5594	20	50**	4.0/10	5.0	13.50	9.00	. . .
2N5716	29	40**	0.05/0.25	3.0	.80	.53	.42
2N5717	29	40**	0.2/1.0	5.0	.75	.50	.40
2N5718	29	40**	0.8/4.0	8.0	.80	.53	.42
3N124	20	50	0.2/2.0	2.5	3.00	2.00	1.70
3N125	20	50	1.5/4.5	4.0	3.00	2.00	1.70
3N126	20	50	3.0/9.0	6.5	3.00	2.00	1.70
MFE2093	20	50	0.1/0.7	2.5	2.10	1.40	1.20
MFE2094	20	50	0.4/1.4	4.5	2.10	1.40	1.20
MFE2095	20	50	1.0/3.0	5.5	2.10	1.40	1.20
MFE4007	20	40**	0.5/1.0	3.0	4.05	2.70	2.43
MFE4008	20	40**	0.8/1.6	3.0	3.20	2.15	1.94
MFE4009	20	40**	1.5/3.0	6.0	2.90	1.95	1.75
MFE4010	20	40**	2.5/5.0	6.0	2.75	1.85	1.66
MFE4011	20	40**	4.0/8.0	8.0	2.90	1.95	1.75
MFE4012	20	40**	7.0/14	8.0	3.20	2.15	1.94
MPF109	29	25**	0.5/24	8.0	.75	.50	.40
MPF111	29	20	0.5/20	10	.38	.25	.23
MPF161	29	40**	0.5/14	8.0	.67	.45	.36

CHOPPERS AND SWITCHES

Type	Case	V(br)gss** BVgss Volts min	I dss mA min/max	rds(on) Ohms max	1-99	100-999	1K-4999
2N3824	20	50	50/150	250	1.72	1.15	1.03
2N3970	22	40**	25/75	30	4.20	2.80	2.50
2N3971	22	40**	5.0/30	60	2.00	1.35	1.20
2N3972	22	40**	30/—	100	2.70	1.80	1.60
2N4091	22	40**	15/—	30	3.15	2.10	1.90
2N4092	22	40**	8.0/—	50	1.85	1.23	1.10
2N4093	22	40**	50/150	80	2.15	1.45	1.30
2N4391	22	40**	25/75	30	4.20	2.80	2.50
2N4392	22	40**	5.0/30	60	2.85	1.90	1.72
2N4393	22	40**	50/—	100	3.05	2.05	1.84
2N4856	22	40**	50/—	25	3.90	2.60	2.35
2N4856A	22	40**	20/100	25	4.35	2.90	2.60
2N4857	22	40**	20/100	40	3.30	2.20	1.98
2N4857A	22	40**	8.0/80	40	3.90	2.60	2.35
2N4858	22	40**	8.0/80	60	2.70	1.80	1.60
2N4858A	22	40**	50/—	60	3.15	2.10	1.90
2N4859	22	30**		25	3.60	2.40	2.15
2N4859A	22	30**	50/—	25	4.10	2.75	2.45
2N4860	22	30**	20/100	40	3.15	2.10	1.90
2N4860A	22	30**	20/100	40	3.60	2.40	2.15
2N4861	22	30**	8.0/80	60	2.60	1.75	1.58
2N4861A	22	30**	8.0/80	60	2.85	1.90	1.70
2N5555	29	25**	15/—	150	1.20	.80	.65
2N5638	29	30**	50/—	30	1.50	1.00	.80
2N5639	29	30**	25/—	60	.95	.63	.50
2N5640	29	30**	5.0/—	100	1.20	.80	.64
2N5653	29	30**	40/—	50	1.35	.90	.72
2N5654	29	30**	15/—	100	1.20	.80	.64
MFE2004	22	30**	8.0/—	80	2.25	1.50	1.30
MFE2005	22	30**	15/—	50	1.85	1.25	1.00
MFE2006	22	30**	30/—	30	2.70	1.80	1.60
MFE2007	22	25**	8.0/—	40	3.65	2.45	2.20
MFE2008	22	25**	20/—	30	4.20	2.80	2.50
MFE2009	22	25**	50/—	20	4.80	3.20	2.85
	22	25**	15/—	25	4.50	3.00	2.70
MFE2011	22	25**	40/—	15	5.25	3.50	3.15
MFE2012	22	25**	100/—	,10	6.00	4.00	3.60

Motorola Transistors & Multiple Devices

VHF RF AMPLIFIERS AND MIXERS

Type	CASE	BVgss Volts min	Idss mA min/max	Vgs(off) Volts max	1-99	100-999
2N3823	20	30	4.0/20	8.0	1.88	1.25
2N4223	20	30	3.0/18	8.0	1.50	1.00
2N4416	20	30	5.0/15	6.0	2.45	1.65
2N5484	29	25**	1.0/5.0	3.0	.98	.65
2N5485	29	25**	4.0/10	4.0	1.05	.70
2N5486	29	25**	8.0/20	6.0	1.05	.70
2N5668	29	25**	1.0/5.0	4.0	.90	.61
2N5669	29	25**	4.0/10	6.0	.84	.56
2N5670	29	25**	8.0/20	8.0	.90	.61
MFE2000	20	25**	4.0/10	4.0	1.58	1.05
MFE2001	20	25**	8.0/20	6.0	1.72	1.15
MPF102	29	25**	2.0/20	8.0	.60	.40
MPF108	29	25**	1.5/24	8.0	.97	.65
MPF112	29	20	1.0/25	10	.38	.25

MICRO-T N-CHANNEL

TYPE	V(br)gss min Volts	Idss min/max mA	Ciss type pF	Re(Yis) type µmhos	1-99	100-999
MMT3823	28	—30	5/20	—	5.25	3.50

MULTIPLE DEVICES

DIFFERENTIAL AMPLIFIER TRANSISTOR NPN

TYPE	CASE	Pd@Ta=25°C Both Sides mW	Vcb Volts	hfe min/max	1-99	100-499
2N2060A	32A	600	60	30/90	8.70	5.80
2N2223	32A	600	60	25/150	4.95	3.30
2N2223A	32A	600	60	25/150	5.85	3.90
2N2453	32-02	300	60	80/—	9.35	6.25
2N2453A	32-02	300	80	80/—	11.25	7.50
2N2480	32A	600	60	20/—	4.85	3.25
2N2480A	32A	600	60	35/—	5.70	3.80
2N2639	32A	600	45	50/300	9.00	6.00
2N2640	32A	600	45	50/300	6.75	4.50
2N2642	32A	600	45	100/300	10.10	6.75
2N2643	32A	600	45	100/300	7.20	4.80
2N2652	32A	600	100	35/—	18.00	12.00
2N2652A	32A	600	100	35/—	21.00	14.00
2N2720	32A	600	80	30/120	21.75	14.50
2N2721	32A	600	80	30/120	17.25	11.50
2N2722	32A	600	45	100/—	14.70	9.80
2N2903	32-02	300	60	60/—	5.85	3.90
2N2903A	32-02	300	60	60/—	7.20	4.80
2N2915	32-02	600	45	100/—	7.05	4.70
2N2916	32-02	600	45	225/—	9.15	6.10
2N2917	32-02	600	45	100/—	3.60	2.40
2N2918	32-02	600	45	225/—	4.65	3.10
2N2919	32-02	600	60	100/—	7.85	5.25
2N2920	32-02	600	60	225/—	11.10	7.40
2N2977	35	600	45	225/—	25.50	17.00
2N2979	35	600	60	225/—	32.25	21.50
2N3043	33	350	45	100/300	39.00	26.00
2N3044	33	350	45	100/300	33.00	22.00
2N3046	33	350	45	50/200	36.00	24.00
2N3047	33	350	45	50/200	30.00	20.00
2N3409		600	60	30/120	13.50	9.00
2N3423	32A	450	30	20/200	13.20	8.80
2N3424	32A	450	30	20/200	15.75	10.50
MD708A	32-01,33*	400,350	40	40/200	6.75	4.50
MD708B	32-01,33*	400,350	40	40/200	4.80	3.20
MD918A	32-01,33*	400,350	30	50/—	15.75	10.50
MD918B	32-01,33*	400,350	30	50/—	13.20	8.80
MD1120	32-01,33*	600,350	60	30/120	4.35	2.90
MD1122	32-01,33*	600,350	60	30/120	6.45	4.30
MD2369A	32-01,33*	600,350	40	40/140	11.25	7.50
MD2369B	32-01,33*	600,350	40	40/140	8.70	5.80
MD8001	32A	600	—	100/—	2.10	1.40
MD8002	32A	600	—	100/—	2.25	1.50
MD8003	32A	600	—	100/—	2.50	1.65

*Add suffix "F" for Case 33

PNP

2N2802	32A	500	25	20/120	20.00	13.40
2N2803	32A	500	25	20/120	12.00	8.05
2N2805	32A	500	25	40/120	20.50	13.60
2N2806	32A	500	25	40/120	17.25	11.50
2N3726	32-02	500	45	135/350	21.00	14.00
2N3727	32-02	500	45	135/350	24.00	16.00
2N3804A	32-02	500	45	150/450	34.20	22.80
2N3805	32-02	500	45	300/900	27.75	18.50
2N3805A	32-02	500	45	300/900	36.15	24.10
2N3808	32-02	600	45	150/450	14.55	9.70

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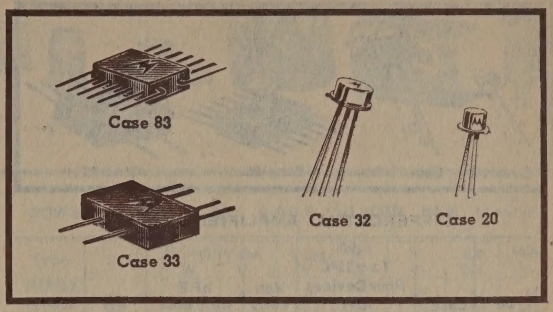


DIFFERENTIAL AMPLIFIER TRANSISTORS PNP (CONT'D)

TYPE	CASE	Pd@Ta=25°C Both Sides mW	Vcb Volts	hfe min/max	1-99	100-499
2N3809	32-02	600	45	300/900	22.50	15.00
2N3810	32-02	600	45	150/450	20.25	13.50
2N3810A	32-02	600	45	150/450	34.20	22.80
2N3811	32-02	600	45	300/900	27.75	18.50
2N3811A	32-02	600	45	300/900	36.15	24.10
2N3814	33A	350	60	150/450	28.50	19.00
2N3815	33A	350	60	300/900	30.00	20.00
2N3816	33A	350	60	150/450	38.25	25.50
2N3816A	33A	350	60	150/450	49.20	32.80
2N3817	33A	350	60	300/900	39.75	26.50
2N3817A	33A	350	60	300/900	51.75	34.50
2N4937	32-01	600	50	40/200	7.15	4.75
2N4938	32-01	600	50	40/200	5.70	3.80
2N4940	33	350	50	40/200	15.75	10.50
2N4941	33	350	50	40/200	12.30	8.20
MD3251A	32-01,33*	600-350	50	100/300	23.25	15.50
MD5000	32-01	400	20	20/50*	11.25	7.50
MD5000A	32-01	400	20	20/50*	18.75	12.50
MD5000B	32-01	400	20	20/50*	15.75	10.50

*Add suffix "F" for Case 33

DUAL TRANSISTORS

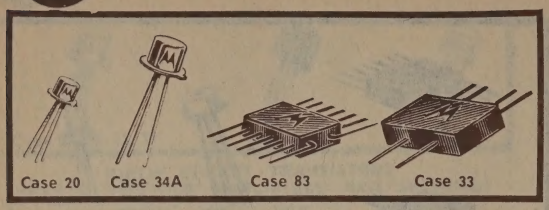
TYPE	CASE	Pd@Ta=25°C Both Sides mW	Vceo Volts	hfe@ min/max	Ic mA	1-99	100-499
2N2641	32A	600	45	50/300	0.01	4.25	2.85
2N2644	32A	600	45	100/300	0.01	5.25	3.50
2N2972	35	300	45	60/240	0.01	9.90	6.60
2N2973	35	300	45	150/600	0.01	11.60	7.75
2N3045	33	350	45	100/300	0.01	14.25	9.50
2N3048	33	350	45	50/200	0.01	12.75	8.50
2N3425	32A	450	15	20/200	3.0	5.25	3.50
MD708	32-01,33*	400,350	15	40/200	10	4.35	2.90
MD918	32-01,33*	400,350	15	50/—	1.0	8.25	5.50
MD981	32-01,33*	600,350	30	35/—	10	12.95	8.65
MD2218	32-01	600	30	40/120	150	6.75	4.50
MD2218A	32-01	600	40	40/120	150	11.40	7.60
MD2219	32-01	600	30	100/300	150	7.95	5.30
MD2219A	32-01	600	40	100/300	150	13.20	8.80
MD2369	32-01,33*	600,350	15	40/140	10	5.85	3.90
MD3725	32-02,33*	600,350	40	50/150	100	10.10	6.75
MD7002	32-02	600	40	40/—	0.1	4.50	3.00
MD8003	32-02	600	60	100/—	1.0	2.50	1.65

PNP

2N2804	32A	500	20	20/120	0.1	7.00	4.70
2N2807	32A	500	20	40/120	0.1	6.00	4.00
2N3800	35	360	60	150/450	0.1	14.25	9.50
2N3801	35	360	60	300/900	0.1	15.75	10.50
2N3806	32-01	500	60	150/450	0.1	11.70	7.80
2N3807	32-01	500	60	300/900	0.1	14.25	9.50
2N3812	33	350	60	150/450	0.1	18.75	12.50
2N3813	33	350	60	300/900	0.1	20.25	13.50
2N4939	32-01	600	40	50/250	1.0	3.40	2.25
2N4942	33	350	40	50/250	1.0	8.85	5.90
MD982	32-01,33*	600,350	50	35/—	10	27.60	18.40
MD2905	32-01,33	600,350	40	100/300	150	7.95	5.30
MD3133	32-01,33	600,350	35	40/120	150	7.35	4.90
MD3134	32-01,33	600,350	35	100/300	150	7.80	5.20
MD3251	32-01,33	600,350	35	10/300	1.0	11.60	7.75
MD3467	32-02,33*	600	35	20/—	500	11.25	7.50
MD3762	32-02,33*	600,350	35	20/—	1000	12.00	8.00
MD4957	32-02	400	30	20/150	2.0	26.25	17.50
MD5000	32-02	400	15	20/—	10	11.25	7.50
MD7003	32-02	600	40	40/—	0.01	4.50	3.00

*Add suffix "F" for Case 33

Motorola Transistors & Multiple Devices



DIFFERENTIAL AMPLIFIERS PNP

Type	Case	Pd@ Ta=25°C Four Devices mW	Vcb Volts	hFE min/max	1-99	100-999
MQ3799	83	500	60	300/900	42.75	28.50
MQ3799A	83	500	60	300/900	79.50	53.00

COMPLEMENTARY PAIRS NPN/PNP

Two-in-one complementary transistors for space reduction.

Type	Case	Pd@ Ta=25°C BothSides mW	Vce Volts	hfe @ min/max	Ic mA	1-99	100-499
2N3838	33	350	40	100/300	150	27.75	18.50
2N4854	32-01,33*	300/600	40	100/300	150	13.50	9.00
MD6002	32-01,33*	600/350	30	100/300	150	13.50	9.00
MD6003	32-01,33*	600/350	30	70/—	150	7.35	4.90
MD6100	32-01	600	45	100/—	0.1	14.85	9.90

*Add suffix "F" for Case 33

QUAD TRANSISTORS CASE 83(*TO-116)

NPN

Type	Case	Pd@ Ta=25°C Four Devices mW	Vceo Volts	hfe @ min/max	Ic mA	1-99	100-Up
MQ2218	83	500	30	40/120	150	24.00	16.00
MQ2219A	83	500	40	100/300	150	27.75	18.50
MQ3725	83	500	40	50/150	100	40.10	26.75
MHQ5859*	To-116	2500	40	60/25	10	5.00	4.75
PNP							
2N5146	83	500	40	20/	1000	47.60	31.75
MQ2904	83	500	40	40/120	150	24.75	16.50
MQ2905A	83	500	60	100/300	150	27.75	18.50
MQ3251	83	500	40	100/300	1.0	26.25	17.50
MQ3467	83	500	40	20/	500	44.25	29.50
MQ3762	83	500	40	20/	1000	47.60	31.75

DARLINGTON AMPLIFIER TRANSISTORS

NPN

Type	Case	Pd@Ta=25°C Both Sides mW	Vce Volts	hFE @ min/max	Ic mA	1-99	100-499
2N998	20(8)	500	60	1600/8000	10	13.50	9.00
2N2723	20(8)	500	60	2000/10000	10	15.00	10.00
2N2724	20(8)	500	60	7000/50000	10	16.50	11.00
2N2725	20(8)	500	45	2000/10000	0.1	21.00	14.00
2N2785	20(8)	500	40	2000/20000	100	11.25	7.50
PNP							
2N4974	34A	2500	30	30000/150000	10	9.00	6.00
2N4975	34A	2500	30	15000/75000	10	7.50	5.00

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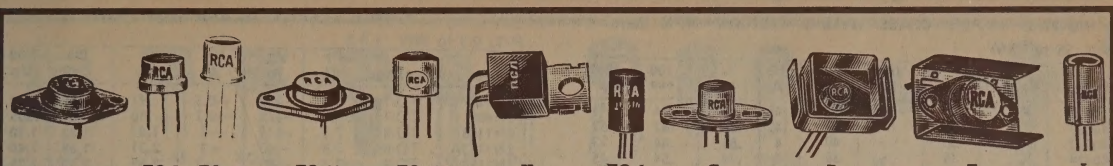
Audio Frequency Transistors RCA



AUDIO FREQUENCY FOR LINEAR OPERATION SMALL SIGNAL TYPES CLASS A SILICON NPN

Type	Case	Pt (Ta) @25°C W	Vcbo V	Vceo V	Ic A	1-99	100-999	1000-Up
40231	TO-104	0.5	18	18	0.1	.51	.37	.31
40232	TO-104	0.5	18	18	0.1	.58	.42	.35
40233	TO-104	0.5	18	18	0.1	.64	.47	.39
40234	TO-104	0.5	18	18	0.1	.45	.32	.27
2N718A	TO-18	0.5	75	32	1	1.08	.78	.65
2N720A	TO-18	0.5	120	80	1	1.32	.96	.80
2N2895	TO-18	0.5	120	65	1	1.41	1.02	.85
2N2896	TO-18	0.5	140	90	1	2.06	1.50	1.25
2N2897	TO-18	0.5	60	45	1	1.16	.84	.70
40084	TO-18	0.5	60	40	1	.40	.29	.24
2N5183	TO-104	0.5	18	18	1	.99	.72	.60
40397	TO-104	0.5	25	25	0.2	.71	.52	.43
40398	TO-104	0.5	25	25	0.2	.64	.47	.39
0399	TO-104	0.5	18	18	0.2	.59	.43	.36
2N3241A	TO-104	0.5	30	25	. .	.73	.53	.44
2N3242A	TO-104	0.5	40	40	. .	.83	.60	.50
2N697	TO-5	0.6	60	40	0.5	.63	.46	.38
2N699	TO-5	0.6	120	80	1	1.16	.84	.70
40458	TO-104	0.5	60	40	1	.78	.57	.47
2N1613	TO-5	0.8	75	50	1	.75	.54	.45
2N1711	TO-5	0.8	75	50	1	.94	.69	.57
2N1893	TO-5	0.8	120	80	0.5	1.08	.78	.65
2N2102	TO-5	1.0	120	65	1	1.13	.82	.68
2N2270	TO-5	1.0	60	45	1	.91	.66	.55
2N2405	TO-5	1.0	120	90	1	1.57	1.14	.95
2N3053/ 40053	TO-5	1.0	60	40	0.7	.75	.54	

SMALL SIGNAL TYPES CLASS A GERMANIUM PNP

Pt-(Ta) to 165 mW

Type	Case	Pt mW	VCbo V	IC mA	1-99	100-999	1000-Up
2N591	TO-1	85	—32	— 40	.62	.45	.375
2N2614	TO-1	120	—40	— 50	.54	.39	.325
2N2953	TO-1	120	—30	—150	.54	.40	.33
40395	TO-1	120	—20	— 20	.46	.34	.28
40329	TO-1	125	—25	—100	.50	.37	.305
2N406	TO-1	150	—20	— 35	.45	.32	.27
2N217	TO-1	165	—35	—150	.60	.44	.365

POWER TYPES CLASS A-AB-B SILICON NPN

Pt (Tc): up to 7W
Pt (Ta): up to 5.8W (*) Ta

Type	Case	Tc W	Vcbo V	Vceo V	Ic A	1-99	100-999	1000-Up
40354	TO-104	0.5	. .	150	.05	1.18	.86	.71
40355	J	1*	. .	150	.05	1.24	.90	.75
40407	TO-5	1*	. .	50	.7	.81	.59	.49
40408	TO-5	1*	. .	90	.7	1.08	.78	.65
2N2895	TO-18	1.8	120	65	1.0	1.41	1.02	.85
2N2896	TO-18	1.8	140	90	1.0	2.06	1.50	1.25
2N2897	TO-18	1.8	60	45	1.0	1.16	.84	.70
40084	TO-18	1.8	60	40	1.0	.99	.72	.60
2N3241A	TO-104	2	30	25		.73	.53	.44
2N3242A	TO-104	2	40	40	. .	.83	.60	.50
2N697	TO-5	2	60	40	. .	.63	.46	.38
2N699	TO-5	2	120	80	1.0	1.16	.84	.70
40397	TO-104	2	. .	25	.2	.71	.52	.43
40398	TO-104	2	. .	25	.2	.64	.47	.39
40399	TO-104	2	. .	18	.2	.59	.43	.36
40400	TO-104	2	. .	18	.2	.54	.40	.30
2N1613	TO-5	3	75	50	1.0	.75	.54	.45
2N1711	TO-5	3	75	50	1.0	.94	.69	.57
2N1893	TO-5	3	120	80	.5	1.08	.78	.65
2N1479	TO-5	5	60	40	1.5	1.65	1.20	1.00
2N1480	TO-5	5	100	55	1.5	1.82	1.32	1.10
2N1481	TO-5	5	60	40	1.5	1.98	1.44	1.20
2N1482	TO-5	5	100	55	1.5	2.81	2.04	1.70
2N1700	TO-5	5	60	40	1.0	1.90	1.38	1.15
2N2102	TO-5	5	120	65	1.0	1.13	.82	.68
2N2270	TO-5	5	60	45	1.0	.91	.66	.55
2N2405	TO-5	5	120	90	1.0	1.57	1.14	.95

Continued Next Column

POWER TYPES CLASS A-AB-B SILICON NPN (Cont'd)

Type	Case	Pt(Tc) W	Vcbo V	Vceo V	Ic A	1-99	100-999	1000-Up
2N3053/ 40053	TO-5	5	60	40		.75	.54	.45
40611	TO-5	5	. .	25	.7	.71	.52	.43
40616	TO-5	5	. .	32	.7	.73	.53	.44
40635	TO-5	5	. .	75	.7	.74	.54	.45
40625	D	3.5*	. .	45	1.0	.89	.65	.54
40628	D	3.5*	. .	55	. .	.94	.68	.57
40314	TO-5	5	. .	40	.7	.78	.57	.47
40315	TO-5	5	. .	35	.7	.75	.54	.45
40317	TO-5	5	. .	40	.7	.78	.57	.47
40321	TO-5	5	. .	300	.7	1.24	.90	.75
40323	TO-5	5	. .	18	.7	.50	.37	.305
40326	TO-5	5	. .	40	.7	.78	.57	.47
40327	TO-5	5	. .	300	.7	1.24	.90	.75
40360	TO-5	5	. .	70	.7	.91	.66	.55
40361	TO-5	5	. .	70	.7	1.03	.75	.62
40539	TO-5	5	. .	55	.7	.66	.48	.40
40409	D	3*	. .	90	7	1.14	.83	.69
40389	D	3.5*	60	40	.7	.91	.66	.55
40392	C	7	60	40	.7	.91	.66	.55
40544	C	7	. .	50	1.5	.75	.54	.45
40347	TO-5	8.75	60	40	1.5	.75	.54	.45
40348	TO-5	8.75	90	65	1.5	1.06	.77	.64
40349	TO-5	8.75	160	140	1.5	1.56	1.13	.94
40347V1	D	4.4*	60	40	1.5	.91	.66	.55
40348V1	D	4.4*	90	65	1.5	1.14	.83	.69
40349V1	D	4.4*	160	140	1.5	1.64	1.19	.99
2N3439	TO-5	10	450	350	1	3.71	2.70	2.25
2N3440	TO-5	10	300	250	1	1.82	1.32	1.10
2N4063	C	10	450	350	1	3.80	2.76	2.30
2N4064	C	10	300	250	1	1.90	1.38	1.15
40346	TO-5	10	. .	175	1	1.14	.83	.69
40412	TO-5	10	. .	250	1	1.06	.77	.64
2N5320	TO-5	10	100	75	1	1.65	1.20	1.00
2N5321	TO-5	10	75	50	2	1.16	.84	.70
40594	TO-5	10	. .	95	2	2.23	1.62	1.35
40347V2	C	11.7	60	40	2	.91	.66	.55
40348V2	C	11.7	90	65	1.5	1.14	.83	.69
40349V2	C	11.7	160	140	1.5	1.64	1.19	.99
40250V1	E	5.8*	50	40	1.5	1.24	.90	.75
40372	E	5.8*	90	55	4	1.24	.90	.75
40373	E	5.8*	160	140	4	2.56	1.86	1.55
40374	E	5.8*	250	175	3	2.56	1.86	1.55
2N1483	TO-8	25	60	40	2	2.89	2.10	1.75
2N1484	TO-8	25	100	55	3	3.63	2.64	2.20
2N1485	TO-8	25	60	40	3	4.46	3.24	2.70
2N1486	TO-8	25	100	55	3	6.77	4.92	4.10
2N1701	TO-8	25	60	40	2.5	2.31	1.68	1.40
2N3441	TO-66	25	160	140	3	2.48	1.80	1.50
2N3054	TO-66	29	90	55	4	1.16	.84	.70
40250	TO-66	29	50	40	4	1.16	.84	.70
40310	TO-66	29	. .	35	4	.99	.72	.60
40312	TO-66	29	. .	60	4	1.03	.75	.62
40316	TO-66	29	. .	40	4	.99	.72	.60
40324	TO-66	29	. .	35	4	.99	.72	.60

POWER TYPES CLASS A-AB-B SILICON NPN

Pt (Tc): from 35 to 300W.

Type	Case	Pt(Tc) W	Vcbo V	Vceo V	I A	1-99	100-999	1000-Up
2N3583	TO-66	35	250	175	2	2.48	1.80	1.50
2N3584	TO-66	35	375	250	2	4.13	3.00	2.50
2N3585	TO-66	35	500	300	2	6.60	4.80	4.00
2N3878	TO-66	35	120	50	7	3.13	2.28	1.90
2N3879	TO-66	35	120	75	7	4.78	3.48	2.90
2N4240	TO-66	35	500	300	2	2.89	2.10	1.75
40313	TO-66	35	. .	300	2	2.23	1.62	1.35
40318	TO-66	35	. .	300	2	2.10	1.52	1.27
40322	TO-66	35	. .	300	2	2.15	1.56	1.30
40328	TO-66	35	. .	300	2	2.19	1.60	1.33
40364	TO-66	35	. .	60	7	4.79	3.48	2.90
2N5293	X	36	80	70	4	.91	.66	.55
2N5294	Y	36	80	70	4	.91	.66	.55
2N5295	X	36	60	40	4	.91	.66	.55
2N5296	Y	36	60	40	4	.91	.66	.55
2N5297	X	36	80	60	4	1.04	.76	.63
2N5298	Y	36	80	60	4	1.04	.76	.63
40613	X	36	. .	25	4	.73	.53	.44

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POWER TYPES CLASS A-AB-B SILICON NPN Cont.

$P_T T_c$ 35 to 300W

Type	Case	P_T T_c M	Vcbo V	Vceo V	IC A	1-99	100-999	1000-Up
40618	X	36	. .	30	4	.74	.54	.45
40621	X	36	. .	32	4	.86	.62	.52
40622	X	36	. .	40	4	.88	.64	.53
40629	X	36	. .	35	4	.74	.54	.45
40630	X	36	. .	40	4	.86	.62	.52
40631	X	36	. .	45	4	.97	.71	.59
2N5490	Y	50	60	50	7	1.07	.78	.65
2N5491	X	50	60	50	7	1.07	.78	.65
2N5492		50	75	65	7	1.19	.86	.72
2N5493	X	50	75	65	7	1.19	.86	.72
2N5494	Y	50	60	50	7	1.19	.86	.72
2N5495	X	50	60	50	7	1.19	.86	.72
2N5496	Y	50	90	80	7	1.29	.94	.78
2N5497	X	50	90	80	7	1.29	.94	.78
40624	X	50	....	45	6	1.14	.83	.69
40627	X	50	....	55	6	1.20	.83	.73
40632	X	50	....	60	6	1.24	.90	.75
2N1487	TO-3	75	60	40	6	4.54	3.30	2.75
2N1488	TO-3	75	100	55	6	4.95	3.60	3.00
2N1489	TO-3	75	60	40	6	7.43	5.40	4.50
2N1490	TO-3	75	100	55	6	8.25	6.00	5.00
2N5034	T	83	55	40	6	1.34	.98	.81
2N5036	T	83	70	50	8	1.42	1.04	.86
40514	T	83	....	45	6	1.26	.92	.76
2N5035	U	83	55	40	6	1.32	.96	.80
2N5037	U	83	70	50	8	1.41	1.02	.85
40513	U	83	....	45	6	1.24	.90	.75
40542	T	83	....	50	6	1.31	.95	.79
40543	T	83	....	60	8	1.37	1.00	.83
40633	T	83	....	75	8	1.27	.92	.77
2N5239	TO-3	100	330	225	5	5.77	4.20	3.50
2N5240	TO-3	100	375	300	5	7.42	5.40	4.50
2N4347	TO-3	100	140	120	5	2.97	2.16	1.80

$P_T T_c$: above 100 to 300 W

2N3055	TO-3	115	100	60	15	1.82	1.32	1.10
40363	TO-3	115	....	70	15	1.82	1.32	1.10
40636	TO-3	115	....	95	15	2.31	1.68	1.40
2N3442	TO-3	117	160	140	10	4.54	3.30	2.75
40251	TO-3	117	50	40	15	1.90	1.38	1.15
40325	TO-3	117	35	35	15	1.90	1.38	1.15
2N4348	TO-3	120	140	120	10	4.13	3.00	2.50
2N5038	TO-3	140	150	90	20	10.30	7.50	6.25
2N5039	TO-3	140	120	75	20	8.10	5.90	4.90
2N5671	TO-3	140	120	90	30	17.40	14.40	12.00
2N5672	TO-3	140	150	120	30	24.65	20.40	17.00
2N2015	TO-36	150	100	50	10	9.08	6.60	5.50
2N2016	TO-36	150	130	65	10	9.90	7.20	6.00
2N2338	TO-36	150	60	40	7.5	6.60	4.80	4.00
2N3771	TO-3	150	50	40	15	4.13	3.00	2.50
2N3772	TO-3	150	100	60	10	4.13	3.00	2.50
2N3773	TO-3	150	160	140	16	7.43	5.40	4.50
40411	TO-3	150	....	90	30	4.29	3.12	2.60
2N5575	TO-3 B	300	70	50	80	36.25	30.00	25.00
2N5576	TO-3 A	300	70	50	80	36.25	30.00	25.00
2N5577	TO-3 C	300	70	50	80	40.60	33.60	28.00
2N5578	TO-3 B	300	90	70	60	43.50	36.00	30.00
2N5579	TO-3 A	300	90	70	60	43.50	36.00	30.00
2N5580	TO-3 C	300	90	70	60	47.85	39.60	33.00

POWER TYPES CLASS A-AB SILICON PNP

Pt(Tc) : up to 10 W (*) T_a

Type	Package	Pt W	Vceo V	Ic A	1-99	100-999	1000-Up
40319	TO-5	5	—40	—0.7	1.16	.84	.70
40362	TO-5	5	—70	—0.7	1.24	.90	.75
40537	TO-5	5	—55	—0.7	1.24	.90	.75
40538	TO-5	5	—55	—0.7	1.36	.99	.82
40406	TO-5	1*	—50	—0.7	1.19	.87	.72
40410	D	3 *	—90	—0.7	1.32	.96	.80
40391	D	3.5*	—40	—1	1.24	.90	.75
2N4036	TO-5	7	—65	—1	1.32	.96	.80
2N4037	TO-5	7	—40	—1	1.16	.84	.70
2N4314	TO-5	7	—65	—1	1.24	.90	.75
40394	C	7	—40	—1	1.24	.90	.75
40634	TO-5	7	....	—0.7	1.29	.94	.78
40595	TO-5	10	—95	—2	2.23	1.62	1.35
2N5322	TO-5	10	—75	—2	1.90	1.38	1.15
2N5323	TO-5	10	—50	—2	1.41	1.02	.85
2N5415	TO-5	10	—300	—1	3.30	2.40	2.00
2N5416	TO-5	10	—200	—1	4.95	3.60	3.00

POWER TYPES CLASS A-AB-B GERMANIUM NPN

($P_T T_A$) : up to 100 mW

Type	Package	Pt mW	Vcbo V	Ic mA	1-99	100-999	1000-Up
2N647	TO-1	100	25	100	1.16	.84	.70
2N649	TO-1	100	20	100	.92	.67	.56

POWER TYPES GERMANIUM PNP

$P_T T_c$ 0.3 to 30W

Type	Package	Pt W	Vcbo V	Ic A	1-99	100-999	1000-Up
40396	TO-1	0.3	—18	—0.5	.91	.66	.55
2N408	TO-1	0.15*	—20	—0.7	.50	.37	.305
2N1183	TO-8	7.5	—45	—3	1.82	1.32	1.10
2N1183A	TO-8	7.5	—60	—3	2.31	1.68	1.40
2N1183B	TO-8	7.5	—80	—3	2.89	2.10	1.75
2N1184	TO-8	7.5	—45	—3	2.48	1.80	1.50
2N1184A	TO-8	7.5	—60	—3	2.81	2.04	1.70
2N1184B	TO-8	7.5	—80	—3	4.13	3.00	2.50
2N2147	TO-3	12.5	—75	—5	1.57	1.14	.95
2N2148	TO-3	12.5	—60	—5	1.08	.78	.65
40022	TO-3	12.5	—32	—5	.83	.60	.50
40050	TO-3	12.5	—40	—5	.99	.72	.60
40051	TO-3	12.5	—50	—5	1.21	.88	.73
40254	TO-3	12.5	—32	—5	.78	.57	.47
40612	TO-3	12.5	. . .	—5	.71	.52	.43
40623	TO-3	12.5	. . .	—5	.86	.62	.52
40626	TO-3	12.5	. . .	—5	.89	.65	.54
2N2869/ 2N301	TO-3	30	—60	—10	1.52	1.11	.92
2N2870/ 2N301A	TO-3	30	—80	—10	3.15	2.29	1.91
2N1905	TO-3	30	—100	—6	4.13	3.00	2.50
2N1906	TO-3	30	—130	—6	6.60	4.80	4.00

HIGH VOLTAGE TYPES GERMANIUM PNP

V_{CBOM} (peak): to—320V

Type	Package	V_{CBOM} V	Pt W	Ic A	1-99	100-999	1000-Up
2N3730	TO-3	—200	10	—3	1.24	.90	.75
40440	TO-3	—200	5	—10	1.32	.96	.80
2N3731	TO-3	—320	5	—10	1.62	1.18	.98
2N4346	TO-3	—320	5	—10	2.31	1.68	1.40
40439	TO-3	—320	5	—10	1.98	1.44	1.20

HIGH VOLTAGE TYPES CLASS A-AB-B SILICON NPN

V_{cbo} : 120 to 500 V

Type	Package	Vcbo V	Pt W	Ic A	1-99	100-999	1000-Up
2N2102	TO-5	120	5	1	1.13	.82	.68
2N2405	TO-5	120	5	1	1.57	1.14	.95
2N3878	TO-66	120	35	7	3.13	2.28	1.90
2N3879	TO-66	120	35	7	4.78	3.48	2.90
2N4390	TO-104	120	0.5 TA	....	.75	.54	.45
2N5184	TO-104	120	0.5 TA	0.05	.48	.35	.29
2N5185	J	120	1 TA	0.05	.56	.41	.34
2N2016	TO-36	130	150	10	9.90	7.20	6.00
2N4347	TO-3	140	100	5	2.97	2.16	1.80
2N4348	TO-3	140	120	10	4.13	3.00	2.50
2N4068	TO-104	150	0.5 Ta	0.2	1.34	.97	.81
2N4069	J	150	1 Ta	0.2	1.40	1.02	.85
40354	TO-104	150	0.5 Ta	0.05	1.18	.86	.71
40355	J	150	1 Ta	0.05	1.24	.90	.75
2N3441	TO-66	160	29	3	2.48	1.80	1.50
2N3442	TO-3	160	117	10	4.54	3.30	2.75
2N3773	TO-3	160	150	16	7.43	5.40	4.50
40349	TO-5	160	5	1	1.56	1.13	.94
40373	E	160	29	3	2.56	1.86	1.55
40349V1	D	160	4.4TA	1.5	1.64	1.19	.99
40349V2	C	160	11.7	1.5	1.64	1.19	.99
40346	TO-5	175	10	1	1.14	.83	.69
2N3583	TO-66	250	35	2	2.48	1.80	1.50
40374	E	250	35	2	2.56	1.86	1.55
2N3440	TO-5	300	10	1	1.82	1.32	1.10
2N4064	C	300	10	1	1.90	1.38	1.15
2N5239	TO-3	330	100	5	5.77	4.20	3.50
2N3584	TO-66	375	35	2	4.13	3.00	2.50
2N3439	TO-5	450	10	1	3.71	2.70	2.25
2N5240	TO-3	375	100	5	7.42	5.40	4.50
2N4063	C	450	10	1	3.80	2.76	2.30
2N3585	TO-66	500	35	2	6.60	4.80	4.00
2N4240	TO-66	500	35	2	2.89	2.10	1.75

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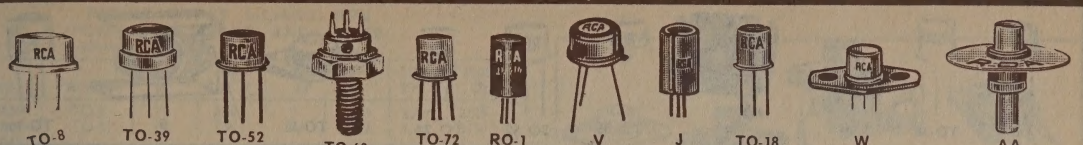
Transistors-Radio Frequency RCA



RADIO FREQUENCY FOR LINEAR OPERATION SMALL SIGNAL TYPES N-CHANNEL SINGLE INSUL. GATE SILICON MOS FET

Gps (typ): to 25.8 db

Type	Package	G_{ps} (Typ) NF dB	NF MHz	V_{ds} V	1-99	100-999	1000-Up
3N143	TO-72	13.5	100	20	1.30	.95	.79
3N139	TO-72	14	200	35	2.48	1.80	1.50
3N128	TO-72	16	200	20	1.29	.94	.78
3N152	TO-72	17	200	20	1.62	1.18	.98
3N142	TO-72	24	100	20	1.04	.76	.63
3N153	TO-72	...	...	20	1.42	1.03	.86
3N154	TO-72	20	200	20	1.49	1.08	.90
40487A	TO-72	20	200	20	1.24	.90	.75
40468A	TO-72	24	100	20	.75	.54	.45
40559A	TO-72	21	100	20	.70	.51	.42

SMALL SINGLE TYPES N-CHANNEL DUAL INSUL. GATE FET SILICON MOS

Gps (typ): to 35 db

Type	Package	G_{ps} dB	NF MHz	Vds V	1-99	100-999	1000-Up
40673	TO-72	18	200	20	1.63	1.19	.99
3N140	TO-72	18	200	20	1.62	1.18	.98
3N141	TO-72	17	200	20	1.45	1.06	.88
3N159	TO-72	18	200	20	2.06	1.50	1.25
40600	TO-72	20	200	20	1.24	.90	.75
40601	TO-72	14	200	200	1.16	.84	.70
40602	TO-72	35	44	20	.83	.60	.50
40603	TO-72	26	100	20	1.04	.76	.63
40604	TO-72	21	10.7	20	.98	.71	.59
3N200	TO-72	12-5	400	20	4.37	3.18	2.65

SMALL SIGNAL TYPES VHF-HF CLASS A-B-C SILICON NPN

Ft: (min): to 250 MHz, (typ): to 325 MHz

Type	Package	Ft Min MHz	Ft Typ MHz	Max. V_{cbo} V	1-99	100-999	1000-Up
40354	TO-104	50	100	....	1.18	.86	.71
40355	J	50	100	....	1.24	.90	.75
2N2270	TO-5	60	....	60	.91	.66	.55
2N2897	TO-18	100	....	60	1.16	.84	.70
2N3053/ 40053	TO-5	100	....	60	.75	.54	.45
40084	TO-18	100	....	60	.99	.72	.60
2N2102	TO-5	120	....	120	1.13	.82	.68
2N2405	TO-5	120	....	120	1.57	1.14	.95
2N2895	TO-18	120	....	120	1.41	1.02	.85
2N2896	TO-18	120	....	140	2.06	1.50	.125
40637	TO-52	.....	300	....	.91	.66	.55
2N5188	TO-39	250	325	60	.66	.48	.40
2N5189	V	250	....	60	.73	.53	.44

SMALL SIGNAL TYPES UHF-VHF CLASS A-B-C SILICON NPN

Ft (min): above 250 to 1200 MHz

Type	Package	MHz	Gpe dB	Gpe MHz	1-99	100-999	1000-Up
40405	TO-52	300	6	240	1.82	1.32	1.10
2N918	TO-72	600	21	200	2.97	2.16	1.80
2N5180	TO-104	650	12	200	.54	.40	.33
2N3478	TO-104	750	12	470	1.90	1.38	1.15
2N4259	TO-104	750	11.5	450	1.90	1.38	1.15
40238	TO-104	800*	45.3	45	.46	.34	.28
40242	TO-104	....	38.3	100	.61	.44	.37
40243	TO-104	....	37.6	100	.50	.36	.30
40244	TO-104	....	oscillator		.41	.30	.25
40245	TO-104	....	51.4	10.7	.43	.31	.26
40246	TO-104	....	51.4	10.7	.41	.30	.25
40235	TO-104	1000*	29.1	216	.61	.44	.37
40236	TO-104	1000*	19	216	.51	.37	.31
40237	TO-104	1000*	oscillator		.41	.30	.25
2N3932	TO-104	750	11.5	200	1.40	1.02	.85
2N3933	TO-104	750	14	200	1.62	1.18	.98
2N3600	TO-72	850	17	200	3.80	2.76	2.30
2N2857	TO-72	1000	12.5	450	4.46	3.24	2.70
2N5179	TO-72	1000	15	200	.81	.59	.49
2N3839	TO-72	1000	12.5	450	13.80	11.40	9.50
2N5109	TO-39	1200	11	200	3.47	2.52	2.10

SMALL SIGNAL TYPES GERMANIUM PNP

Ft (typ): to 132 MHz
Fhfb (typ): to 140 MHz

Type	Package	Ft MHz	F_{hfb} MHz	V_{cbo} V	1-99	100-999	1000-Up
2N274	TO-44	.....	30	—40	1.24	.90	.75
2N1224	TO-33	.....	30	—40	1.24	.90	.75
2N1226	TO-33	.....	30	—60	1.49	1.08	.90
2N1395	TO-33	.....	30	—40	1.82	1.32	1.10
2N1524	TO-1	.....	33	—24	.51	.37	.31
2N1526	TO-1	.....	33	—24	.53	.38	.32
2N1638	TO-1	.....	40	—34	.54	.40	.33
2N1632	TO-1	.....	45	—34	.63	.46	.38
2N1637	TO-1	.....	45	—34	.61	.44	.37
2N384	TO-44	.....	100	—40	1.65	1.20	1.00
2N1225	TO-33	.....	100	—40	1.41	1.02	.85
2N1396	TO-33	.....	100	—40	1.93	1.40	1.17
2N1397	TO-33	.....	120	—40	2.15	1.56	1.30

RF POWER TYPES SILICON NPN FEATURING "OVERLAY"

P_{oe} (min): .01 to 30 W (*) Min. (**) P_{oe}

Type	Package	P_{oe} W	P_{oe} MHz	Ft MHz	1-99	100-999	1000-Up
2N1491	TO-5	0.5	70	380	1.82	1.32	1.10
40080	TO-5	0.1	27	350	1.08	.78	.65
40081	TO-5	0.4	27	350	1.41	1.02	.85
2N1493	TO-5	0.5	70	380	7.01	5.10	4.25
2N3118	TO-5	1	50	250*	4.95	3.60	3.00
40577	TO-5	1	50	250*	58.00	48.00	40.00
2N4427	TO-39	1	175	800	2.15	1.56	1.30
40280	TO-39	1	175	550	4.62	3.36	2.80
2N3866	TO-39	1	400	800	1.65	1.25	1.00
40578	TO-39	1	400	800	58.00	48.00	40.00
2N5108	TO-39	1	1000	1200*	12.90	10.70	8.90
2N5090	TO-60	1.2	400	500*	11.40	8.30	6.90
2N5913	TO-39	1.75	175	900	3.63	2.64	2.20
2N5914	H-1675	2	470	900	9.90	7.20	6.00
2N5916	H-1675	2	400	-	12.33	10.20	8.50
2N5917	H-1696	2	400	-	11.60	9.60	8.00
2N5920	AA	2**	2000	-	130.00	108.00	90.00
40605	TO-39	2.5	175	350*	45.00	37.25	31.05
2N3553	TO-39	2.5	175	500	4.37	3.18	2.65
40082	TO-39	3	27	200	4.04	2.94	2.45
40446	W	3	27	....	4.29	3.12	2.60
2N3375	TO-60	3	400	400*	10.80	8.95	7.45
40581	TO-39	3.5	27	....	4.87	3.54	2.95
40582	W	3.5	27	....	5.12	3.72	3.10
2N4440	TO-60	5	400	500	11.90	9.85	8.20
2N5921	AAA	5**	2000	-	181.25	150.00	125.00
2N5915	H-1675	6	470	800	10.88	9.00	7.50
40666	TO-60	7.5	100	500	12.00	9.85	8.20
2N2876	TO-60	10	50	200	17.40	14.40	12.00
2N3733	TO-60	10	400	400	15.80	13.10	10.90
2N3632	TO-60	13.5	175	400	12.75	10.55	8.80
40665	TO-60	13.5	175	400	14.00	11.65	9.70
2N5102	TO-60	15	136	....	21.75	18.00	15.00
2N5016	TO-60	15	400	600	36.25	30.00	25.00
2N5919	11-1675	16	400	-	43.50	36.00	30.00
2N5071	TO-60	24	76	....	29.00	24.00	20.00
2N5070	TO-60	25	30	....	29.00	24.00	20.00
2N5470	AA	2 GHz	....	....	62.25	54.00	45.00
40608	TO-39	....	....	700*	2.48	1.80	1.50
40675	....	37.5	30	...	132.00	110.00	91.00

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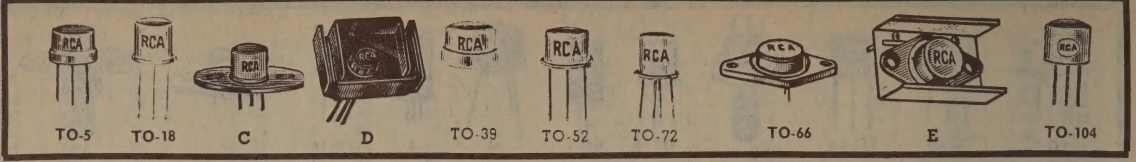
RCA Transistors



COMPUTER SWIT. AND PULSE FOR LOW AND MED. SPEED OPERATION—LOW LEVEL TYPES GERMANIUM PNP

F_{hfb} (min): to 15 MHz

Type	Package	F_{hfb} MHz	C_{obo} pf	H_{fe} min	I_c mA	1-99	100-999	1000-Up
2N1303	TO-5	3	20	20	—10	.45	.32	.27
2N404	TO-5	4	20	30	—12	.45	.32	.27
2N404A	TO-5	4	20	30	—12	.58	.42	.35
2N1305	TO-5	5	20	40	—10	.53	.38	.32
2N1307	TO-5	10	20	60	—10	.64	.47	.39
2N1309	TO-5	15	20	80	—10	.97	.71	.59

LOW LEVEL TYPES GERMANIUM NPN

F_{hfb} (min): to 15 MHz

2N1302	TO-5	3	20	20	10	.45	.32	.27
2N1605A	TO-5	4	20	40	20	1.14	.83	.69
2N388	TO-5	5	20	60	30	.50	.36	.30
2N388A	TO-5	5	20	60	30	.94	.68	.57
2N1304	TO-5	5	20	40	10	.53	.38	.32
2N1306	TO-5	10	20	60	10	.66	.48	.40
2N1308	TO-5	15	20	80	10	.97	.71	.59

COMPUTER SWITCHING AND PULSE FOR MEDIUM SPEED OPERATION—LOW LEVEL TYPES SILICON NPN

f_T (min): 20 to 175 MHz

Type	Case	f_T MHz	H_{fe} Min	V_{cbo} V	I_c mA	1-99	100-999	1000-Up
2N697	TO-5	50	40	60	150	.63	.46	.38
2N699	TO-5	50	40	120	150	1.16	.84	.70
2N720A	TO-18	50	40	120	150	1.32	.96	.80
2N1893	TO-5	50	40	100	150	1.08	.78	.65
2N5320	TO-5	50	30	100	500	1.65	1.20	1.00
2N5321	TO-5	50	40	75	500	1.16	.84	.70
2N718A	TO-18	60	40	75	150	1.08	.78	.65
2N1613	TO-5	60	40	75	150	.75	.54	.45
2N2270	TO-5	60	50	60	150	.91	.66	.55
2N3878	TO-66	60	20	120	4A	3.13	2.28	1.90
2N3879	TO-66	60	20	120	4A	4.78	3.48	2.90
2N5202	TO-66	60	10	120	4A	4.53	3.30	2.75
2N1711	TO-5	70	100	75	150	.94	.69	.57
2N2897	TO-18	100	40	60	150	1.16	.84	.70
2N3053/ 40053	TO-5	100	50	60	150	.75	.54	.45
40084	TO-18	100	50	60	150	.99	.72	.60
40389	D	100	50	60	150	.91	.66	.55
40392	C	100	50	60	150	.91	.66	.55
2N2102	TO-5	120	40	120	150	1.13	.82	.68
2N2405	TO-5	120	60	120	150	1.57	1.14	.95
2N2895	TO-18	120	60	120	150	1.41	1.02	.85
2N2896	TO-18	120	60	140	150	2.06	1.50	1.25
2N5183	TO-104	125	40	18	300	.40	.29	.24
40458	TO-104	150	100	60	10	.78	.57	.47
2N3241A	TO-104	175	100	30	10	.73	.53	.44
2N3242A	TO-104	175	125	40	10	.83	.60	.50

LOW LEVEL TYPES SILICON PNP

f_T (min): to 60 MHz

Type	Case	f_T MHz	H_{fe} min	V_{cbo} V	I_c A	1-99	100-999	1000-Up
2N5322	TO-5	50	30	—100	—2	1.90	1.38	1.15
2N5323	TO-5	50	40	—75	—2	1.41	1.02	.85
2N4036	TO-5	60	40	—90	—1	1.32	.96	.80
2N4037	TO-5	60	50	—60	—1	1.16	.84	.70
2N4314	TO-5	60	50	—90	—1	1.24	.90	.75
40391	D	60	50	—60	—1	1.24	.90	.75
40394	C	60	50	—60	—1	1.24	.90	.75

COMPUTER SWITCH AND PULSE FOR CHOPPER AND MULTIPLEX OPERATION—N-CHANNEL SINGLE INSULATED GATE MOSFET SILICON

C_{rss} (mcx): 0.25 pF

Type	Package	C_{rss} pF	I_{gss} Pa	P_T mW	1-99	100-999	1000-Up
3N138	TO-72	0.25	0.1	400	2.89	2.10	1.75
3N153	TO-72	0.2	0.1	400	1.42	1.03	.86

COMPUTER SWITCHING AND PULSE FOR HIGH SPEED OPERATION—LOW LEVEL TYPES SILICON NPN

f_T (min): 200 to 600 MHz

Type	Case	f_T MHz	C_{obo} pF	H_{fe} min	I_c mA	1-99	100-999	1000-Up
2N706	TO-18	200	6	20	10	.59	.43	.36
2N3119	TO-5	250	6	50	100	5.36	3.90	3.25
2N5186	TO-52	400	3	25	10	.40	.29	.24
2N5187	TO-52	400	3.5	30	10	.56	.41	.34
2N2369A	TO-18	500	4	20	100	1.65	1.20	1.00
2N709	TO-18	600	3	20	10	1.32	.96	.80
2N2475	TO-18	600	3	30	20	1.62	1.18	.98
2N3261	TO-52	600	3.5	40	10	1.32	.96	.80

HIGH VOLTAGE/HIGH CURRENT TYPES SILICON NPN

f_t (min): 250 to 600 MHz

Type	Case	f_t MHz	V_{cbo} V	P_T W	1-99	100-999	1000-Up
2N5188	TO-39	250	60	0.8	.66	.48	.40
2N5189	V	250	60	1	.73	.53	.44
2N5262	V	250	75	1	1.62	1.18	.98

HIGH VOLTAGE TYPES GERMANIUM PNP

V_{cbo} (mcx) to—105V

Type	Package	V_{cbo} V	P_T mW	f_T KHz	1-99	100-999	1000-Up
2N398B	TO-5	—105	250		1.24	.90	.75
2N398	TO-5	—105	50	20	.89	.65	.54

POWER SWITCH AND PULSE FOR LOW SPEED OPERATION POWER TYPES SILICON NPN

T_C: to 8.75 W

Type	Package	P_T W	V_{ceo} (Sat) V	I_c A	1-99	100-999	1000-Up
40407	TO-5	1	50	0.7	.81	.59	.49
40408	TO-5	1	90	0.7	1.08	.78	.65
2N718A	TO-18	1.8	32	1	1.08	.78	.65
2N720A	TO-18	1.8	80	1	1.32	.96	.80
2N2895	TO-18	1.8	65	1	1.41	1.02	.85
2N2896	TO-18	1.8	90	1	2.06	1.50	1.25
2N2897	TO-18	1.8	45	1	1.16	.84	.70
2N697	TO-5	2	40	0.5	.63	.46	.38
2N699	TO-5	2	80	1	1.16	.84	.70
2N1613	TO-5	3	50	1	.75	.54	.45
2N1711	TO-5	3	50	1	.94	.69	.57
2N1893	TO-5	3	80	0.5	1.08	.78	.65
40409	D	3.5	90	0.7	1.14	.83	.69
40389	D	3.5	40	0.7	.91	.66	.55
40412V1	D	4	200	1	1.14	.83	.69
2N1479	TO-5	5	40	1.5	1.65	1.20	1.00
2N1480	TO-5	5	55	1.5	1.82	1.32	1.10
2N1481	TO-5	5	40	1.5	1.98	1.44	1.20
2N1482	TO-5	5	55	1.5	2.81	2.04	1.70
2N1700	TO-5	5	40	1	1.90	1.38	1.15
2N2102	TO-5	5	65	1	1.13	.82	.68
2N2270	TO-5	5	45	1	.91	.66	.55
2N2405	TO-5	5	90	1	1.57	1.14	.95
2N3053/ 40053	TO-5	5	40	0.7	.75	.54	.45
40314	TO-5	5	40	0.7	.78	.57	.47
40315	TO-5	5	35	0.7	.75	.54	.45
40317	TO-5	5	40	0.7	.78	.57	.47
40321	TO-5	5	300	1	1.24	.90	.75
40323	TO-5	5	18	0.7	.70	.51	.42
40326	TO-5	5	40	0.7	.78	.57	.47
40327	TO-5	5	300	1	1.24	.90	.75
40360	TO-5	5	70	0.7	.91	.66	.55
40361	TO-5	5	70	0.7	1.03	.75	.62
40347V1	D	4.4	40	1	.91	.66	.55
40348V1	D	4.4	65	1	1.14	.83	.69
40349V1	D	4.4	140	1	1.64	1.19	.99
40250V1	E	5.8	40	4	1.24	.90	.75
40372	E	5.8	55	4	1.24	.90	.75
40375	E	5.8	175	2	3.38	2.46	2.05
40392	C	7	40	0.7	.91	.66	.55
40347	TO-5	8.75	40	1	.75	.54	.45
40348	TO-5	8.75	65	1	1.06	.77	.64
40349	TO-5	8.75	140	1	1.56	1.13	.94

POWER TYPES SILICON NPN
POWER SWITCHING AND PULSE

Pt (T_c): 10-300W

Type	Package	Pt W	Vceo Sus V	Ic A	1-99	100-999	1000-Up
2N3439	TO-5	10	350	1	3.71	2.70	2.25
2N3440	TO-5	10	250	1	1.82	1.32	1.10
2N4063/ 40255	C	10	350	1	3.80	2.76	2.30
2N4064/ 40256	C	10	250	1	1.90	1.38	1.15
2N5784	TO-5	10	80	3.5	1.24	.90	.75
2N5785	TO-5	10	65	3.5	1.08	.78	.65
2N5786	TO-5	10	45	3.5	.99	.72	.60
40346	TO-5	10	175	1	1.14	.83	.69
40412	TO-5	10	250	1	1.06	.77	.64
40412V2	C	10	250	1	1.14	.83	.69
40347V2	C	11.7	40	1	.91	.66	.55
40348V2	C	11.7	65	1	1.14	.83	.69
40349V2	C	11.7	140	1	1.64	1.19	.99
2N1483	TO-8	25	40	3	2.89	2.10	1.75
2N1484	TO-8	25	55	3	3.63	2.64	2.20
2N1485	TO-8	25	40	3	4.46	3.24	2.70
2N1486	TO-8	25	55	3	6.77	4.92	4.10
2N1701	TO-8	25	40	2.5	2.31	1.68	1.40
2N3441	TO-66	25	140	3	2.48	1.80	1.50
2N3054	TO-66	29	55	4	1.16	.84	.70
40250	TO-66	29	40	4	1.16	.84	.70
40310	TO-66	29	35	4	.99	.72	60
40312	TO-66	29	60	4	1.03	.75	.62
40316	TO-66	29	40	4	.99	.72	.60
40324	TO-66	29	35	4	.99	.72	.60
2N3583	TO-66	35	175	2	2.48	1.80	1.50
2N3584	TO-66	35	250	2	4.13	3.00	2.50
2N3585	TO-66	35	300	2	6.60	4.80	4.00
2N4240	TO-66	35	300	2	2.89	2.10	1.75
2N3878	TO-66	35	50	7	3.13	2.28	1.90
2N3879	TO-66	35	75	7	4.78	3.48	2.90
40313	TO-66	35	300	2	2.23	1.62	1.35
40318	TO-66	35	300	2	2.10	1.52	1.27
40322	TO-66	35	300	2	2.15	1.56	1.30
40328	TO-66	35	300	2	2.19	1.60	1.33
40364	TO-66	35	60	7	4.79	3.48	2.90
2N5293	X	36	70	4	.91	.66	.55
2N5294	Y	36	70	4	.91	.66	.55
2N5295	X	36	40	4	.91	.66	.55
2N5296	Y	36	40	4	.91	.66	.55
2N5297	X	36	60	4	1.04	.76	.63
2N5298	Y	36	60	4	1.04	.76	.63
40618	X	36	30	...	.74	.54	.45
2N5490	Y	50	50	7	1.07	.78	.65
2N5491	X	50	50	7	1.07	.78	.65
2N5492	Y	50	65	7	1.19	.86	.72
2N5493	X	50	65	7	1.19	.86	.72
2N5494	Y	50	50	7	1.19	.86	.72
2N5495	X	50	50	7	1.19	.86	.72
2N5496	Y	50	80	7	1.29	.94	.78
2N5497	X	50	80	7	1.29	.94	.78
2N1487	TO-3	75	40	6	4.54	3.30	2.75
2N1488	TO-3	75	55	6	4.95	3.60	3.00
2N1489	TO-3	75	40	6	7.43	5.40	4.50
2N1490	TO-3	75	55	6	8.25	6.00	5.00
2N1702	TO-3	75	40	5	4.54	3.30	2.75
2N5034	T	83	40	6	1.34	.98	.81
2N5036	T	83	50	8	1.42	1.04	.86
40514	T	83	45	6	1.26	.92	.76
2N5035	U	83	40	6	1.32	.96	.80
2N5037	U	83	50	8	1.41	1.02	.85
2N5239	TO-3	100	300	5	5.77	4.20	3.50
2N5240	TO-3	100	225	5	7.42	5.40	4.50
2N5838	TO-3	100	250	5	6.27	4.56	3.80
2N5839	TO-3	100	275	5	5.28	3.84	3.20
2N5840	TO-3	100	350	5	8.91	6.48	5.40
2N5804	TO-3	110	225	8	14.50	12.00	10.00
2N5805	TO-3	110	300	8	18.85	15.60	13.00
2N4347	TO-3	100	120	8	2.97	2.16	1.80
2N3055	TO-3	115	60	15	1.82	1.32	1.10
40363	TO-3	115	70	15	1.82	1.32	1.10
2N3442	TO-3	117	140	10	4.54	3.30	2.75
40251	TO-3	117	40	15	1.90	1.38	1.15
40325	TO-3	117	35	15	1.90	1.38	1.15
2N4348	TO-3	120	120	10	4.13	3.00	2.50
2N5038	TO-3	140	90	20	10.30	7.50	6.25
2N5039	TO-3	140	75	20	8.10	5.90	4.90
2N5671	TO-3	140	90	30	17.40	14.40	12.00
2N5672	TO-3	140	120	30	24.65	20.40	17.00
2N2015	TO-36	150	50	10	9.08	6.60	5.50
2N2016	TO-36	150	65	10	9.90	7.20	6.00
2N2338	TO-36	150	40	7.5	6.60	4.80	4.00
2N3771	TO-3	150	40	30	4.13	3.00	2.50
2N3772	TO-3	150	60	20	4.13	3.00	2.50
2N3773	TO-3	150	140	16	7.43	5.40	4.50
40411	TO-3	150	90	30	4.29	3.12	2.60
2N5575	TO-3B	300	50	80	36.25	30.00	25.00
2N5576	TO-3A	300	50	80	36.25	30.00	25.00

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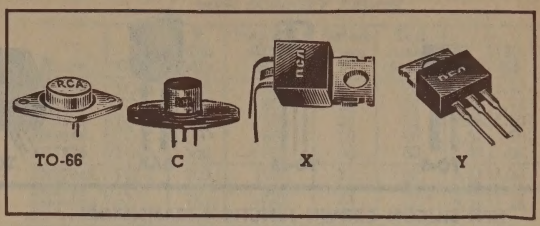


POWER TYPES SWITCHING SILICON NPN Cont.

Type	Package	Pt W	Vceo V	Ic A	1-99	100-999	1000-Up
2N5577	TO-3	300	50	80	40.60	33.60	28.00
2N5578	TO-3	300	70	60	43.50	36.00	30.00
2N5579	TO-3	300	70	60	43.50	36.00	30.00
2N5580	TO-3	300	70	60	47.85	39.60	33.00

POWER TYPES SILICON PNP

Pt(T_c): to 7W Pt (Ta): to 3.5W (*) TAc

Type	Package	Pt W	Vceo V	Ic A	1-99	100-999	1000-Up
40406	TO-5	1*	—50	—0.7	1.19	.87	.72
40410	D	3*	—90	—0.7	1.32	.96	.80
40391	D	3.5*	—40	—1	1.24	.90	.75
40319	TO-5	5	—40	—0.7	1.16	.84	.70
40362	TO-5	5	—70	—0.7	1.24	.90	.75
40394	D	7	—40	—1	1.24	.90	.75

POWER TYPES GERMANIUM PNP

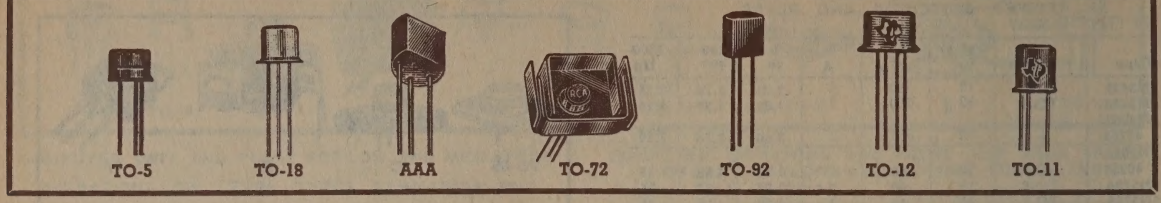
Pt(T_c): to 30W

Type	Package	Pt W	Vcbv V	Ic A	1-99	100-999	1000-up
2N1183	TO-8	7.5	—20	—3	1.82	1.32	1.10
2N1183A	TO-8	7.5	—30	—3	2.31	1.68	1.40
2N1183B	TO-8	7.5	—40	—3	2.89	2.10	1.75
2N1184	TO-8	7.5	—20	—3	2.48	1.80	1.50
2N1184A	TO-8	7.5	—30	—3	2.81	2.04	1.70
2N1184B	TO-8	7.5	—40	—3	4.13	3.00	2.50
2N1905	TO-3	30	—100	—6	4.13	3.00	2.50
2N1906	TO-3	30	—130	—6	6.60	4.80	4.00

POWER SWITCHING AND PULSE
FOR HIGH VOLTAGE OPERATION
SILICON NPN

Vceo (max): 120 to 350V

Type	Package	Vceo Sus V	Pt W	Ft Min MHz	1-99	100-999	1000-Up
2N4347	TO-3	120	100	0.8	2.97	2.16	1.80
2N4348	TO-3	120	120	0.7	4.13	3.00	2.50
2N4390	TO-104	120	0.5	50	.75	.54	.45
2N3441	TO-66	140	25	1.2	2.48	1.80	1.50
2N3442	TO-3	140	117	0.8	4.54	3.30	2.75
2N3773	TO-3	140	150	0.7	7.43	5.40	4.50
40349	TO-5	140	8.75	1.1	1.56	1.13	.94
40349V1	D	140	4.4	1.1	1.64	1.19	.99
40349V2	C	140	11.7	1.1	1.64	1.19	.99
40373	E	140	5.8	1.2	2.56	1.86	1.55
2N4068	TO-104	150	0.5	50	1.34	.97	.81
2N4069	J	150	1	50	1.40	1.02	.85
40354	TO-104	150	0.5	50	1.18	.86	.71
40355	J	150	1	50	1.24	.90	.75
2N3583	TO-66	175	35	15	2.48	1.80	1.50
40346	TO-5	175	10	10	1.14	.83	.69
40374	E	175	5.8	15	2.56	1.86	1.55
2N5415	TO-5	200	10	15	3.30	2.40	2.00
2N5239	TO-3	225	100	5	5.77	4.20	3.50
2N3440	TO-5	250	10	15	1.82	1.32	1.10
2N3584	TO-66	250	35	15	4.13	3.00	2.50
2N4064/ 40256	C	250	10	15	1.90	1.38	1.15
40412	TO-5	250	10	10	1.06	.77	.64
40412V1	D	250	4	10	1.14	.83	.69
40412V2	C	250	10	10	1.14	.83	.69
2N3585	TO-66	300	35	15	6.60	4.80	4.00
2N4240	TO-66	300	35	15	2.89	2.10	1.75
2N5240	TO-3	300	100	5	7.42	5.40	4.50
2N5416	TO-5	300	10	15	4.95	3.60	3.00
2N3439	TO-5	350	10	15	3.71	2.70	2.25
2N4063/ 40255	C	350	10	15	3.80	2.76	2.30



NPN SILICON GROWN-JUNCTION TRANSISTORS

Type	Case	Rated Vcbo v	hfe (hFE)	Pd 250°C mw	1-99	100-999
TI480	TO-11	50	9-36	150	1.55	1.20
TI481	TO-11	80	9-36	600	1.90	1.45
TI492	TO-5	15	80-200	600	1.55	1.20
TI493	TO-5	30	80-200	200	1.90	1.45
TI494	TO-5	45	80-200	200	2.50	1.90
TI495	TO-5	15	15-45	125	3.00	2.30
TI496	TO-11	70	9-20	600	1.75	1.35
2N117	A	45	9-20	150	8.15	5.45
2N332	TO-5	45	9-20	150	4.65	3.10
2N333	TO-5	45	18-40	150	4.65	3.10
2N333A	TO-5	45	18-40	500	4.90	3.30
2N334	TO-5	45	18-40	150	4.65	6.10
2N335	TO-5	45	36-90	150	4.90	3.30
2N335A	TO-5	45	36-90	500	5.20	3.50
2N336	TO-5	45	76-333	150	5.95	3.95
2N336A	TO-5	45	76-333	500	6.25	4.20
2N541	TO-5	40	(15-45)	125	6.00	4.00
2N542	TO-5	45	(40-125)	125	6.20	4.10
2N1149	A	45	9-20	150	8.65	5.75
2N1150	A	45	18-40	150	8.65	5.75
2N1151	A	45	18-40	150	8.65	5.75
2N1278	TO-5	40	37-90	150	4.75	3.15

GROWN JUNCTION SWITCH

Type	Case	Rated Vcbo V	hFE	Power Diss TA=25°C mW	1-99	100-999
2N337	TO-5	45	20-55	125	4.85	3.20
2N338	TO-5	45	45-150	125	5.50	3.65

GROWN JUNCTION TETRODE TRANSISTORS

Type	Case	Rated Vcbo V	hFE	Power Diss TA=25°C mW	1-99	100-999
3N34	TO-12	30	30	125	5.00	4.15
3N35	TO-12	30	70	125	22.50	15.00

MEDIUM — POWER GROWN JUNCTION TRANSISTORS

Type	Case	Rated Vcbo V	hFE	Power Diss TA=25°C W	1-99	100-999
2N340	TO-11	85	9-90	1	8.64	6.48
2N343	TO-11	60	28-90	1	14.72	11.03
2N1155	A	80	9 Min.	0.75	10.52	7.92
2N1156	A	120	9 Min.	0.75	14.12	10.58

A indicates a triode welded steel case.

SILICON UNIJUNCTION TRANSISTORS

Type	Case	Rated Static Interbase V	Intrinsic Standoff Ratio	1-99	100-999	100-999
TIS43	TO-92	65	.55 - .82	.76	.66	.52
2N489	U	65	.51 - .62	7.10	4.75	4.75
2N490	U	65	.51 - .62	7.80	5.20	5.20
2N491	U	65	.56 - .68	8.40	5.60	5.60
2N492	U	65	.56 - .68	9.80	6.55	6.55
2N494C	U	65	.62 - .75	14.95	9.90	9.90
2N1671*	U	35	.47 - .62	2.95	1.98	1.98
2N1671A*	U	35	.47 - .62	3.20	2.14	2.05
2N1671B*	U	35	.47 - .62	3.55	2.36	2.14
2N2160	U	35	.47 - .82	1.49	.99	2.36
2N3980	OOO	35	.68 - .82	3.40	2.25	2.05
2N4891	AAA	35	.55 - .82	.76	.66	.66
2N4892	AAA	35	.51 - .69	.88	.77	.77
2N4893	AAA	35	.55 - .82	.78	.69	.69
2N4894	AAA	35	.74 - .86	.99	.87	.87
2N4947	OOO	35	.51 - 69	2.03	1.35	1.35
2N4948	OOO	35	.55 - .82	1.35	.90	.85
2N4949	OOO	35	.74 - .86	2.40	1.60	1.55

Peak Emitter current, 2A except (*) 1A AAA indicates a TO-18 Based SILECT case.

SILICON GENERAL PURPOSE TRANSISTORS

NPN

Type	Case	Vcbo V	Pwr Diss 25°C w	hFE Min.	1-99	100-499	500-999
TI482	TO-5	20	0.6	20 min.	5.70	3.78	2.95
TI483	TO-5	40	0.6	20-60	6.35	4.23	3.17
TI484	TO-5	40	0.6	40-120	7.75	5.16	4.01
2N696	TO-5	60	0.6	20-60	.52	.46	.42
2N697	TO-5	60	0.6	40-120	.52	.46	.42
2N698	TO-5	120	0.8	20-60	1.57	1.05	.90
2N699	TO-5	120	0.6	40-120	1.32	.88	.75
2N717	TO-18	60	0.4	20-60	.99	.66	.55
2N718	TO-18	60	0.4	40-120	.40	.38	.35
2N718A	TO-18	75	0.5	40-120	.75	.50	.47
2N719	TO-18	120	0.4	20-60	2.35	1.56	1.10
2N719A	TO-18	120	0.5	20-60	2.50	1.67	1.25
2N720	TO-18	120	0.4	40-120	1.10	.70	.58
2N730	TO-18	60	0.5	20-60	.70	.47	.44
2N731	TO-18	60	0.5	40-120	1.10	.75	.47
2N870	TO-18	100	0.5	40-120	2.48	1.65	1.10
2N871	TO-18	100	0.5	100-120	2.73	1.82	1.21
2N910	TO-18	100	0.5	75 min.	1.78	1.18	.80
2N912	TO-18	100	0.5	15 min.	2.20	1.48	1.00
2N1420	TO-5	60	0.6	100-300	1.20	.80	.65
2N1507	TO-5	60	0.6	100-300	1.20	.80	.65
2N1613	TO-5	75	(0.8)	40-120	.79	.68	.50
2N1711	TO-5	75	0.8	100-300	.85	.74	.50
2N1889	TO-5	100	0.8	40-120	2.20	1.48	1.00
2N1890	TO-5	100	0.8	100-300	2.20	1.48	1.00
2N1893	TO-5	120	0.8	40-120	1.35	.90	.54
2N1973	TO-5	100	0.8	75 min.	2.20	1.48	1.00
2N1974	TO-5	100	0.8	35 min.	1.35	.90	.54
2N1975	TO-5	100	0.8	15 min.	2.20	1.48	1.00
2N2102	TO-5	120	1	10 min.	.99	.75	.69
2N2102A	TO-5	120	1	10 min.	1.07	.80	.74
2N2192	TO-5	60	0.8	100-300	1.86	1.24	.83
2N2192A	TO-5	60	0.8	100-300	1.86	1.24	.83
2N2193	TO-5	60	0.8	40-120	1.75	1.15	.78
2N2193A	TO-5	60	0.8	40-120	1.75	1.15	.78
2N2194	TO-5	60	0.8	20-60	1.75	1.15	.78
2N2217	TO-5	60	0.8	20-60	1.00	.81	.55
2N2218	TO-5	60	0.8	40-120	1.00	.81	.55
2N2218A	TO-5	60	0.8	40-120	1.10	.86	.58
2N2219	TO-5	60	0.8	100-300	1.00	.70	.57
2N2219A	TO-5	60	0.8	100-300	1.31	.87	.59
2N2220	TO-18	60	0.5	20-60	1.11	.74	.50
2N2221	TO-18	60	0.5	40-120	1.11	.74	.50
2N2221A	TO-18	60	0.5	40-120	1.10	.86	.58
2N2222	TO-18	60	0.5	100-300	.95	.63	.53
2N2222A	TO-18	60	0.5	100-300	1.20	.79	.56
2N2243	TO-5	60	0.8	40-120	1.86	1.24	.83
2N2243A	TO-5	60	0.8	40-120	1.86	1.24	.83
2N2270	TO-5	60	1	50-200	.90	.60	.58
2N3036	TO-5	120	0.8	50-150	5.50	3.70	3.10
2N3114	TO-5	150	0.8	30-120	6.00	4.00	4.00
2N5058	TO-5	300	1	35-150	4.35	2.90	1.94
2N5059	TO-5	250	1	35-150	3.70	2.48	1.66

PNP

2N721	TO-18	50	.....	20	1.46	1.27	1.05
2N722	TO-18	50	400	30	1.46	1.27	1.05
2N1131	TO-5	50	600	20	1.24	.82	.55
2N1132	TO-5	50	600	30	1.46	1.27	.90
2N2303	TO-5	50	600	75	8.25	5.50	3.15
2N2904	TO-5	60	600	40	1.24	.82	.55
2N2904A	TO-5	60	600	40	1.60	1.07	.72
2N2905	TO-5	60	600	100	1.36	.91	.61
2N2905A	TO-18	60	600	100	1.62	1.07	.72
2N2906	TO-5	60	400	40	1.24	.82	.55
2N2906A	TO-18	60	400	40	1.60	1.07	.72
2N2907	TO-18	60	400	100	1.24	.82	.55
2N2907A	TO-18	60	400	100	1.38	.91	.61
2N3494	TO-5	80	600	35 min.	3.22	2.15	1.44
2N3495	TO-5	120	600	35 min.	3.70	2.48	1.66
2N3496	TO-18	80	400	35 min.	3.22	2.15	1.44
2N3497	TO-18	120	400	35 min.	3.70	2.48	1.66
2N3502	TO-5	45	.....	100	1.90	1.65	1.36
2N3503	TO-5	60	.....	100	6.25	5.25	3.50
2N3504	TO-18	45	.....	100	2.00	1.32	.89

SILICON NPN SWITCHING TRANSISTORS

Type	Case	ft MHz (Min.)	Pd mw	Rated Vceo	Max Ts n-sec	1-99	100-499	500-999
2N706	TO-18	200	300	15	60	.59	.40	.31
2N706A	TO-18	200	300	15	25	.63	.42	.33
2N706B	TO-18	200	300	15	25	.63	.42	.33
2N708	TO-18	300	360	15	25	.49	.43	.42
2N709	TO-18	600	300	6	6	1.29	.86	.57
2N744	TO-18	282	300	12	18	.99	.66	.44
2N914	TO-18	300	360	15	20	.95	.63	.55
2N2368	TO-18	400	360	15	10	.95	.69	.46
2N2369	TO-18	500	360	15	13	.98	.73	.48
2N2369A	TO-18	500	360	15	13	1.10	.79	.53
2N2481	TO-18	300	360	15	20	1.36	.91	.61
2N3010	TO-18	600	300	6	6	1.17	.78	.52
2N3011	TO-18	400	360	12	13	.98	.67	.48
2N3013	TO-52	350	360	15	18	1.36	.91	.61
2N3014	TO-52	350	360	20	18	1.29	.86	.57
2N4418	AAA	500	250	15	18	.53	.37	.33
2N4419	AAA	400	250	12	20	.51	.33	.29
2N4420	AAA	350	250	20	20	.58	.40	.36
2N4421	AAA	300	250	12	24	.50	.33	.29
2N4422	AAA	350	250	15	18	.52	.34	.31

SILICON PNP SWITCHING TRANSISTORS

Type	Case	ft MHz (Min.)	Pd 25°C mw	Rated Vceo v	Ts Max. nsec.	1-99	100-499	500-999
2N2411	TO-18	140	300	20	90	1.61	1.07	.71
2N2412	TO-18	140	300	20	90	1.73	1.15	.77
2N2894	TO-18	400	360	12	90	1.24	.83	.55
3N3012	TO-18	400	360	12	75	1.17	.78	.52
2N3250	TO-18	250	360	40	175	1.37	.91	.60
2N3250A	TO-18	250	360	60	175	1.39	.92	.61
2N3251	TO-18	300	360	40	200	1.42	.94	.63
2N3251A	TO-18	300	360	60	200	1.44	.96	.64
2N3829	TO-52	350	360	20	50	5.45	3.62	2.42

Collector is in electrical contact with base.

SILICON NPN LOW-LEVEL AMPLIFIER

Type	Case	Ic Range mA	Vceo v	ft MHz (Min.)	1-99	100-499	500-999
2N929	TO-18	.01-30	45	30	1.49	.98	.67
2N930	TO-18	.01-30	45	30	1.36	.91	.61
2N930A	TO-18	.01-30	45	30	1.36	.91	.61
2N2483	TO-18	.01-10	60	60	1.49	.98	.67
2N2484	TO-18	.001-10	60	60	1.36	.91	.61
2N2586	TO-18	.001-10	45	45	1.86	1.25	.83
2N3117	TO-18	.001-50	60	60	4.70	3.15	2.10
2N4104	TO-18	.001-50	60	90	5.60	3.70	2.50

SILICON PNP LOW-LEVEL AMPLIFIER

Type	Case	Ic Range mA	Vceo v	ft MHz (Min.)	1-99	100-499	500-999
2N2604*	TO-46	.01-10	45	30	2.60	1.74	1.16
2N2605*	TO-46	.01-10	45	30	2.35	1.56	1.05
2N2861*	TO-18	.01-10	20	60	1.32	.88	.59
2N2862*	TO-18	.01-10	20	45	1.22	.81	.54
2N3798*	TO-18	.01-10	60	100	3.70	2.48	1.66
2N3799*	TO-18	.001-10	60	100	4.35	2.70	1.94
2N3962*	TO-18	.001-10	60	40	3.80	2.65	1.90
2N3963*	TO-18	.001-10	80	40	5.20	3.48	2.35
2N3964*	TO-18	.001-10	45	50	5.00	3.30	2.22
2N3965*	TO-18	.001-10	60	50	5.60	3.72	2.50

SILICON NPN HIGH FREQ. AMPLIFIER-OSCILLATOR

Type	Case	fT MHz (Min.)	Pwr Diss Mw	Cobo pf	1-99	100-499	500-999
TIS39	TO5	800	720	6	8.10	5.40	4.55
TIS56	TO-72	500	200	0.32	2.70	1.80	1.80
TIS57	TO-72	500	200	0.32	1.80	1.20	1.20
2N917	TO-18	500	200	1.7	2.48	1.65	1.10
2N918	TO-72	600	200	1.7	3.30	2.20	1.85
2N3570	TO-72	1500	200	0.75	16.75	13.30	12.25
2N4252	VVV	600	200	0.45	1.95	1.30	1.23
2N4253	VVV	600	200	0.45	1.70	1.15	1.08
2N4874	TO-39	900	200	3.5	5.85	3.90	3.77
2N4875	TO-39	800	200	3.5	4.95	3.42	3.27
2N4876	TO-39	650	200	3.5	4.20	2.80	2.73

RADIATION-TOLERANT, LOW POWER SILICON TRANSISTORS

Type	Case	Polarity	Max Icbo μA	hFE	Vec (max.)	1-99	100-499	500-999
2N5332	TO-46	PNP	.01	28-80	0.2	14.00	9.40	8.90
2N5399	TO-46	NPN	.01	30-90	0.2	14.00	9.40	8.90

NPN MEMORY DRIVER

Type	Case	ft MHz (Min.	Pwr Diss 25°C Mw	Rated Vceo V	Toff n-sec (Max.)	1-99	100-499	500-999
2N2537	TO-5	250	800	30	20	1.66	1.10	.73
2N2538	TO-5	250	800	30	20	1.86	1.24	.83
2N2539	TO-18	250	500	30	20	1.66	1.10	.73
2N3015	TO-5	250	800	30	60	1.51	.99	.66
2N3724	TO-5	300	800	30	60	1.47	.98	.65
2N3724A	TO-5	300	1000	30	60	2.21	1.34	.89
2N3725	TO-5	300	800	50	60	1.59	1.05	.71
2N3725A	TO-5	300	1000	50	60	2.18	1.45	.97

PNP

2N3467	TO-5	175	1000	40	60	2.66	1.77	1.18
2N3468	TO-5	150	1000	50	60	2.80	1.86	1.24

SILICON CHOPPER TRANSISTORS

Type	Case	Polarity	Offset Voltage μV	Min Vmin V(br) eco	MAX Ibeo na	1-99	100-499	500-999
2N2432*	TO-18	NPN	500	15	2.0	4.22	2.80	1.89
2N2432A	TO-18	NPN	400	18	2.0	4.30	2.85	1.94
2N2944	TO-46	PNP	300	10	0.1	2.76	1.84	1.78
2N2944A	TO-46	PNP	300	10	0.1	2.76	1.84	1.78
2N2945	TO-46	PNP	500	20	0.2	2.50	1.65	1.10
2N2945A	TO-46	PNP	500	20	0.2	2.50	1.65	1.10
2N4138*	TO-46	NPN	500	15	2.0	12.00	8.00	8.00

DOUBLE-EMITTER CHOPPER SILICON TRANSISTORS

Type	Case	Polarity	Offset Voltage μV	Rated E1 to E2 V	Max Ieie2 mA	1-99	100-499	500-999
3N79	TO-72	NPN	200	±12	±200	3.68	2.45	2.25
3N111	TO-72	PNP	150	±30	±50	8.85	5.90	5.25

NPN DARLINGTON SILICON TRANSISTORS

Type	Case	hFE	Rated Vcbo v	Vce(sat) Max v	Pwr Diss 25°C w	1-99	100-499	500-999
2N997	TO-18	7K-70K	75	1.6	1.5	10.50	7.00	5.25

TRANSISTORS FOR CONSUMER CIRCUIT APPLICATIONS

Type	Nearest Equivalent	Case	Polarity	Vceo V	1-99	100-999
TIS37	.....	TO-92	PNP	32	.38	.34
TIS38	.....	TO-92	PNP	32	.35	.31
TIS62	2N918	AAA	NPN	12	.37	.32
TIS63	2N918	AAA	NPN	12	.32	.28
TIS64	2N918	AAA	NPN	12	.29	.25
TIS84	TIS56	AAA	NPN	30	.50	.43
TIS85	TIS56	AAA	NPN	30	.48	.42
TIS86	2N4252	AAA	NPN	30	.48	.42
TIS87	2N4252	AAA	NPN	45	.51	.45
TIS92	2N2219	AAA	NPN	40	.35	.31
TIS92M	2N2219	AAA(Pair)	NPN	40	.37	.32
TIS93	2N2905	AAA	PNP	40	.42	.36
TIS93M	2N2905	AAA (Pair)	PNP	40	.43	.38
TIS97	.....	AAA	NPN	40	.34	.29
TIS98	.....	AAA	NPN	60	.29	.25
TIS99	.....	AAA	NPN	65	.30	.27
TIS100	2N3712	AAA	NPN	180	.65	.57
TIS101	2N3712	AAA	NPN	150	.61	.53
TIS108	T1556	AAA	NPN	30	.48	.42
2N3702	2N2904	TO-92	PNP	25	.37	.32
2N3703	2N2904	TO-92	PNP	30	.34	.29
2N3704	2N2217	TO-92	NPN	30	.34	.29
2N3705	2N2217	TO-92	NPN	30	.29	.25
2N3706	2N2217	TO-92	NPN	20	.27	.24
2N3707	2N929	TO-92	NPN	30	.34	.29
2N3708	2N929	TO-92	NPN	30	.27	.24
2N3709	2N929	TO-92	NPN	30	.29	.25
2N3710	2N929	TO-92	NPN	30	.30	.27
2N3711	2N929	TO-92	NPN	30	.32	.28
2N4058	2N2605	(TO-92)	PNP	30	.35	.31
2N4059	2N2604	(TO-92)	PNP	30	.29	.25
2N4060	2N2604	(TO-92)	PNP	30	.30	.27
2N4061	2N2604	(TO-92)	PNP	30	.32	.28
2N4062	2N2605	(TO-92)	PNP	30	.34	.29
2N4994	2N915	AAA	NPN	45	.30	.27
2N4995	2N915	AAA	NPN	45	.32	.28
2N4996	2N4254	AAA	NPN	18	.48	.42
2N4997	2N4255	AAA	NPN	18	.51	.45
2N5447	2N3702	AAA	PNP	25	.37	.32
2N5448	2N3703	AAA	PNP	30	.34	.29
2N5449	2N3704	AAA	NPN	30	.34	.29
2N5450	2N3705	AAA	NPN	30	.29	.25
2N5451	2N3706	AAA	NPN	20	.27	.24

Texas Instruments Transistors

TO-72

TO-12

TO-92

TO-5

TO-18

AAA

SILICON FIELD-EFFECT TRANSISTORS

Type	Case	IdSS ma	Min. Yfs mho	Min. Yfs GSS V	1-99	100-499	500-999
TIS14†	TO-72	.5-15	1000	30	2.50	1.90	1.60
TIXS35†	TO-12	10-50	10000	30	39.30	26.50	22.50
TIXS36†	TO-12	40-200	10000	30	36.30	24.50	20.50
TIS58†	TO-92	2.5-8	1300	25	.62	.55	.43
TIS59†	TO-92	6-25	2300	25	.61	.53	.42
TIS79†	AAA	2-10	750	200	1.20	1.05	.83
TIXS80†	TO-72	5-25	5000	30	8.25	5.50	4.85
TIXS81†	TO-72	15-75	5000	30	6.75	4.50	4.05
2N2386	TO-5	.....	1000	20	2.70	1.80	1.75
2N2386A	TO-5	1-15	2200	20	2.78	1.85	1.70
2N2497	TO-5	1-3	1000	20	3.75	2.50	2.35
2N2498	TO-72	2-6	1500	20	3.70	2.45	2.30
2N2499	TO-72	5-15	2000	20	3.60	2.40	2.28
2N2500	TO-72	1-6	1000	20	5.25	3.50	3.30
2N3330	TO-72	2-6	1500	20	3.75	2.50	2.35
2N3331	TO-72	5-15	2000	20	3.65	2.45	2.33
2N3332	TO-72	1-6	1000	20	5.30	3.55	3.35
2N3458†	TO-18	3-15	2500	50	1.95	1.40	1.25
2N3459†	TO-18	.8-4	1500	50	2.15	1.55	1.40
2N3460†	TO-18	.2-1	800	50	2.65	1.90	1.70
2N3819†	TO-92	2-10	800	25	.56	.49	.39
2N3820	TO-92	3-15	300	20	.72	.63	.50
2N3821†	TO-72	0.5-2.5	1500	50	2.50	1.80	1.65
2N3822	TO-72	2-10	3000	50	2.10	1.50	1.35
2N3823†	TO-72	4-20	3500	30	1.95	1.40	1.25
2N3909	TO-72	.3-15	1000	20	2.05	1.40	1.35
2N3909A	TO-72	1-15	2200	20	2.10	1.45	1.40
2N4416†	TO-72	5-15	4500	30	2.15	1.45	1.35
2N4416A	TO-72	5-15	4500	35	2.25	1.50	1.40
2N5245	AAA	5-15	4500	30	.70	.62	.48
2N5246	AAA	1.5-7	3000	30	.58	.50	.40
2N5247	AAA	8-24	4500	30	.83	.73	.57
2N5248	TO-92	4-20	3500	30	.61	.53	.42
2N5543	TO-39	2-10	750	75	4.50	3.00	2.70
2N5544	TO-39	2-10	750	50	3.25	2.50	2.25
2N5548	AAA	(40-120)	3500	25	1.82	1.60	1.25
3N160	TO-72	(40-120)	3500	25	5.95	4.50	3.80
3N161	TO-72	(40-120)	3500	25	6.15	4.70	4.00

All P-chan. polarity, planar except (†) N-channel.

SILICON FIELD-EFFECT CHOPPER TRANSISTORS

Type	Case	Cin Max. pf	Vgs V Max.	Ron max. Ω	Igss nA (max.)	1-99	100-499	999
TIS73	AAA	18	30	25	2.0	1.76	1.54	1.21
TIS74	AAA	18	30	40	2.0	1.54	1.34	1.06
TIS75	AAA	18	30	60	2.0	1.60	1.40	1.10
3N174	TO-72	4	30	1000	0.0025	6.50	5.30	4.90
2N3824	TO-72	6	50	250	0.1	1.90	1.35	1.20
2N3970†	TO-18	25	40	30	0.25	3.35	2.40	2.20
2N3971†	TO-18	25	40	60	0.25	3.00	2.15	1.95
2N3972†	TO-18	25	40	100	0.25	2.65	1.90	1.75
2N3993A	TO-72	12	25	150	.....	5.70	4.20	3.64
2N3994A	TO-72	12	25	300	.....	4.95	3.54	3.08
2N4091†	TO-18	16	40	30	0.2	3.35	2.40	2.20
2N4092†	TO-18	16	40	50	0.2	3.00	2.15	1.95
2N4093†	TO-18	16	40	80	0.2	2.65	1.90	1.75
2N4391†	TO-18	14	40	30	0.1	3.35	2.40	2.20
2N4392†	TO-18	14	40	60	0.1	3.00	2.15	1.95
2N4393†	TO-18	14	40	100	0.1	2.65	1.90	1.75
2N4856†	TO-18	18	40	25	0.25	3.20	2.30	2.10
2N4856A†	TO-18	10	40	25	0.25	3.35	2.40	2.20
2N4857†	TO-18	18	40	40	0.25	2.90	2.05	1.85
2N4857A†	TO-18	10	40	40	0.25	3.00	2.15	1.95
2N4858†	TO-18	18	40	60	0.25	2.70	1.80	1.65
2N4858A†	TO-18	10	40	60	0.25	2.65	1.90	1.75
2N4859†	TO-18	18	30	25	0.25	2.60	1.85	1.70
2N4859A†	TO-18	10	30	25	0.25	2.80	2.00	1.80
2N4860†	TO-18	18	30	40	0.25	2.35	1.68	1.55
2N4860A†	TO-18	10	30	40	0.25	2.70	1.80	1.65
2N4861†	TO-18	18	30	60	0.25	2.20	1.56	1.45
2N4861A†	TO-18	10	30	60	0.25	2.35	1.68	1.55
2N5549†	TO-18	8	40	100	0.25	4.35	3.30	2.70

All P-chan. polarity, planar except (†) N-channel.

DUAL FIELD-EFFECT SILICON TRANSISTORS

Type	Case	Yts μmho	Ciss pf Max	V(BR) GSS V Min	Igss nA Max	1-99	100-499	500-999
T1S68	2-LLL (Pair)	1000-6000	8	25	2	2.37	2.07	1.63
T1S69	2-LLL (Pair)	1000-6000	8	25	2	2.11	1.85	1.45
T1S70	2-LLL (Pair)	1000-6000	8	25	2	1.76	1.54	1.21
2N3335†	TO-89	600-1800	30	20	10	193.50	167.80	129.00
2N5045	TO-71	1500-6000	8	50	0.25	8.10	6.75	6.15
2N5046	TO-71	1500-6000	8	50	0.25	6.25	5.20	4.75
2N5047	TO-71	1500-6000	8	50	0.25	4.75	3.95	3.60
2N5545	TO-71	1500-6000	6	50	0.1	12.50	10.40	9.50
2N5546	TO-71	1500-6000	6	50	0.1	7.90	6.60	6.00
2N5547	TO-71	1500-6000	6	50	0.1	6.60	5.45	4.95

All N chan. polarity, planar except (†P-channel).

RADIATION-TOLERANT POWER SILICON TRANSISTORS

Type	Case	Rated ICC(A)	Pwr-Diss 100°C W	Pre-Irradiation hFE	1-99	100-999
T1XP39	TO-111	10	40	40-200	74.70	49.80
T1XP40	TO-111	10	40	40-200	49.50	29.80

SILICON DUAL TRANSISTORS

Type	Case	Equiv. Triode	Polarity	1-99	100-499	500-999
2N2641	TTT	2N929	NPN	4.28	2.85	2.05
2N2642	TTT	2N930	NPN	10.25	6.75	5.00
2N2807	TTT	2N2412	PNP	6.00	4.00	3.42
2N2913	TTT	2N2483	NPN	2.70	1.80	1.50
2N2914	TTT	2N2484	NPN	3.05	2.03	1.69
2N2915	TTT	2N2483	NPN	7.10	4.73	4.04
2N2915A	TTT	2N2483	NPN	10.10	6.75	5.20
2N2916	TTT	2N2484	NPN	9.23	6.15	5.12
2N2916A	TTT	2N2484	NPN	12.00	8.05	6.42
2N2917	TTT	2N2483	NPN	3.60	2.40	2.00
2N2918	TTT	2N2484	NPN	4.73	3.15	2.62
2N2919	TTT	2N2483	NPN	7.88	5.25	4.37
2N2919A	TTT	2N2483	NPN	11.00	7.35	5.78
2N2920	TTT	2N2484	NPN	11.15	7.43	6.19
2N2920A	TTT	2N2484	NPN	14.00	9.40	7.52
2N2972	TO-71	2N2483	NPN	3.10	2.10	1.75
2N2973	TO-71	2N2484	NPN	3.50	2.30	1.93
2N2974	TO-71	2N2483	NPN	10.10	6.75	5.25
2N2975	TO-71	2N2484	NPN	12.00	8.05	6.45
2N2976	TO-71	2N2483	NPN	7.50	5.00	3.93
2N2977	TO-71	2N2484	NPN	9.75	6.40	4.17
2N2978	TO-71	2N2483	NPN	11.00	7.35	5.77
2N2979	TO-71	2N2484	NPN	14.00	9.40	7.52
2N3350	TTT	2N2605	PNP	14.25	9.50	8.00
2N3680	TTT	2N2484	NPN	13.50	9.00	7.50
2N3806	TTT	2N3798	PNP	9.00	6.00	5.00
2N3807	TTT	2N3799	PNP	10.15	6.75	6.63
2N3808	TTT	2N3798	PNP	14.25	9.50	8.00
2N3809	TTT	2N3799	PNP	16.30	10.75	9.00
2N3810	TTT	2N3798	PNP	16.85	11.25	9.33
2N3811	TTT	2N3799	PNP	19.30	12.75	10.62
2N4854	V	2N2222/ 2N2907	NPN/ PNP	13.50	9.00	7.95
2N4855	V	2N2221/ 2N2906	NPN/ PNP	10.80	7.20	6.45

NPN HIGH-FREQUENCY HIGH-POWER SILICON TRANSISTORS

Type	Case	Vcc V	Freq. Mhz	Pie Max. Watt	Poe Watt	1-99	100-999
2N3375	TO-60	28	400	1	3	10.80	8.95
2N3632	TO-60	28	175	3.5	13.5	12.75	10.55
2N3866	TO-39	28	400	.1	1	1.90	1.50
2N4040	TO-117	28	400	3	8	33.54	23.68
2N4041	TO-117	28	400	1	8.3	15.00	11.00

Texas Instruments Transistors

ECONOMY POWER TRANSISTORS

NPN-SILICON

Type	Case	Io A	Vceo V	hfe Min.	hfe Max.	Vce (SAT) Volts	Pd W	1-99	100-999
TIP 29	TO-66	1	40	15	75	0.7	30	.70	.53
TIP 29A	TO-66	1	60	15	75	0.7	30	.80	.60
TIP 29B	TO-66	1	80	15	75	0.7	30	.91	.68
TIP 29C	TO-66	1	100	15	75	0.7	30	1.03	.77
TIP 31	TO-66	3	40	10	50	1.2	40	.91	.68
TIP 31A	TO-66	3	60	10	50	1.2	40	.91	.75
TIP 31B	TO-66	3	80	10	50	1.2	40	1.10	.83
TIP 31C	TO-66	3	100	10	50	1.2	40	1.24	.93
TIP 41	TO-66	6	40	15	75	2.0	65	1.19	.90
TIP 41A	TO-66	6	60	15	75	2.0	65	1.28	.96
TIP 41B	TO-66	6	80	15	75	2.0	65	1.40	1.05
TIP 41C	TO-66	6	100	15	75	2.0	65	1.60	1.20
TIP 3055	TO-3	15	60	20	70	3.0	90	1.50	1.00
TIP 33	TO-3	10	40	20	100	4.0	80	1.33	1.00
TIP 33A	TO-3	10	60	20	100	4.0	80	1.42	1.07
TIP 33B	TO-3	10	80	20	100	4.0	80	1.56	1.17
TIP 33C	TO-3	10	100	20	100	4.0	80	1.74	1.31
TIP 35	TO-3	25	40	10	50	4.0	125	3.10	2.34

PNP-SILICON

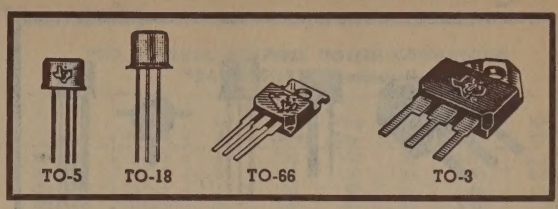
Type	Case	Ic A	Vceo V	hfe Min.	hfe Max.	Vce (SAT) Volts	Pd W	1-99	100-999
TIP 30	TO-66	1	40	15	75	0.7	30	.85	.64
TIP 30A	TO-66	1	60	15	75	0.7	30	.95	.71
TIP 30B	TO-66	1	80	15	75	0.7	30	1.06	.80
TIP 30C	TO-66	1	100	15	75	0.7	30	1.21	.91
TIP 32	TO-66	3	40	10	50	1.2	40	1.05	.79
TIP 32A	TO-66	3	60	10	50	1.2	40	1.14	.85
TIP 32B	TO-66	3	80	10	50	1.2	40	1.24	.93
TIP 32C	TO-66	3	100	10	50	1.2	40	1.40	1.05
TIP 42	TO-66	6	40	15	75	2.0	65	1.42	1.07
TIP 42A	TO-66	6	60	15	75	2.0	65	1.53	1.15
TIP 42B	TO-66	6	80	15	75	2.0	65	1.67	1.25
TIP 42C	TO-66	6	100	15	75	2.0	65	1.85	1.39
TIP 34	TO-3	10	40	20	100	4.0	80	1.60	1.20
TIP 34A	TO-3	10	60	20	100	4.0	80	1.70	1.28
TIP 34B	TO-3	10	80	20	100	4.0	80	1.86	1.40
TIP 34C	TO-3	10	100	20	100	4.0	80	2.04	1.53
TIP 36	TO-3	25	40	10	50	4.0	125	3.80	2.87
TIP 36A	TO-3	25	60	10	50	4.0	125	4.00	3.00
TIP 36B	TO-3	25	80	10	50	4.0	125	4.25	3.20
TIP 36C	TO-3	25	100	10	50	4.0	125	4.60	3.47

PNP GENERAL PURPOSE SILICON TRANSISTORS

Type	Case	Pwr. Diss. mW	Ic mA	Coll. Volt v	hFE Min	1-99	100-999
2N315A	TO-5	150	500	30	20	2.25	1.50
2N317A	TO-5	150	500	70	20	4.35	2.90
2N520	TO-5	100	300	15	....	1.28	.85
2N520A	TO-5	100	300	25	40	1.28	.85
2N522A	TO-5	150	300	25	80	3.00	2.00
2N1273	TO-5	150	150	15	30	.42	.28
2N1274	TO-5	150	150	25	30	.50	.33
2N1370	TO-5	150	150	25	50	.72	.48
2N1371	TO-5	150	150	25	50	1.14	.76
2N1372	TO-5	250	200	25	30	.81	.54
2N1373	TO-5	250	200	45	30	1.20	.80
2N1374	TO-5	250	200	25	50	1.02	.68
2N1375	TO-5	250	200	45	50	1.38	.92
2N1376	TO-5	250	200	25	75	1.29	.86
2N1377	TO-5	250	200	45	75	1.50	1.00
2N1378	TO-5	250	200	25	95	1.29	.86
2N1379	TO-5	250	200	12	95	1.44	.96
2N1380	TO-5	250	200	12	30	.66	.44
2N1381	TO-5	250	200	25	30	.72	.48

MOLDED MINIATURE SILICON TRANSISTORS

Type	Case	Equivalent (Dual/Single)	Polarity	Pd mW	100-999	1-99
A3T918	M	2N918	NPN	225	.80	1.20
A3T929	M	2N929	NPN	225	.70	1.05
A3T930	M	2N930	NPN	225	.75	1.10
A3T2221	M	2N2221	NPN	225	.77	1.15
A3T2221A	M	2N2221A	NPN	225	.83	1.25
A3T2222	M	2N2222	NPN	225	.80	1.20
A3T2222A	M	2N2222A	NPN	225	.87	1.30
A3T2484	M	2N2484	NPN	225	.80	1.20
A3T2894	M	2N2894	PNP	225	.75	1.10
A3T2906	M	2N2906	PNP	225	.83	1.25
A3T2906A	M	2N2906A	PNP	225	.87	1.30
A3T2907	M	2N2907	PNP	225	.83	1.25
A3T2907A	M	2N2907A	PNP	225	.87	1.30
A3T3011	M	2N3011	NPN	225	.77	1.15



NPN POWER SILICON TRANSISTORS

Type	Case	Ic Max. A	Pwr-Diss 25°C Case	V(BR) ceo V	hFE Min.	1-99	100-999
2N1724	TO-61	5	50	80	20	27.60	18.40
2N2987	TO-5	1	15	80	25	8.25	5.50
2N2988	TO-5	1	15	100	25	11.25	7.50
2N2989	TO-5	1	15	80	60	10.20	6.75
2N2990	TO-5	1	15	100	60	13.10	8.75
2N2991	S	1	15	80	25	9.00	6.00
2N2992	S	1	15	100	25	12.00	8.00
2N2993	S	1	15	80	60	10.90	7.25
2N2994	S	1	15	100	60	13.90	9.25
2N3418	TO-5	3	15	60	10	10.45	6.95
2N3419	TO-5	3	15	80	10	10.80	7.20
2N3420	TO-5	5	15	60	40	10.45	6.95
2N3421	TO-5	5	15	80	40	10.80	7.20
2N3551	DDD	12	40	60	20	100.00	67.50
2N3552	DDD	12	40	80	20	112.50	75.00
2N3713	TO-3	10	150	60	25	4.40	2.95
2N3714	TO-3	10	150	80	25	4.70	3.15
2N3715	TO-3	10	150	60	50	4.85	3.25
2N3716	TO-3	10	150	80	50	6.75	4.50
2N3846	TO-63	20	150	200	10	67.50	45.00
2N3847	TO-63	20	150	300	10	99.00	66.00
2N3996	TO-111	5	150	80		23.00	15.00
2N3997	TO-18	5	30	80	80	24.00	16.00
2N3998	TO-111	5	30	80	40	18.30	12.20
2N3999	TO-111	5	30	80	80	19.60	13.05
2N4000	TO-5	1	15	80	30	7.10	4.75
2N4001	TO-5	1	15	100	40	7.65	5.10
2N4002	TO-63	30	100	80	20	112.50	75.00
2N4003	TO-63	30	100	100	20	148.00	99.00
2N4004	QQ	20	40	80	30	112.50	75.00
2N4005	QQ	20	40	100	30	148.00	99.00
2N4300	TO-5	2	15	80	30	8.10	5.40
2N4301	TO-61	10	50	80	30	31.50	21.00
2N4913	TO-3	5	87	40	25	2.40	1.60
2N4914	TO-3	5	87	60	25	2.60	1.75
2N4915	TO-3	5	87	80	25	4.20	2.80
2N5301	TO-3	30	200	40	40	6.90	4.60
2N5302	TO-3	30	200	60	40	7.65	5.10
2N5303	TO-3	30	200	80	40	18.00	12.00
2N5387	TO-61	7.5	100	200	25	38.00	25.50
2N5388	TO-61	7.5	100	250	25	42.00	28.00
2N5389	TO-61	7.5	100	300	25	48.00	32.00

PNP POWER SILICON TRANSISTORS

Type	Case	Ic Max. A	@25°C Case Watts	V (br) ceo V	hFE Min.	1-99	100-999
2N3789	TO-3	10	150	60	25	7.50	5.00
2N3790	TO-3	10	150	80	25	8.90	5.95
2N3791	TO-3	10	150	60	50	8.75	5.85
2N3792	TO-3	10	150	80	50	9.50	6.35
2N4398	TO-3	30	200	40	40	11.25	7.50
2N4399	TO-3	30	200	60	40	13.50	9.05
2N4901	TO-3	5	87	40	20	2.75	1.84
2N4902	TO-3	5	87	60	20	3.30	2.21
2N4903	TO-3	5	87	80	20	4.25	2.84
2N4904	TO-3	5	87	40	50	3.35	2.25
2N4905	TO-3	5	87	60	50	4.45	2.98
2N4906	TO-3	5	87	80	50	5.60	3.75
2N5333	TO-5	2	15	80	30	13.50	9.05
2N5384	TO-111	5	30	80	20	27.00	18.00
2N5385	TO-111	5	30	80	20	22.50	15.00
2N5386	TO-61	12	50	80	20	73.50	49.00

μMESA MINIATURE SILICON TRANSISTORS

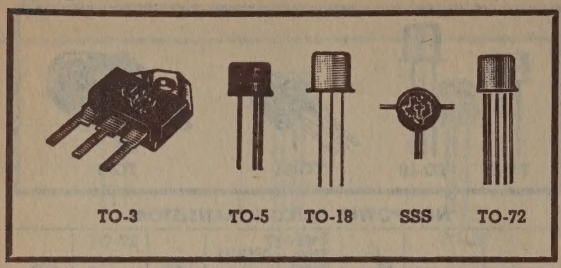
Type	Case	Equiv. Dual/ Single	Polarity	Pwr. Diss.†	1-99	100-499	500-999
2N850	TO-50	2N753	NPN	300	9.75	6.50	5.75
2N2390	TO-50	2N1711	NPN	450	15.80	10.55	9.02
2N2393	TO-50	2N1131	PNP	450	8.85	5.90	5.57
2N2396	TO-50	2N697	NPN	450	11.55	7.70	6.75

DUAL FLATPACK MINIATURE SILICON TRANSISTORS

2N3838	TO-89	2N2222/ 2N2907	NPN PNP	250 per triode	27.75	18.50	16.50

† @ 25°C fm air in mW.

Texas Instruments Transistors



NPN SWITCHING GERMANIUM TRANSISTORS

Type	Case	Pwr. Diss. mW	Col. Curr. mA	Coll. Volt V	Fhfb MHz min	1-99	100-999
2N358A JAN	TO-5	150	500	30	.....	3.92	2.62
2N377	TO-5	150	200	25	.....	1.50	1.00
2N388	TO-5	150	200	25	5	.47	.34
2N388A	TO-5	150	200	40	5	.88	.64
2N438	TO-5	150	300	30	.....	1.50	1.00
2N438A	TO-5	150	300	25	.....	1.50	1.00
2N439	TO-5	150	300	30	10	1.87	1.25
2N440	TO-5	150	300	30	10	2.85	1.90
2N587	TO-5	150	200	40	.....	3.34	2.22
2N595†	TO-5	150	300	20	3	4.25	2.83
2N596†	TO-5	150	300	20	5	5.65	3.77
2N634A	TO-5	150	300	25	5	.96	.64
2N635A	TO-5	150	300	25	10	1.34	.89
2N636A	TO-5	150	300	25	15	2.00	1.33
2N797	TO-18	150	150	20	(600)	4.27	2.85
2N1302	TO-5	150	300	25	3	.42	.30
2N1304	TO-5	150	300	25	5	.50	.36
2N1306	TO-5	150	100	25	10	.62	.45
2N1308	TO-5	150	300	25	15	.91	.66
2N1605	TO-5	150	300	25	4	.62	.46
2N1730	TO-5	150	300	25	.....	1.43	.96
2N1732	TO-5	150	300	30	.....	1.00	.67
2N1808	TO-5	150	300	25	4	.58	.39
2N1891†	TO-5	150	300	25	5	2.49	1.66
2N1994†	TO-5	150	300	30	3	2.33	1.55

†Bi-directional

PNP SWITCHING GERMANIUM TRANSISTORS

Type	Case	Pwr. Diss. mW	Coll. Curr. ma	Coll. Volt. V	Fhfb MHz Min.	1-99	100-999
2N404	TO-5	150	100	25	4	.42	.28
2N404A	TO-5	150	150	40	.....	.58	.39
2N427	TO-5	150	400	30	.....	.92	.61
2N428	TO-5	150	400	30	.....	1.23	.82
2N581	TO-5	150	150	18	4	.50	.33
2N582	TO-5	150	150	25	14	.66	.48
2N705	TO-18	150	50	15	.....	1.04	.69
2N711	TO-18	150	50	12	.....	.89	.59
2N711A	TO-18	150	100	15	150	.89	.59
2N711B	TO-18	150	100	15	150	.94	.63
2N960	TO-18	150	100		300	.96	.64
2N961	TO-18	150	100	12	300	.91	.61
2N962	TO-18	150	100	12	300	.86	.57
2N964	TO-18	150	100	12	300	.99	.66
2N965	TO-18	150	100	15	300	.94	.63
2N966	TO-18	150	100	12	300	.89	.59
2N967	TO-18	150	100	12		.87	.58
2N985	TO-18	150	200	7	300	2.83	1.89
2N1303	TO-5	150	300	25	3	.42	.30
2N1305	TO-5	150	300	30	5	.48	.35
2N1307	TO-5	150	300	30	10	.58	.42
2N1309	TO-5	150	300	30	15	.91	.66
2N1404	TO-5	150	300	25	4	.58	.39
2N1729	TO-5	150	300	25	.....	1.17	.78
2N1731	TO-5	150	300	30	.....	1.00	.67
2N1892	TO-5	150	300	30	5	.68	.45
2N1997	TO-5	250	500	45		1.77	1.18
2N1998	TO-5	250	500	35		1.88	1.25
2N2000	TO-5	300	1000	50	2	2.50	1.67
2N2001	TO-5	300	1000	30	6	2.17	1.45
2N2635	TO-18	150	100	30	150	.94	.63
JAN 2N3449	TO-18	50	100	6	300	3.00	2.00

PNP HIGH-VOLTAGE SWITCHING GERMANIUM TRANSISTORS

Type	Case	Pwr. Diss. mW	Coll. Curr. mA	Coll. Volt. V	fhfb MH Min.	1-99	100-999
2N398	TO-5	50	100	105	.....	.90	.60
2N398A	TO-5	150	200	105	.....	.98	.65
2N398B	TO-5	250	200	105	1	1.23	.82

PNP HI-FREQUENCY SMALL SIGNAL GERMANIUM TRANSISTORS

Type	Case	Pwr. Diss. Free Air Mw	Ic mA	Coll. Volt. V	fT MHz (Min.)	1-99	100-999
TIXM101	TO-72	75	50	15	1500	19.00	12.65
2N1141	TO-39	300	100	35	.....	4.73	3.15
2N1142	TO-39	300	100	30	.....	4.05	2.70
2N1143	TO-39	300	100	25	.....	3.34	2.22
2N1195	TO-39	225	40	30	400	3.95	2.63
2N2188	TO-58	125	30	40	60	1.28	.85
2N2189	TO-58	125	30	40	102	1.64	1.09
2N2190	TO-58	125	30	60	60	1.47	.98
2N2191	TO-58	125	30	60	102	1.85	1.23
2N2415	TO-72	75	20	15	500	5.80	3.85
2N2996†	TO-72	75	50	15	400	1.43	.95
2N2997†	TO-72	75	50	30	400	3.08	2.05
2N5043	TO-72	30	30	15	1500	19.00	12.65
2N5044	TO-72	30	30	15	1000	9.50	6.33
2N1141A	TO-39	300	100	35	500	13.70	9.14
2N1142A	TO-39	300	100	30	400	6.29	4.18
2N1143A	TO-39	300	100	30	400	5.86	3.91
2N1385	TO-39	300	100	25	250	.92	.61
2N2416	TO-72	75	20	15	400	3.50	2.25
2N2998	TO-72	75	20	15	600	15.00	10.00
2N2999	TO-72	75	20	15	1400	22.50	15.00
2N3371	TO-18	150	100	25	400	5.43	3.62

†Bi-directional

PNP HI-FREQUENCY POWER SWITCHING TRANSISTORS

Type	Case	Ic A	Pd 25°C Case	V(BR) CBO	hFE Min	1-99	100-999
2N1046	TO-3	20	50	100	60	10.25	7.50
2N1907	TO-3	20	60	100	30	9.38	6.75
2N1908	TO-3	20	60	130	30	12.75	9.00

PNP HI-FREQUENCY GERMANIUM TRANSISTORS

Type	Case	Pd mW	Coll Curr mA	Coll Volt V	fT MHz Typ	1-99	100-999
TI390	TO-18	75	50	18	500	1.46	.97
TI391	TO-18	75	50	18	500	1.23	.81
TI400	R-4	75	50	18	500	.92	.61
TI401	R-4	75	50	18	500	.92	.61
TI402	R-4	75	50	18	500	.92	.61
TI403	R-4	75	50	18	500	.92	.61

NPN SILICON AMPLIFIER OSCILLATOR TRANSISTORS

Type	Case	Min fT MHz	Pwr. Diss. 25°C mW	Cobo pF	1-24	25-99	100-999
TIS71	SSS	2400	1000	1.0	82.00	60.00	50.00
TIS72	SSS	2400	1000	1.0	50.00	37.50	30.00
.....	.....	.....	.....	.....	1-99	100-499	500-999
2N3833	SSS	2000	1000	1.7	50.00	43.50	29.00
2N3834	SSS	1600	1000	1.7	40.00	31.00	22.00
2N3835	SSS	1200	1000	1.7	25.00	20.75	14.50

PNP GENERAL PURPOSE GERMANIUM TRANSISTORS

Type	Case	Pwr. Diss. mW	Ic mA	Coll. Volt.	hFE Min.	1-99	100-999
2N1273	TO-5	150	150	15	30	.42	.28
2N1274	TO-5	150	150	25	30	.50	.33
2N1371	TO-5	150	150	25	50	1.14	.76
2N1372	TO-5	250	200	25	30	.81	.54

OEM PRICE POLICY

IT IS OUR POLICY TO SELL SEMICONDUCTORS AT THE MANUFACTURERS' ESTABLISHED OEM PRICES IN EFFECT AT THE TIME OF SHIPMENT. PRICES IN THIS CATALOG ARE OEM PRICES AT THE TIME OF PUBLICATION.

TEXAS INSTRUMENTS

PNP GENERAL PURPOSE POWER GERMANIUM TRANSISTORS

Type	Case	I_C A	P_D 25°C Case	V_{BR} C_{bo}	h_{FE} (min)	1-99	100-999
T13027	TO-3	7	150	45	40	1.20	.80
T13028	TO-3	7	150	60	40	1.43	.95
T13029	TO-3	7	150	80	30	1.65	1.10
T13030	TO-3	7	150	100	30	1.88	1.25
T13031	TO-3	7	150	120	30	2.03	1.35
2N250A	TO-3	7	90	40	25	1.73	1.15
2N251A	TO-3	7	90	60	25	1.88	1.25
2N456A	TO-3	7	150	40	30	1.80	1.20
2N456B	TO-3	7	150	40	30	1.80	1.20
2N457A	TO-3	7	150	60	30	2.18	1.45
2N458A	TO-3	7	150	80	30	2.63	1.75
2N458B	TO-3	7	150	80	30	2.63	1.75
2N511	Q	7	150	40	20	4.05	2.70
2N511A	Q	25	150	60	20	4.73	3.15
2N1021	TO-3	7	150	100	30	3.08	2.05
2N1022	TO-3	7	150	120	30	3.60	2.40
2N1022A	TO-3	7	150	120	30	3.60	2.40
2N1038	E	3	20	40	20	1.80	1.20
2N1039	E	3	20	60	20	2.40	1.60
2N1040	E	3	20	80	20	3.60	2.40
2N1041	E	3	20	100	20	4.50	3.00
2N1042	B	3.5	20	40	20	2.85	1.90
2N1043	B	3.5	20	60	20	4.20	2.80
2N1529	TO-3	5	106	40	20	1.45	1.08
2N1530	TO-3	5	106	60	20	1.60	1.15
2N1531	TO-3	5	106	80	20	2.30	1.70

Continued next column

PNP GENERAL PURPOSE POWER GERMANIUM TRANSISTORS (Continued)

Type	Case	I_C A	P_D 25°C Case	V_{BR} C_{bo}	h_{FE} (min)	1-99	100-999
2N1532	TO-3	5	106	100	20	3.00	2.24
2N1533	TO-3	5	106	120	20	4.35	3.25
2N1534	TO-3	5	106	40	35	1.40	1.05
2N1535	TO-3	5	106	60	35	1.50	1.14
2N1536	TO-3	5	106	80	35	1.70	1.25
2N1537	TO-3	5	106	100	35	3.90	2.90
2N1538	TO-3	5	106	120	35	5.50	4.05
2N1539	TO-3	5	106	40	50	1.50	1.12
2N1540	TO-3	5	106	60	50	1.58	1.18
2N1541	TO-3	5	106	80	50	1.85	1.38
2N1542	TO-3	5	106	100	50	2.35	1.75
2N1543	TO-3	5	106	120	50	3.60	2.65
2N1544	TO-3	5	106	40	75	1.65	1.24
2N1545	TO-3	5	106	60	75	1.85	1.35
2N1546	TO-3	5	106	80	75	2.30	1.70
2N1547	TO-3	5	106	100	75	2.75	2.05
2N1548	TO-3	5	106	120	75	4.00	2.95
2N2552	C	3	20	40	20	1.88	1.25
2N2553	C	3	20	60	20	2.48	1.65
2N2557	B	3	20	60	20	2.48	1.65
2N2560	C	3.5	20	40	20	1.58	1.05
2N2659	E	3	15	50	30	1.65	1.10
2N2660	E	3	15	70	30	1.95	1.30
2N2661	E	3	15	90	30	2.85	1.90
2N2662	C	3	15	50	30	1.65	1.10
2N2665	E	3	15	50	30	2.40	1.60
2N3146	TO-3	15	150	150	25	4.35	2.90

TELEDYNE FIELD EFFECT TRANSISTORS

GENERAL PURPOSE N-CHANNEL

TO-18; I_{GSS} = 1.5 μA max.

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	C_{DG} pf (max)	1-99	100-999
2N3066	50	4.0	10.0	1.5	2.15	1.70
2N3067	50	1.0	5.0	1.5	2.15	1.50
2N3068	50	0.25	2.5	1.5	2.60	1.80
2N3069	50	10.0	10.0	2.5	4.60	3.05
2N3070	50	2.5	5.0	2.5	3.00	2.00
2N3071	50	0.6	2.5	2.5	3.75	2.50
2N3365	40	4.0	12.0	2.0	1.95	1.30
2N3366	40	1.0	7.0	2.0	1.65	1.10
2N3367	40	0.25	2.5	2.0	2.25	1.50
2N3368	40	12.0	12.0	3.5	2.10	1.40
2N3369	40	2.5	7.0	3.5	1.70	1.15
2N3370	40	0.6	3.5	3.5	2.40	1.60

GENERAL PURPOSE P-CHANNEL

TO-18: I_{GSS} = 15 μA max.

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	1-99	100-999
2N2499	20	15.0	8.0	2.85	1.90
2N2841	30	.125	1.7	4.85	3.25
2N2842	30	.325	1.7	3.85	2.70
2N2843	30	1.0	1.7	3.85	2.70
2N3329	20	3.0	5.0	3.70	2.45
2N3330	20	6.0	6.0	3.30	2.20
2N3331	20	15.0	8.0	3.70	3.45
P1027	30	6.0	3.0	3.30	2.20
P1028	30	20.0	5.0	3.70	2.45
P1029	30	50.0	8.0	9.95	6.45

LOW NOISE N-CHANNEL

TO-18: I_{GSS} = 0.2 μA max: NF (10 Hz) = 2.0 max.

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	C_{DG} pf (max)	1-99	100-999
2N5391	70	1.5	2.0	5.0	6.55	4.35
2N5392	70	3.0	2.5	5.0	5.60	3.75
2N5393	70	4.5	3.0	5.0	6.55	4.35
2N5394	70	6.0	4.0	5.0	4.95	3.30
2N5395	70	8.0	4.0	5.0	5.60	3.75
2N5396	70	10.0	5.0	5.0	4.95	3.30

ECONOMY N-CHANNEL

RO-97B: I_{GSS} = 1 mA max.

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	R_{on} (max) ohms	1-99	100-999
2N4302	30	5	4	.....	.65	.40
2N4303	30	10	6	.....	.80	.55
2N4304	30	15	10	.....	.55	.35
U1837E	30	25	8	.....	.60	.40
U1897E	40	.....	10	30	1.10	.75
U1898E	40	.....	7	50	.90	.50
U1899E	40	.....	5	80	1.00	.65

ECONOMY P-CHANNEL

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	R_{on} (max) ohms	1-99	100-999
P1086E	30	.....	10	75	1.60	1.15
P1087E	30	.....	5	150	1.50	1.00

HIGH FREQUENCY N-CHANNEL

TO-18: I_{GSS} = 0.5 μA max.

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	C_{RSS} pf (max)	1-99	100-999
2N3823	30	20	8	2	1.80	1.15
2N4223	30	18	8	2	1.50	1.00
2N4224	30	20	8	2	1.55	1.05
2N5078	30	25	8	2	3.30	2.20
2N4416	30	15	6	0.8	2.35	1.50

LOW CAPACITANCE N-CHANNEL

TO-18: I_{GSS} = 0.4 μA max.

Type	V_{DGO} V (min)	I_{DSS} mA (max)	V_P V (max)	C_{DG} pf (max)	C_{SG} pf (max)	1-99	100-999
2N3452	50	4.0	10.0	1.2	1.8	2.40	1.60
2N3453	50	1.0	5.0	1.2	1.8	2.25	1.50
2N3454	50	0.25	2.5	1.2	1.8	2.55	1.70
2N3455	50	4.0	10.0	1.0	1.5	2.55	1.70
2N3456	50	1.0	5.0	1.0	1.5	2.40	1.60
2N3457	50	0.25	2.5	1.0	1.5	2.85	1.90
2N3967	30	10.0	5.0	1.3*	.....	2.90	1.95
2N3967A	30	10.0	5.0	1.3*	.....	5.85	3.90
2N3968	30	5.0	3.0	1.3*	.....	3.30	2.20
2N3968A	30	5.0	3.0	1.3*	.....	6.30	4.20
2N3969	30	2.0	1.7	1.3*	.....	3.30	2.20
2N3969A	30	2.0	1.7	1.3*	.....	6.70	4.45
U1277	50	8.0	8.0	1.2	1.8	4.65	3.10
U1278	50	3.0	4.5	1.2	1.8	4.65	3.10
U1279	50	1.5	2.5	1.2	1.8	4.95	3.30
U1280	50	10.0	10.0	1.2	1.8	3.00	2.00
U1285	30	.....	8.0	2.0	3.0	2.35	1.55
U1325	30	0.5	1.2	1.3	1.5	18.30	12.20

*C_{RSS}

TELEDYNE Field Effect Transistors

HIGH GAIN N CHANNEL

TO-18; I_{GSS} = 1 μA (Max)

Type	BV_{DGO} V min	I_{DSS} mA max	V_P V max	C_{DG} pf max	1-99	100-999
2N3436	50	15.0	10.0	5.0	2.25	1.50
2N3437	50	4.0	5.0	5.0	1.95	1.30
2N3438	50	1.0	2.5	5.0	2.50	1.65
2N3458	50	15.0	8.0	5.0	2.30	1.55
2N3459	50	4.0	4.0	5.0	2.10	1.40
2N3460	50	1.0	2.0	5.0	2.65	1.70
2N4139	50	11.0	8.0	5.0	7.50	5.00
U1281	50	.....	8.0	5.0	4.95	3.30
U1282	50	20.0	4.5	5.0	4.95	3.30
U1283	50	10.0	2.5	5.0	4.95	3.30
U1284	50	40.0	10.0	5.0	4.15	2.75
U1286	30	.....	8.0	8.0	2.75	1.85

LOW R_{ON} P CHANNEL

TO-18; I_{GSS} = 10 nA (Max)

Type	BV_{DGO} V min	I_{DSS} mA min	V_P V max	R_{on} Ω max	1-99	100-999
2N5018	30	10.0	10	75	8.10	5.40
2N5019	30	5.0	5	150	5.10	3.40

LOW R_{ON} N CHANNEL

TO-18; I_{GSS} = 10 nA (Max)

2N3966	30	2.0	6	220	5.25	3.50
2N3970	40	50.0	10	30	3.70	2.45
2N3971	40	25.0	5	60	2.75	1.85
2N3972	40	5.0	3	100	2.25	1.50
2N4091	40	30.0	10	30	3.15	2.10
2N4092	40	15.0	7	50	1.85	1.20
2N4093	40	8.0	5	80	2.15	1.40
2N4391	40	50.0	10	30	3.70	2.45
2N4392	40	25.0	5	60	2.60	1.70
2N4393	40	5.0	3	100	2.00	1.30
2N4856	40	50.0	10	25	3.60	2.40
2N4857	40	20.0	6	40	3.00	1.95
2N4858	40	8.0	4	60	2.50	1.65
2N4859	30	50.0	10	25	3.05	2.00
2N4860	30	20.0	6	40	2.75	1.80
2N4861	30	8.0	4	60	2.25	1.50
3N4977	30	50.0	10	15	4.30	2.85
2N4978	30	15.0	8	20	5.10	3.40
2N4979	30	7.5	5	40	3.75	2.50

HIGH VOLTAGE N CHANNEL

TO-5; I_{GSS} = 5 μA (Max)

2N4881	300	2.0	15	1.5	5.85	3.90
2N4882	300	7.5	15	1.5	6.20	4.15
2N4883	200	2.0	10	1.5	4.45	2.95
2N4884	200	7.5	10	1.5	4.80	3.20
2N4885	125	2.0	10	1.5	4.95	3.30
2N4886	125	7.5	10	1.5	4.35	2.90
2N5277	150	12.5	7	5.0	4.00	2.65
2N5278	150	25.0	10	5.0	4.35	2.90
U1715	200	50.0	15	4.0	9.80	6.55

FIELD EFFECT TRANSISTORS DUAL ASSEMBLIES

TO-18 (6 lead). These matched pairs offer g_{m1}/g_{m2} match of .95 minimum to 1.0 maximum (except SU2078, −79, −80 which are .9 to 1.0 and 2N5047 which is .8 to 1.0). BV_{DGO} is 50 volts minimum (except SU2098, SU2099 which are rated 30 volts).

Type	g_m mhos (min)	I_{DSS} mA min	I_{DSS} mA max	$V_{GS(1-2)}$ mV max	Each 1-99	Each 100-999
V_p = 3.0 V Max						
2N3921	1500	1	10	5	14.40	7.55
2N3922	1500	1	10	5	8.60	5.75
2N3934	300	0.25	1.3	5	11.30	7.55
2N3935	300	0.25	1.3	5	8.60	5.75
2N4082	300	0.25	1.3	15	13.35	8.90
2N4083	300	0.25	1.3	15	9.95	6.65
2N4084	1500	1	10	15	13.35	8.90
2N4085	1500	1	10	15	9.95	6.65
V_p = 4.0 V Max						
SU2078	300	0.25	2	15	16.20	9.60
SU2079	300	0.25	2	15	12.60	8.40
SU2080	1500	1	10	15	8.00	5.25
SU2081	1500	1	10	15	8.00	5.25
SU2098	1000	1	8	5	12.80	8.50
SU2099	1000	1	8	5	9.60	6.40
SU2098A	1500	1	8	5	14.80	9.85
SU2098B	1500	1	8	5	18.00	12.00
SU2099A	1500	1	8	5	12.80	8.50
V_p = 4.5 V Max						
2N5045	1.5	0.5	8	5	10.70	7.15
2N5046	1.5	0.5	8	10	9.15	6.40
2N5047	1.5	0.5	8	15	7.65	5.35

DUAL P CHANNEL (MONOLITHIC)

Matched pairs offer g_{m1}/g_{m2} match of .95 to 1.0 (except 2N5509 and 2N5514 with rating of .9 to 1.0). BV_{DGO} is 30 volts minumum. TO-18 case (6 leads).

Type	g_m μmhos min	I_{DSS} mA min	I_{DSS} mA max	$V_{GS(1-2)}$ mV max	Each 1-99	Each 100-999
V_p = 4.0 V Max						
2N5505	1000	0.8	7	5	16.65	11.10
2N5506	1000	0.8	7	15	14.15	9.45
2N5507	1000	0.8	7	5	13.20	8.80
2N5508	1000	0.8	7	15	6.65	4.45
2N5510	500	0.25	5	5	16.65	11.10
2N5511	500	0.25	5	15	14.15	9.45
2N5512	500	0.25	5	5	13.20	8.80
2N5513	500	0.25	5	15	6.65	4.45
V_p = 5.0 V Max						
2N5509	1000	0.25	5	25	4.55	3.05
2N5514	500	0.25	5	25	4.55	3.05

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BASIC INFORMATION DEFINITIONS

Vbr = reverse breakdown voltage

PRV = Vrm(Rep) = maximum or peak reverse voltage repetitive

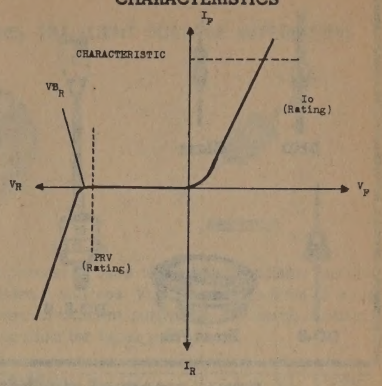
If = forward current

Io = output or maximum forward current

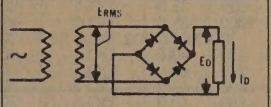
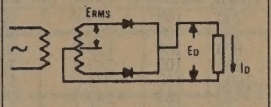
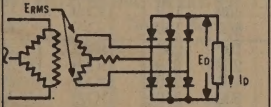
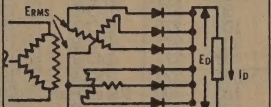
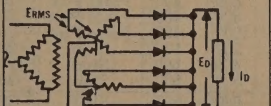
Ifm = maximum forward current (surge)

trr = minimum time required for zero or positive voltage before reverse voltage can be applied and blocked by the device—recovery time

CHARACTERISTICS



BASIC RECTIFIER CIRCUITS

Circuit Configuration	Circuit	Output Wave Values: Wave Form	Ed	Ea	Form Fact	DC Ripple %	Rectifier Diode Wave Values: Wave Form	Io	Irms	Vrm (WKG.)	Suggested Rectifier Diode Vrm (rep.) Rating
Change "B" to Single Phase Full Wave			.900 Erms	1.0 Erms	1.11	48		.500 Id	.786 Id	1.414 Erms or 1.57 Ed	3.535 Erms or 3.925 Ed
Change "C" to Single Phase Full Wave			.900 Erms	1.0 Erms	1.11	48		.500 Id	.786 Id	2.828 Erms or n Ed	7.07 Erms or 7.85 Ed
			1.350 Erms	1.351 Erms	1.001	4		.333 Id	.579 Id	1.414 Erms or 1.05 Ed	3.535 Erms or 2.625 Ed
Change "E", "S", and "Y" to Three Phase Full Wave			1.350 Erms	1.351 Erms	1.001	4		.167 Id	.408 Id	2.828 Erms or 2.1 Ed	7.07 Erms or 5.25 Ed
			1.170 Erms	1.171 Erms	1.001	4		.167 Id	.293 Id	2.45 Erms or 2.1 Ed	6.125 Erms or 5.25 Ed

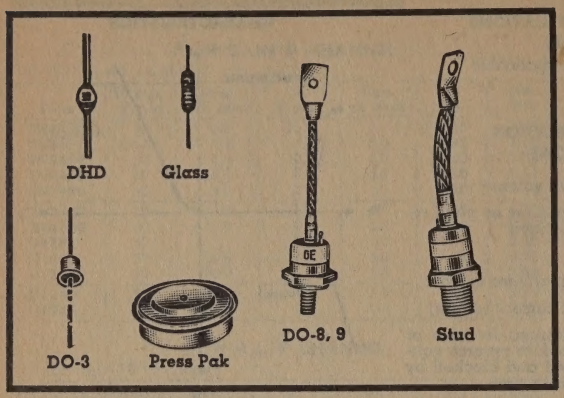
Ed = Assembly average output voltage
Vrm(WKG) = Working peak reverse voltage
Io = Rectifier diode average current
Id = Assembly average output current
Ea = Assembly RMS output voltage
Irms = Rectifier diode RMS current

SILICON RECTIFIER SELECTION GUIDE

Max. Rep. Rev. V	Average Forward Current (Amps): 1 Amp	3 Amp	5.0 A	12 A	20 A	35 A	50 A	100	250	500	1000
100	1N4002	1N4720	1N1582	1N1200A	1N1192	1N1184	*MR1201FL	1N3288A	1N3735	.....	**A540A
200	1N4003	1N4721	1N1583	1N1202A	1N1194	1N1186	*MR1203FL	1N3289A	1N3736	**A295B	**A540B
400	1N4004	1N4722	1N1585	1N1204A	1N1196	1N1188	*MR1207FL	1N3291A	1N3738	**A295D	**A540D
600	1N4005	1N4723	1N1587	1N1206A	1N1198	1N1190	*MR1209FL	1N3293A	1N3740	**A295M	**A540M
800	1N4006	1N4724	1N3988	1N3671A	*MR330	1N3766	.....	1N3294A	1N3741	**A295N	**A540N
1000	1N4007	1N4725	1N3990	1N3673A	*MR331	1N3768	.....	1N3295A	1N3742	**A295P	**A540P

*Motorola **General Electric

General Electric Diodes



SIGNAL DIODES — DHD PACKAGE

Type	Vbr Volts	If mA	@ Vf Volts	Ir max 150°C Vr=20 uA	Trr† n sec	1-99	100-999	1000-up
IN914*	100	10	1.0	50	4	.30	.20	.14
IN914A	100	20	1.0	50	4	.40	.26	.15
IN914B	100	100	1.0	3‡	4	.80	.54	.17
IN916	100	10	1.0	50	4	.52	.34	.16
IN4148**	100	10	1.0	50	4	.30	.20	.14
IN4151	75	50	1.0	50	2	.75	.50	.19
IN4153	75	20	0.74-0.88	50	2	.75	.50	.19
IN4154	35	30	1.0	100	2	.33	.22	.15
IN4446	100	20	1.0	50	4	.36	.24	.15
IN4606	85	200	1.0	25‡	4††	1.20	.80	.30
IN4608	85	450	1.0	25‡	10††	1.44	.94	.89

*MIL device available in DO-7 package only.
**MIL device available in DHD package.
†Recovery to 1.0mA reverse switching from 10mA forward to —6.0 volts, Rl = 100 ohms, except †† If = Ir = 10mA, recovery to 1.0mA.
‡@ 100°C.

LOW CURRENT RECTIFIER DIODES

Type	PRV Volts	If Amp (Avg.)	Package	Tj Max.	1-99	100-999	1000-up
IN440	100	0.30	DO-3	150	.75	.50	.41
IN441	200	0.30	DO-3	150	.78	.52	.43
IN443	400	0.30	DO-3	150	1.11	.74	.59
IN1692	100	0.60	DO-3	115	.51	.33	.27
IN1693	200	0.60	DO-3	115	.54	.36	.29
IN1694	300	0.60	DO-3	115	.63	.43	.32
IN1695	400	0.60	DO-3	115	.75	.50	.41
A14A	100	1.0	Glass	175	.34	.26	.19
IN5059 (A14B)	200	1.0	Glass	175	.36	.28	.20
IN5060 (A14D)	400	1.0	Glass	175	.43	.33	.23
IN5061 (A14M)	600	1.0	Glass	175	.57	.45	.32
IN5062 (A14N)	800	1.0	Glass	165	.95	.63	.44
GER4001	50	1.0	Glass	175	.45	.30	.24
GER4002	100	1.0	Glass	175	.49	.33	.26
GER4003	200	1.0	Glass	175	.60	.40	.32
GER4004	400	1.0	Glass	175	.67	.45	.36
GER4005	600	1.0	Glass	175	.75	.50	.40
GER4006	800	1.0	Glass	175	.82	.55	.44
GER4007	1000	1.0	Glass	175	.90	.60	.48
A15A	100	3.0	Glass	175	.62	.42	.32
IN5624 (A15B)	200	3.0	Glass	175	.75	.50	.38
IN5625 (A15D)	400	3.0	Glass	175	1.00	.67	.51
IN5626 (A15M)	600	3.0	Glass	175	1.40	.95	.73
IN5627 (A15N)	800	3.0	Glass	175	3.75	2.50	1.90

MEDIUM CURRENT RECTIFIER DIODES

Type	PRV Volts	If Amp (Avg.)	Package	Tj Max	1-99	100-999
IN1581	50	5.0	DO-4	150	1.12	.75
IN1582	100	5.0	DO-4	150	1.27	.85
IN1583	200	5.0	DO-4	150	2.22	1.48
IN1585	400	5.0	DO-4	150	4.11	2.74
IN3879	50	7.5	DO-4	150	2.55	1.70
IN3880*	100	7.5	DO-4	150	2.93	1.95
IN3881*	200	7.5	DO-4	150	3.75	2.50
IN3883*	400	7.5	DO-4	150	5.25	3.50
IN1341	50	11.5	DO-4	200	1.27	.85
IN1342	100	11.5	DO-4	200	1.12	.75
IN1344	200	11.5	DO-4	200	2.22	1.48
IN1346	400	11.5	DO-4	200	3.96	2.64
IN1348	600	11.5	DO-4	200	5.48	3.65
IN3988	800	11.5	DO-4	200	8.76	5.84
IN3990	1000	11.5	DO-4	200	10.80	7.20
IN248	50	16.0	DO-5	175	1.65	1.10
IN249	100	16.0	DO-5	175	1.73	1.15
IN250	200	16.0	DO-5	175	2.48	1.65

MEDIUM CURRENT RECTIFIER DIODES (cont'd)

Type	PRV Volts	If (Avg.)	Package	Tj Max	1-99	100-999
IN3890*	100	16.0	DO-4	150	3.75	2.50
IN3891*	200	16.0	DO-4	150	4.72	3.15
IN3893*	400	16.0	DO-4	150	6.75	4.50
IN4510	1000	16.0	DO-4	175	11.80	7.45
IN4511	1200	16.0	DO-4	175	14.40	9.60
IN1612	50	18.0	DO-4	190	1.08	.72
IN1613	100	18.0	DO-4	190	1.24	.83
IN1614*	200	18.0	DO-4	190	1.90	1.27
IN1615*	400	18.0	DO-4	190	3.75	2.50
IN1616*	600	18.0	DO-4	190	5.55	3.70
IN3899	50	20.0	DO-5	150	4.50	3.00
IN3900	100	20.0	DO-5	150	5.25	3.50
IN3901	200	20.0	DO-5	150	6.75	4.50
IN3903	400	20.0	DO-5	150	9.90	6.60
IN1200	100	22.0	DO-4	200	1.41	.94
IN1202	200	22.0	DO-4	200	2.62	1.75
IN1204	400	22.0	DO-4	200	4.57	3.05
IN1206	600	22.0	DO-4	200	6.37	4.25
IN3671	800	22.0	DO-4	200	8.77	5.85
IN1191	50	30.0	DO-5	175	1.65	1.10
IN1192	100	30.0	DO-5	175	1.73	1.15
IN1194	200	30.0	DO-5	175	2.48	1.65
IN1196	400	30.0	DO-5	175	4.95	3.30
IN1198	600	30.0	DO-5	175	6.68	4.45
IN2155	100	33.0	DO-5	200	3.00	2.00
IN2156	200	33.0	DO-5	200	4.38	2.92
IN2158	400	33.0	DO-5	200	5.92	3.95
IN1183	50	35.0	DO-5	200	1.95	1.30
IN1184	100	35.0	DO-5	200	2.40	1.60
IN1186	200	35.0	DO-5	200	3.45	2.30
IN1188	400	35.0	DO-5	200	5.85	3.90
IN1190	600	35.0	DO-5	200	6.90	4.60
IN3766	800	35.0	DO-5	200	9.75	6.50
IN3768	1000	35.0	DO-5	200	11.62	7.75
IN1183A	50	40.0	DO-5	200	2.14	1.43
1N1184A	100	40.0	DO-5	200	2.41	1.65
IN1186A	200	40.0	DO-5	200	3.55	2.37
IN1188A	400	40.0	DO-5	200	6.19	4.13
IN1190A	600	40.0	DO-5	200	8.70	5.80

*Also available as military types in forward polarities only.

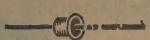
HIGH CURRENT RECTIFIER DIODES

IN3289* & R	200	100	DO-8	200	14.50	8.75
IN3291* & R	400	100	DO-8	200	16.50	10.00
IN3293* & R	600	100	DO-8	200	19.50	11.75
IN3294* & R	800	100	DO-8	200	24.00	14.50
IN3295* & R	1000	100	DO-8	200	28.50	17.25
IN3260 & R	50	160	DO-9	190	17.00	10.25
IN3261 & R	100	160	DO-9	190	18.00	11.00
IN3263 & R	200	160	DO-9	190	20.50	12.50
IN3267 & R	400	160	DO-9	190	26.00	15.75
IN3269 & R	600	160	DO-9	190	32.50	19.50
IN3735 & R	100	250	DO-9	200	21.00	12.75
IN3736 & R	200	250	DO-9	200	24.50	14.75
IN3738 & R	400	250	DO-9	200	30.50	18.50
IN3740 & R	600	250	DO-9	200	38.00	23.00
IN3741 & R	800	250	DO-9	200	44.50	26.75
IN3742 & R	1000	250	DO-9	200	52.50	31.50
IN4044 & R	50	275	DO-9	190	17.00	10.25
IN4045 & R	100	275	DO-9	190	18.00	11.00
IN4047 & R	200	275	DO-9	190	20.50	12.50
IN4050 & R	400	275	DO-9	190	30.50	18.50
IN4052 & R	600	275	DO-9	190	38.00	23.00
A390A	100	400	Press Pak	200	19.00	11.50
A390B	200	400	Press Pak	200	22.50	13.50
A390D	400	400	Press Pak	200	27.50	16.50
A390M	600	400	Press Pak	200	34.50	20.75
A390N	800	400	Press Pak	200	40.00	24.00
A390P	1000	400	Press Pak	200	47.50	28.50
A296B	200	500	Stud	200	45.50	27.50
A296D	400	500	Stud	200	57.00	34.25
A296M	600	500	Stud	200	69.50	41.75
A296N	800	500	Stud	200	82.00	49.25
A296P	1000	500	Flat base	200	94.50	56.75
A500P	1000	800	Press. Mtd.	175	147.00	88.25
A500PE	1500	800	Press. Mtd.	175	218.00	131.00
A500L	2000	800	Press. Mtd.	175	290 00	174.00
A500LE	2500	800	Press. Mtd.	175	364.00	219.00
A500LP	3000	800	Press. Mtd.	175	438.00	263.00
A540A	100	1000	Press. Mtd.	200	65.50	39.50
A540B	200	1000	Press. Mtd.	200	73.50	44.25
A540D	400	1000	Press. Mtd.	200	92.50	55.50
A540M	600	1000	Press. Mtd.	200	124 00	74.50
A540N	800	1000	Press. Mtd.	200	158.00	94.50
A540P	1000	1000	Press. Mtd.	200	189.00	114.00
A540PE	1500	1000	Press. Mtd.	200	270.00	162.00
A540L	2000	1000	Press. Mtd.	200	350.00	210.00
A570A	100	1500	Press. Mtd.	200	94.50	56.75
A570B	200	1500	Press. Mtd.	200	105.00	63.00
A570D	400	1500	Press. Mtd.	200	129.00	77.25
A570M	600	1500	Press. Mtd.	200	162.00	97.25
A570N	800	1500	Press. Mtd.	200	198.00	119.00
A570P	1000	1500	Press. Mtd.	200	232.00	140.00

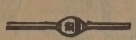
*Also available as military types in forward polarities only.

GENERAL ELECTRIC DIODES

GERMANIUM TUNNEL DIODES



TD-1



TD-250

Switching, 2 milli-μsecs; self-resonant frequencies cover the S band. For the TD-1 thru TD-5A types the Peak point voltage is 65 mU typical; valley point, 355 mu typical. Forward voltage, 500 mV typical. Peak point current ±10% except, (*) ±2.5% (#) —G in mhos x 10-3. ** Gallium arsenide.

Type	Cur. mA Ip	Cur. mA Iv	Max. pF	1-99	100-999	1000-Up
1N3712(TD-1)	1.0	0.18	10	3.60	2.40	2.18
1N3713(TD-1A)	1.0*	0.14	5	5.45	3.60	3.27
1N3714(TD-2)	2.2	0.48	25	3.16	2.12	1.91
1N3716(TD-3)	4.7	1.04	50	2.25	1.50	1.35
1N3717(TD-3A)	4.7*	0.60	25	4.25	2.83	2.56
1N3718(TD-4)	10.0	2.20	90	2.74	1.83	1.65
1N3719(TD-4A)	10.0*	1.40	50	4.25	2.83	2.56
1N3720(TD-5)	22.0	4.80	150	3.64	2.42	2.18

ULTRA HIGH SPEED SWITCHING

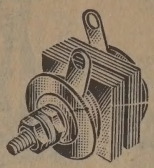
Type	Current mA. Ip 10%	Current mA. Iv	Max. pF	Typ. Rise Time in p/sec.	1-99	100-999
TD-251A	2.2	0.31	4.0	160	12.00	8.00
TD-252	4.7	0.60	4.0	320	7.50	5.00
TD-252A	4.7	0.60	1.0	74	12.00	8.00
TD-253	10.0	1.40	9.0	350	6.00	4.00
TD-253A	10.0	1.40	5.0	190	9.00	6.00
TD-256A	100	17.50	6.0	22	12.00	8.00

RECTIFIER AND SCR STACKS

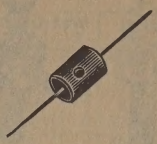
Rectifier and SCR stacks are available. (Note most numbers have 4J preceeding below listed numbers).

A211	A1011	A3511	A7013	C1013	C3513
A411	A2011	A3512	A9013	C1112	C5014
A421	A2511	A7011	A9015	C1113	
A422	A3011	A7012	C1012	C3512	

THYRECTOR DIODES, TRANSIENT VOLTAGE SUPPRESSORS



6RS21SA



6RS20VD

Transient voltage suppressors used to protect transistor circuits from internal and external sources. Voltage ranges from 25 volts to 600 volts, protection for current surges to 300 Amps. Contact your local Newark location for types and prices.

Type	Max. RMS Input V.	Pk. Amps 0.1 ms	L"	1-49	50-999	1000-UP
6RS20SP1B1	30	20	1 3/8	.76	.57	.52
6RS20SP2B2	60	20	1 3/8	.88	.66	.60
6RS20SP3B3	90	20	1 3/8	1.00	.76	.68
6RS20SP4B4	120	20	1 3/8	1.13	.86	.77
6RS20SP5B5	150	20	1 3/8	1.56	1.17	1.06
6RS20SP6B6	180	20	1 39/64	1.39	1.05	.95
6RS20SP7B7	210	20	1 39/64	1.52	1.14	1.03
6RS20SP9B9	270	20	1 39/64	1.78	1.34	1.21
6RS20SP10B10	300	20	1 39/64	1.90	1.44	1.30
6RS21SA1D1	25	30	1 1/2	2.03	1.46	1 32
6RS21SA2D2	50	30	1 1/2	2.29	1.60	1.43
6RS21SA3D3	75	30	1 5/8	2.42	1.79	1.57
6RS21SA4D4	100	30	1 3/4	2.62	1.87	1.71
6RS21SA5D5	125	30	1 3/4	2.81	2.04	1.82
6RS21SA6D6	150	30	1 7/8	3.03	2.17	1.96
6RS21SA7D7	175	30	2	3.19	2.31	2.09
6RS21SA8D8	200	30	2	3.41	2.48	2.24
6RS21SA9D9	225	30	2 1/8	3.63	2.64	2.39
6RS21SA20D20	500	30	2 15/16	5.78	4.73	4.46

INTERNATIONAL RECTIFIER

LOW CURRENT SILICON RECTIFIERS 0.4-12.0 A

Type	Case	PRV V	I Amp	Temp °C	Isurge Amps	1-99	100-999
4D4	DO-39	400	40	50	20	.40	.31
4D6	DO-39	600	40	50	20	.50	.40
1N2069	C-11	200	75	25	25	.32	.28
1N2070	C-11	400	75	25	25	.41	.35
1N2071	C-11	600	75	25	25	.50	.44
1N2103	C-10	50	75	25	10	.50	.45
1N2104	C-10	100	75	25	10	.54	.48
1N2105	C-10	200	75	25	10	.60	.53
1N2106	C-10	300	75	25	10	.68	.60
1N2107	C-10	400	75	25	10	.76	.67
1N2108	C-10	500	75	25	10	.85	.75
8D4	DO-39	400	80	50	40	.44	.40
8D6	DO-39	600	80	50	40	.53	.48
5A1	C-11	100	1.0	75	50	.28	.24
5A2	C-11	200	1.0	75	50	.32	.28
5A3	C-11	300	1.0	75	50	.37	.32
5A4	C-11	400	1.0	75	50	.41	.35
5A5	C-11	500	1.0	75	50	.45	.38
5A6	C-11	600	1.0	75	50	.50	.44
5A8	C-11	800	1.0	75	50	.85	.75
5A10	C-11	1000	1.0	75	50	1.20	1.02
10C1	C-10	100	1.0	75	40	.32	.29
10C2	C-10	200	1.0	75	40	.35	.32
10C3	C-10	300	1.0	75	40	.38	.36
10C4	C-10	400	1.0	75	40	.42	.38
10C5	C-10	500	1.0	75	40	.47	.43
10C6	C-10	600	1.0	75	40	.52	.46
10C8	C-10	800	1.0	75	40	.75	.65
10C10	C-10	1000	1.0	75	40	1.70	1.20
10D1	DO-39	100	1.0	75	50	.28	.24
10D2/ 1N2069	DO-39	200	1.0	75	50	.32	.28
10D3	DO-39	300	1.0	75	50	.37	.32
10D4/ 1N2070	DO-39	400	1.0	75	50	.41	.35
10D5	DO-39	500	1.0	75	50	.45	.38
10D6/ 1N2071	DO-39	600	1.0	75	50	.50	.44
10D8	DO-39	800	1.0	75	50	.85	.75
10D10	DO-39	1000	1.0	75	50	1.20	1.02
10B1	C-3	100	1.3	50	40	.50	.37

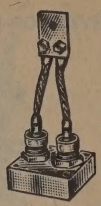
LOW CURRENT SILICON RECTIFIERS (Cont'd)

Type	Case	PRV V	I Amps	Temp °C	Isurge Amps	1-99	100-999
10B2	C-3	200	1.3	50	40	.55	.40
10B4	C-3	400	1.3	50	40	.80	.64
10B10	C-3	1000	1.3	50	40	2.05	1.64
20A05	C-11	50	2.0	100	50	.45	.32
20A1	C-11	100	2.0	100	50	.50	.35
20A2	C-11	200	2.0	100	50	.55	.39
20A3	C-11	300	2.0	100	50	.60	.43
20A4	C-11	400	2.0	100	50	.70	.50
20A5	C-11	500	2.0	100	50	.80	.56
20A6	C-11	600	2.0	100	50	.90	.63
20A8	C-11	800	2.0	100	50	1.30	.91
20A10	C-11	1000	2.0	100	50	1.60	1.10
1N1124	DO-4	200	3.0	50	25	2.20	1.45
1N1125	DO-4	300	3.0	50	25	2.75	1.82
1N1126	DO-4	400	3.0	50	25	3.85	2.58
1N1127	DO-4	500	3.0	50	25	4.95	3.32
1N1128	DO-4	600	3.0	50	25	5.85	3.92
1N2348	DO-4	50	3.0	140	15	1.00	.73
1N2349	DO-4	100	3.0	140	15	1.20	.79
1N2350	DO-4	150	3.0	140	15	1.55	1.02
1N1124A	DO-4	200	3.3	50	25	2.20	1.45
1N1125A	DO-4	300	3.3	50	25	2.75	1.82
1N1126A	DO-4	400	3.3	50	25	3.85	2.58
1N1127A	DO-4	500	3.3	50	25	4.95	3.32
1N1128A	DO-4	600	3.3	50	25	5.85	3.92
1N3649	DO-4	700	3.3	50	25	11.10	7.50
1N3650	DO-4	800	3.3	50	25	13.75	9.00
1N3569	DO-4	100	3.5	85	35	1.49	.99
1N3570	DO-4	200	3.5	85	35	1.80	1.20
1N3571	DO-4	300	3.5	85	35	2.32	1.55
1N3572	DO-4	400	3.5	85	35	2.85	1.90
1N3573	DO-4	500	3.5	85	35	4.25	2.85
1N3574	DO-4	600	3.5	85	35	6.15	4.10
1N1342	DO-4	100	6.0	150	150	1.20	.85
1N1343	DO-4	150	6.0	150	150	1.55	1.00
6F70A	DO-4	700	6.0	150	150	6.40	4.45
6F80A	DO-4	800	6.0	150	150	7.90	5.25
6F90A	DO-4	900	6.0	150	150	9.30	6.20
6F100A	DO-4	1000	6.0	150	150	10.80	7.45
1N1341A	DO-4	50	6.0	150	150	.95	.75
1N1342A	DO-4	100	6.0	150	150	1.20	.85

DO-4

DO-5

DO-8, 9, 30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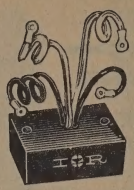

D-4

B-10

D-14

D-2

LOW CURRENT SILICON RECTIFIERS (cont'd)

Type	Case	PRV V	I Amps	Temp °C	I surge Amps	1-99	100-999
1N3988	DO-4	800	6.0	150	150	8.25	5.60
1N3989	DO-4	900	6.0	150	150	9.00	6.00
1N3990	DO-4	1000	6.0	150	150	9.50	6.25
6F70A	DO-4	700	6.0	150	150	6.40	4.45
6F80A	DO-4	800	6.0	150	150	7.90	5.25
6F90A	DO-4	900	6.0	150	150	9.30	6.20
6F100A	DO-4	1000	6.0	150	150	10.80	7.45
6F70B	DO-4	700	6.0	150	150	6.75	4.65
6F80B	DO-4	800	6.0	150	150	8.30	5.50
6F90B	DO-4	900	6.0	150	150	9.75	6.50
6F100B	DO-4	1000	6.0	150	150	11.30	7.85
1N1199A	DO-4	50	12	150	240	1.20	.80
1N1200A	DO-4	100	12	150	240	1.35	.94
1N1201A	DO-4	150	12	150	240	1.75	1.20
1N1202A	DO-4	200	12	150	240	2.45	1.65
1N1204A	DO-4	400	12	150	240	4.40	2.95
1N1206A	DO-4	600	12	150	240	6.10	4.10
1N3671A	DO-4	800	12	150	240	8.70	5.85
1N3673A	DO-4	1000	12	150	240	9.80	6.60

HIGH CURRENT SILICON RECTIFIERS 15-500A

Type	Case	PRV V	I Amps	Temp °C	1-99	100-999
1N3209	DO-5	100	15	175	1.25	.85
1N3210	DO-5	200	15	175	1.70	1.20
1N3212	DO-5	400	15	175	2.85	1.90
1N3214	DO-5	600	15	175	7.30	4.80
21PT5	B-10	50	20	170	1.10	.82
21PT10	B-10	100	20	170	1.20	.90
21PT20	B-10	200	20	170	1.30	.98
21PT40	B-10	400	20	170	1.70	1.27
21PT60	B-10	600	20	170	2.25	1.70
1N1183	DO-5	50	35	180	1.95	1.30
1N1184	DO-5	100	35	180	2.40	1.60
1N1186	DO-5	200	35	180	3.40	2.25
1N1188	DO-5	400	35	180	5.80	3.80
1N1190	DO-5	600	35	180	6.80	4.50
40HF80	DO-5/B-4	800	40	150	7.05	5.05
70H10A	DO-5/B-4	50	60	140	3.80	2.70
70H15A	DO-5/B-4	100	60	140	4.50	3.18
70H20A	DO-5/B-4	200	60	140	5.05	3.53
70H25A	DO-5/B-4	400	60	140	5.60	3.96
70H30A	DO-5/B-4	600	60	140	6.15	4.36

Type	Case	PRV V	I Amps	Temp °C	1-24	25-99
1N3288A	DO-8	100	100	130	9.25	9.25
1N3289A	DO-8	200	100	130	16.15	16.15
1N3291A	DO-8	400	100	130	22.80	22.80
1N3293A	DO-8	600	100	130	27.80	27.80
1N3294A	DO-8	800	100	130	37.80	37.80
1N3295A	DO-8	1000	100	130	57.50	57.50
1N3085	DO-30	100	150	150	8.00	8.00
1N3086	DO-30	200	150	150	14.00	14.00
1N3088	DO-30	400	150	150	20.00	20.00
1N2054	DO-9	50	250	135	12.40	12.40
IN2055	DO-9	100	250	135	13.90	13.90
1N2057	DO-9	200	250	135	18.90	18.90
1N2061	DO-9	400	250	135	23.95	23.95
1N2064	DO-9	600	250	135	36.00	36.00
1N2066	DO-9	800	250	135	49.50	49.50
300U5A	DO-9	50	300	120	13.50	11.50
300U10A	DO-9	100	300	120	20.90	17.75
300U20A	DO-9	200	300	120	29.50	25.00
300U40A	DO-9	400	300	120	37.35	31.70
300U60A	DO-9	600	300	120	54.75	46.50
500UDF5A	B-9	50	500	130	32.00	30.00
500UDF10A	B-9	100	500	130	33.00	31.00
500UDF20A	B-9	200	500	130	41.00	38.00
500UDF40A	B-9	400	500	130	63.00	57.00
500UDF60A	B-9	600	500	130	89.00	83.00

SELENIUM VOLTAGE SUPPRESSORS (KLIP-SELS)

For recifiers rated thru 3 amp (I peak = 0.25A)

Type	Device Voltage	Max. RMS Op. Volt.	Max. Clamp Volts @ I peak	1-99	100-999
KY1DPF	50	26	70	.63	.57
KY2DPF	100	52	140	.69	.62
KY3DPF	150	78	210	.75	.68
KY4DPF	200	104	280	.81	.73
KY6DPF	300	156	420	.93	.84
FOR RECTIFIERS RATED THRU 16 AMP (I peak = 1.0A)					
KZ1DPF	50	26	70	.78	.70
KZ2DPF	100	52	140	.87	.78
KZ3DPF	150	78	210	.96	.87
KZ4DPF	200	104	280	1.05	.95
KZ6DPF	300	156	420	1.23	1.11

MINIATURE MOLDED BRIDGE RECTIFIER ASSEMBLIES

Type	PRV Max. Volts	TYP V rms Input	Max. I surge Amp.	1-99	100-999
1.8 AMP — FIG. D-2					
18DB2A	200	140	5A	2.38	2.14
18DB4A	400	280	5A	2.61	2.48
18DB6A	600	420	5A	2.90	2.75
18DB8A	800	560	5A	3.42	3.25
18DB10A	1000	700	5A	5.12	4.95
6 AMP — FIG. D-14					
60FB05L	50	35	20	3.20	2.45
60FB1L	100	70	20	3.45	2.65
60FB2L	200	140	20	4.25	3.20
60FB4L	400	280	20	5.70	4.25
60FB6F	600	420	20	7.00	5.25
10 AMP — FIG. D-4					
100PB05P	50	35	60	4.05	3.25
100PB1P	100	70	60	4.30	3.35
100PB2P	200	140	60	5.15	4.15
100PB4P	400	280	60	6.35	5.15
100PB6P	600	420	60	9.95	8.00

SILICON PLUG-IN TUBE REPLACEMENTS

Solid state rectifiers replace medium and high voltage tubes. Rugged construction, long life, no warm-up time, no filament supply required, low operating temperature. *High altitude types. Tube replacement is exact size and pin configuration of tube it replaces.

Type	Replaces Tube Type	1-24	25-99
*1N1237	0Z4, 5X4, 5Y4, 6AX5, 6X5	5.50	4.95
*1N1239	5R4	7.95	7.10
*1N1262 (ST-7)	6AU4, 6AX4, 6BL4, 6W4, 12AX4, 17AX4, 25W4	9.65	8.65
1N2630	6X4, 12X4	6.25	5.55
1N2631 (ST-2)	5AW4, 5AX4, 5AZ4, 5T4, 5U4, 5Y4, 6004	5.50	4.95
1N2632 (ST-2A)	5R4, 5R4W	7.95	7.10
1N2633 (ST-3)	0Z4, 5X4, 6AX5, 6W5, 6X5, 6ZY5, 5839, 5852	5.50	4.95

200IR70 IGNITRON REPLACEMENT

For use in rectification Applications where phase control is not required. Units operate from —40°C to +65°C and from 50 to 400HZ Repetitive Vem = 1200V with built in transient suppressions. I f (av) = 225A convection cooled.

Type	Replaces These Ignitrons	1-24	25-99
200IR70	FG238B, WL653B, 5555, NL5555, AY5555/653B WL5555/653B, GL5555/FG2388	550.00	410.00

Selenium Stacks and Rectificers

INTERNATIONAL RECTIFIER

HIGH VOLTAGE CARTRIDGE RECTIFIERS (CASE D-9)

Type	PRV max kV	IF (AV) @75°C (mA)	1-24	25-99
1N1134	1.5	100	3.15	2.85
1N1136	1.8	85	3.75	3.35
1N1138	2.4	60	5.00	4.50
1N1140	3.6	65	5.65	5.10
1N1142	4.8	50	8.35	7.50
1N1143	6.0	50	9.15	8.25
1N1146	8.0	45	11.10	10.00
1N1147	12.0	45	15.00	13.50
1N1148	14.0	50	15.70	14.15
1N1149	16.0	45	17.85	16.10

HIGH VOLTAGE MOLDED RECTIFIERS

Half-wave units from —65 to 175°C.

*Type	PRV max kV	IF (AV) @50°C (A)	1-24	25-99
1N4865	1.5	1.25	6.00	4.80
1N4867	3.0	1.25	9.00	7.20
1N4868	5.0	1.25	11.25	9.00
1N4869	7.5	1.25	16.00	12.80
1N4870	10.0	1.25		
1N4872	15.0	1.25	22.50	18.00
1N4873	20.0	1.25	45.00	36.00
1N4875	30.0	1.25	67.50	54.00
1N4876	40.0	1.25	90.00	72.00
1N4877	50.0	1.25	112.50	90.00
1N4878	75.0	1.25	168.50	135.00

*RC compensated CASE D-8

MULTI-CIRCUIT SELENIUM STACKS

Single-phase bridge.

Type	AC Input VRMS	DC Output V	DC Output A	1-24	25-99
J29D2	36	29	2	3.05	2.00
J58D2	72	58	2	6.05	3.95
J135D2	180	135	2	13.30	8.70
J29D7	36	29	7	8.60	5.65
J58D7	72	58	7	17.15	11.20
J135D7	180	135	7	40.20	26.30
J58D13	72	58	13	23.80	15.55
J135D13	180	135	13	56.45	36.90
J135D25	180	135	25	75.00	56.00

SARKES-TARZIAN RECTIFIERS

LOW CURRENT SILICON RECTIFIERS

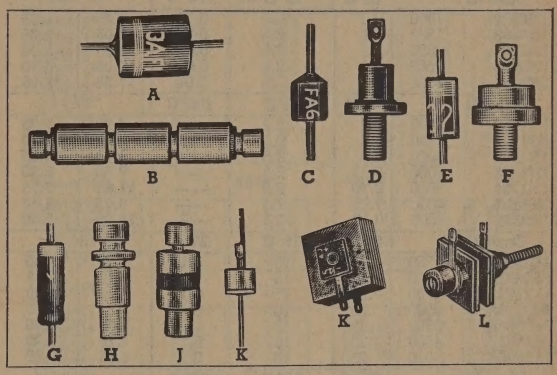
Type	JEDEC	Fig.	PRV	Max. DC/Amp.	1-99	100 & up
10M	1N1081	J	100	1.0 Amp @ 55°C ambient	.65	.51
30M	1N1083	J	300		.75	.57
M500	1N1084	J	400		.80	.59
60M	.....	J	600		1.35	.95
F2	1N2482	C	200	1.0 Amp @ 55°C ambient	.35	.27
F4	1N2483	C	400		.38	.32
F6	1N2484	C	600		.45	.34
F8	.....	C	800		.82	.60
F10	.....	C	1000		.90	.65
E1	1N4002	E	100	1.0 Amp at 55°C	.35	.29
E2	1N4003	E	200		.43	.37
E4	1N4004	E	400		.52	.44
E6	1N4005	E	600		.65	.56
E8	1N4006	E	800		.82	.60
E10	1N4007	E	1000		.90	.65
G1	.....	G	100	1.0 Amp at 55°C	.38	.32
G2	.....	G	200		.37	.29
G4	.....	G	400		.43	.35
G6	.....	G	600		.65	.50
G8	.....	G	800		.85	.65
G10	.....	G	1000		1.05	.72
20C	1N2611	K	200		.67	.44
60C	1N2615	K	600		1.05	.66
80C	.....	K	800		1.25	.77
100C	.....	K	1000		1.75	1.08
10LA	1N1085A	H	100	2.0 Amp @	3.34	2.66
20LA	1N1086A	H	200		4.00	3.20
40LA	1N1088A	H	400		5.34	4.27
3AF1	.....	A	100	3.0 Amp @ 55°C ambient	.70	.55
3AF2	.....	A	200		.90	.68
3AF4	.....	A	400		1.00	.82
3AF6	.....	A	600		1.40	1.12
120SM	1N1109	B	1200	.425 amp	4.00	3.20
F15	.....	C	1500	.6 Amps 25°C	1.25	1.03
F20	.....	C	2000	.4 Amps 25°C	1.75	1.30
F25	.....	C	2500	.4 Amps 25°C	2.25	1.70

MEDIUM CURRENT SILICON RECTIFIERS

20H3P	1N1344	D	200	6	1.20	.96
40H3P	1N1346	D	400	6	1.70	1.20
60H3P	1N1348	D	600	6	2.40	1.69
ST260P	1N1206	D	600	12	5.90	3.20
ST410P	.....	F	100	35	1.75	1.39
ST460P	1N1190	F	600	35	6.90	4.40
20J2	1N1622	....	200	10	2.90	2.24
40J2	1N1624	....	400	10	4.35	3.45
ST5A10P	.....	F	100	50 Amp	3.25	2.60
ST5A20P	.....	F	200	50 Amp	3.81	3.00
ST5A40P	.....	F	400	50 Amp	5.48	4.35
ST5A60P	.....	F	600	50 Amp	8.30	6.50

HIGH VOLTAGE CARTRIDGE-TYPE SILICON RECTIFIERS

Type	Max. PRV	Max. DCMA	Length	1-99	100 & up
HVC180	1800	250	9/16"	3.35	2.66
HVC240	2400	250	11/16"	3.60	2.87
HVC300	3000	200	3/4"	3.85	3.07
HVC400	4000	200	7/8"	4.00	3.20
HVC500	5000	200	1"	4.15	3.34
HVC600	6000	150	1 1/16"	4.55	3.66
HVC650	6500	150	1 3/16"	5.00	4.00
HVC750	7500	150	1 5/16"	5.40	4.34
HVC840	8400	100	1 3/8"	5.85	4.66
HVC1000	10000	100	1 3/4"	7.10	5.66
HVC1200	12000	.75	1 15/16"	8.35	6.66
HVC1500	15000	.75	2 5/16"	10.40	8.34



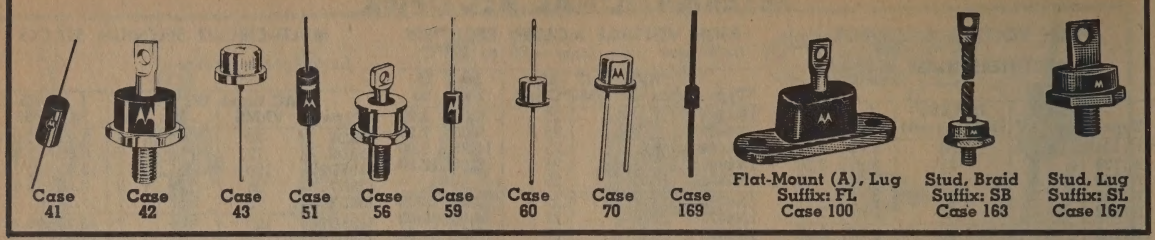
SILICON TUBE REPLACEMENT RECTIFIERS

Type	PRV	Replaces	1-100	100 & Up
1N1237	1600	OZ4, 5X4, 5Y4, 6AX5, 6X5	5.25	4.69
1N1238	1600	5AU4, 5AW4, 5A24,	5.25	4.69
S5130	10,400	5A4	9.65	8.65
1N2389	1600	5U4, 5AU4, 5AW4,	6.10	4.90
S5343	7000	816, 836, 3B28	8.33	7.44
S5991	1600	5AU4, 4AW4,	4.50	4.00

SINGLE PHASE BRIDGE RECTIFIERS

Type	DC Output Current	Max. RMS Max. PRV	1-24	25-99	100-Up
S-6211	2.0	200	2.12	1.82	1.69
S-6211-1	2.0	400	2.34	2.00	1.86
S-6211-2	2.0	600	2.56	2.19	2.04
S-6211-3	2.0	800	3.21	2.75	2.55
S-6211-4	2.0	1000	4.94	4.23	3.94
S-5959	2.5	200	1.94	1.66	1.54
S-5959-1	2.5	400	2.22	1.90	1.77
S-5959-2	2.5	600	2.44	2.09	1.94
S-5959-3	2.5	800	3.06	2.62	2.43
S-5959-4	2.5	1000	4.71	4.03	3.75
S-6121	6.0	100	4.01	3.43	3.19
S-6121-1	6.0	200	4.21	3.60	3.55
S-5745	12	100	12.43	10.64	9.90
S-5745-1	12	200	12.69	10.87	10.11
S-5745-2	12	300	12.96	11.10	10.32
S-5745-3	12	400	13.76	11.78	10.96
S-5745-4	12	500	14.36	12.30	11.44
S-5745-5	12	600	15.77	13.50	12.56
ST25-1B1-BBX	24	50	13.93	11.93	11.09
ST210-1B1-BBX	24	100	14.30	12.24	11.39
ST220-1B1-BBX	24	200	14.50	12.41	11.54
ST230-1B1-BBX	24	300	14.83	12.70	11.81
ST240-1B1-BBX	24	400	16.03	13.73	12.77
ST250-1B1-BBX	24	500	16.70	14.30	13.30
ST260-1B1-BBX	24	600	18.44	15.79	14.68
ST35-1B1-BBX	50	50	29.19	25.00	23.25
ST310-1B1-BBX	50	100	29.99	25.68	23.89
ST320-1B1-BBX	50	200	30.80	26.37	24.53
ST330-1B1-BBX	50	300	32.26	27.63	25.70
ST340-1B1-BBX	50	400	33.33	28.54	26.55
ST350-1B1-BBX	50	500	34.47	29.52	27.45
ST360-1B1-BBX	50	600	35.74	30.60	28.46
ST45F-1B1-BBX	70	50	53.44	45.76	42.56
ST410F-1B1-BBX	70	100	54.38	45.56	43.31
ST420F-1B1-BBX	70	200	56.25	48.16	44.79
ST430F-1B1-BBX	70	300	58.45	50.05	46.55
ST440F-1B1-BBX	70	400	60.79	52.05	48.41
ST450F-1B1-BBX	70	500	64.33	55.08	51.23
ST460F-1B1-BBX	70	600	74.88	64.12	59.64

Motorola Silicon Rectifiers



LOW CURRENT RECTIFIERS 0.1 TO 12 AMP

Type	Vrm (rep) Volts	Forward Current Io Amp	Forward Current Ifm (surge) Amp	Ir(av) mA	1-99	100-999
Case 51		25°C	25°C	100°C		
1N3282	1000	0.1	2.5	0.01	2.45	1.65
1N3283	1500	0.1	2.5	0.01	3.05	2.05
1N3284	2000	0.1	2.5	0.01	7.95	5.30
1N3285	2500	0.1	2.5	0.01	10.05	6.70
1N3286	3000	0.1	2.5	0.01	17.25	11.50
Case 41		25°C	25°C	100°C		
1N1730	1000	0.2	2.5	——	4.85	3.25
1N1731	1500	0.2	2.5	——	6.00	4.00
1N1732	2000	0.2	2.5	——	6.75	4.50
1N1733	3000	0.15	2.5	——	7.80	5.20
1N1734	5000	0.10	2.5	——	11.60	7.75
1N2382	4000	0.15	2.5	——	9.75	6.50
1N2383	6000	0.10	2.5	——	14.25	9.50
Case 169		25°C	75°C	25°C		
MR990A	1000	.250	15	0.1	.75	.50
MR991A	1500	.250	15	0.1	.82	.55
MR992A	2000	.250	15	0.1	.90	.60
MR993A	2500	.250	15	0.1	.97	.65
MR994A	3000	.250	15	0.1	1.05	.70
MR995A	4000	.250	15	0.1	1.20	.80
MR996A	5000	.250	15	0.1	1.35	.90
Case 59*		75°C	75°C	25°C		
MR2273	200	1.0	30	0.01	.48	.32
MR2272	400	1.0	30	0.01	.57	.38
MR2266	800	1.0	30	0.01	1.08	.72

Type	Vrm Volts	Forward Current Io Amp	Forward Current Ifm Amp	Ir(av) mA	1-99	100-999	1000-4999	5000-9999
Case 59*		75°C	75°C	25°C				
1N4001	50	1.0	30	0.03	.38	.25	.20	.16
1N4002	100	1.0	30	0.03	.41	.27	.22	.18
1N4003	200	1.0	30	0.03	.45	.30	.24	.19
1N4004	400	1.0	30	0.03	.53	.35	.28	.22
1N4005	600	1.0	30	0.03	.60	.40	.32	.25
1N4006	800	1.0	30	0.03	.75	.50	.40	.32
1N4007	1000	1.0	30	0.03	.83	.55	.44	.35
Case 59*		75°C	75°C	75°C				
MR2064	50	1.0	10	0.5	.38	.25	.20	.16
MR2065	100	1.0	10	0.5	.41	.27	.22	.18
MR2066	200	1.0	10	0.5	.45	.30	.24	.19
MR2067	400	1.0	10	0.5	.53	.35	.28	.22
MR2068	600	1.0	10	0.5	.60	.40	.32	.25

Type	Vrm (rep) Volts	Forward Current Io Amp	Forward Current Ifm (surge) Amp	Ir(av) mA	1-99	100-999
Case 60**		75°C	75°C	75°C		
IN4719/MR1030A	50	3.0	300	1.5	.66	.44
IN4720/MR1031A	100	3.0	300	1.5	.73	.49
IN4721/MR1032A	200	3.0	300	1.5	.82	.55
—— /MR1033A	300	3.0	300	1.5	.93	.62
IN4722/MR1034A	400	3.0	300	1.5	1.12	.75
—— /MR1035A	500	3.0	300	1.5	1.32	.88
IN4723/MR1036A	600	3.0	300	1.5	1.50	1.00
IN4724/MR1038A	800	3.0	300	1.5	2.25	1.50
IN4725/MR1040A	1000	3.0	300	1.5	3.35	2.25
Case 70**		75°C	75°C	75°C		
IN4997/MR1030B	50	3.0	300	1.5	.66	.44
IN4998/MR1031B	100	3.0	300	1.5	.73	.49
IN4999/MR1032B	200	3.0	300	1.5	.82	.55
—— /MR1033B	300	3.0	300	1.5	.93	.62
IN5000/MR1034B	400	3.0	300	1.5	1.12	.75
—— /MR1035B	500	3.0	300	1.5	1.32	.88
IN5001/MR1036B	600	3.0	300	1.5	1.50	1.00
IN5002/MR1038B	800	3.0	300	1.5	2.25	1.50
IN5003/MR1040B	1000	3.0	300	1.5	3.35	2.25
Case 194-02		60°	60°	150°C		
MR751	100	6.0	400	1.0	.68	.45
MR752	200	6.0	400	1.0	.74	.49
MR754	400	6.0	400	1.0	.93	.62
MR756	600	6.0	400	1.0	1.35	.90

LOW CURRENT RECTIFIERS 0.1 TO 12 AMP (Cont'd)

Type	rm (rep) Volts	Forward Current Io Amp	Forward Current Ifm (surge) Amp	Ir(av) mA	1-99	100-999
Case 56A**		150°C	150°C	150°C		
MR1120	50	12	300	1.15	1.14	.76
MR1121	100	12	300	1.15	1.23	.82
MR1122	200	12	300	1.15	1.32	.88
MR1123	300	12	300	1.15	1.48	.99
MR1124	400	12	300	1.15	1.65	1.10
MR1125	500	12	300	1.15	2.02	1.35
MR1126	600	12	300	1.15	2.45	1.65
MR1128	800	12	300	1.15	5.60	3.75
MR1130	1000	12	300	1.15	7.85	5.25

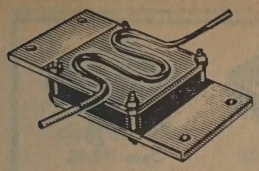
*Surmetic **Reverse polarity available to order add "R" suffix to part number.

MEDIUM CURRENT RECTIFIERS

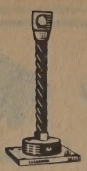
Type	Vrm (rep) Volts	Io Amp	Ifm (surge) Amp	1-99	100-Mix	100-999
Case 42		150°C	25°C			
1N3208	50	15	250	1.29	.....	.86
1N3209	100	15	250	1.42	.....	.95
1N3210	200	15	250	1.87	.....	1.25
1N3211	300	15	250	2.30	.....	1.55
1N3212	400	15	250	2.55	.....	1.70
1N3213	500	15	250	3.45	.....	2.30
1N3214	600	15	260	3.90	.....	2.60
Case 43		130°C	175°C			
1N3491*	50	25	300	.67	.45	.40
1N3492*	100	25	300	.76	.51	.46
1N3493*	200	25	300	1.11	.74	.67
1N3494*	300	25	300	1.27	.85	.76
1N3495*	400	25	300	1.48	.99	.89
MR327*	500	25	300	2.40	1.60	1.45
MR328*	600	25	300	3.35	2.25	2.00
MR330*	800	25	300	6.75	4.50	4.05
MR331*	1000	25	300	9.75	6.50	5.85
Case 42		150°C	150°C			
1N248B*	50	20	350	1.50	.....	1.00
1N248C*	55	20	350	1.55	.....	1.05
1N249B*	100	20	350	1.65	.....	1.10
1N249C*	110	20	350	1.95	.....	1.30
1N250B*	200	20	350	2.40	.....	1.60
1N250C	220	20	350	2.70	.....	1.80
1N1191*	50	20	350	1.35	.....	.90
1N1192*	100	20	350	1.50	.....	1.05
1N1193*	150	20	350	1.80	.....	1.20
1N1194*	200	20	350	2.60	.....	1.75
1N1195*	300	20	350	3.80	.....	2.55
1N1195A*	300	20	350	3.95	.....	2.65
1N1196	400	20	350	4.35	.....	2.90
1N1196A	400	20	350	4.70	.....	3.15
1N1197	500	20	350	5.55	.....	3.70
1N1197A	500	20	350	5.70	.....	3.85
1N1198	600	20	350	6.75	.....	4.50
1N1198A	600	20	350	7.05	.....	4.70
1N3213	500	20	350	3.45	.....	2.30
1N3214	600	20	350	3.90	.....	2.60
Case 43		150°C	150°C			
1N3659*	50	25	350	.90	.60	.54
1N3660*	100	25	350	.99	.66	.59
1N3661*	200	25	350	1.33	.89	.80
1N3662*	300	25	350	1.48	.99	.89
1N3663	400	25	350	1.70	1.14	1.00
Case 42		140°C	140°C			
1N1183	50	35	400	1.80	.....	1.20
1N1184	100	35	400	2.10	.....	1.40
1N1185	150	35	400	2.60	.....	1.75
1N1186	200	35	400	3.15	.....	2.10
1N1187	300	35	400	4.65	.....	3.10
1N1188	400	35	400	5.25	.....	3.50
1N1189	500	35	400	6.00	.....	4.00
1N1190	600	35	400	6.75	.....	4.50

NOTE: Reverse polarity available add "R" suffix to part number.

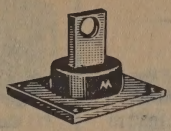
Motorola Silicon Rectifiers



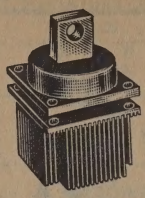
Bus-Bar Mount
Water Cooled
Case 105



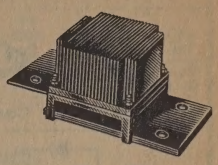
Flat-Mount, Braid
Suffix: FB
Case 137-139



Flat-Mount (B), Lug
Suffix: FL
Case 133-136



Case 159



Case 158

HIGH CURRENT RECTIFIERS 50-1100 AMP

For desired package configuration (SB, SL, FB, FL) as well as reverse polarity (R) add the proper suffix to the part number i.e. MR1210 SLR. Price shown for FL & SL series others in semiconductor directory.

Type	Vrm (rep Volts	Forward Current Io Amp	Ifm(surge) Amp	Ir(AV) mA	1-24	25-99	100-999
Case 100		150°C	150°C	150°C			
MR1200	50	50	800	10	4.00	3.60	3.00
MR1201	100	50	800	10	4.10	3.70	3.10
MR1203	200	50	800	10	5.60	5.05	4.20
MR1205	300	50	800	10	6.40	5.75	4.80
MR1207	400	50	800	10	7.30	6.60	5.50
MR1208	500	50	800	10	8.65	7.80	6.50
MR1209	600	50	800	10	10.30	9.30	7.75
Case 167 or 166		150°C	150°C	150°C			
MR1210	50	80	1200	15	5.00	4.50	3.75
MR1211	100	80	1200	15	5.45	4.90	4.10
MR1212	150	80	1200	15	6.60	5.95	4.95
MR1213	200	80	1200	15	6.60	5.95	4.95
MR1214	250	80	1200	15	7.80	7.00	5.85
MR1215	300	80	1200	15	7.80	7.00	5.85
MR1216	350	80	1200	15	9.95	9.00	7.50
MR1217	400	80	1200	15	9.95	9.00	7.50

TYPE	VRM(rep) Volts	Forward Current Io Amp (150°C)	Ifm (surge) Amp (150°C)	Ir(av) mA (150°C)	1-24	25-99
Case 189 or 190						
MR1810	50	80	1,200	15	5.45	4.90
MR1811	100	80	1,200	15	6.30	5.70
MR1813	200	80	1,200	15	7.65	6.90
MR1817	400	80	1,200	15	11.05	9.95
MR1819	600	80	1,200	15	14.25	12.85
Case 126 or 130 Case 133 or 137						
MR1220	50	200	3,600	20	11.95	10.80
MR1221	100	200	3,600	20	11.95	10.80
MR1223	200	200	3,600	20	12.65	11.40
MR1227	400	200	3,600	20	17.95	16.20
MR1229	600	200	3,600	20	23.55	21.25
Case 127 or 131 Case 134 or 138						
MR1230	50	300	5,000	35	15.30	13.80
MR1231	100	300	5,000	35	16.30	14.70
MR1233	200	300	5,000	35	17.30	15.60
MR1237	400	300	5,000	35	24.25	21.90
MR1239	600	300	5,000	35	34.60	31.20
Case 128 or 132 Case 135 or 139						
MR1240	50	450	8,000	50	23.95	21.60
MR1241	100	450	8,000	50	23.95	21.60
MR1243	200	450	8,000	50	25.25	22.80
MR1247	400	450	8,000	50	31.40	28.30
MR1249	600	450	8,000	50	66.50	60.00
Case 136						
MR1260	50	700	12,000	100	46.55	42.00
MR1261	100	700	12,000	100	46.55	42.00
MR1263	200	700	12,000	100	55.20	49.80
MR1267	400	700	12,000	100	67.85	61.20
MR1269	600	700	12,000	100	99.75	90.00
Case 159						
MR2080HA	50	750	12,000	80	49.20	44.40
MR2081HA	100	750	12,000	80	49.20	44.40
MR2082HA	200	750	12,000	80	57.85	52.20
MR2084HA	400	750	12,000	80	71.15	64.20
Case 105						
MR1290	50	1000	18,000	200	60.00	54.00
MR1291	100	1000	18,000	200	66.50	60.00
MR1293	200	1000	18,000	200	76.50	69.00
MR1297	400	1000	18,000	200	98.50	88.75
MR1299	600	1000	18,000	200	199.50	180.00
Case 158						
MR2100HA	50	1100	18,000	100	59.85	54.00
MR2101HA	100	1100	18,000	100	66.50	60.00
MR2102HA	200	1100	18,000	100	76.45	69.00
MR2104HA	400	1100	18,000	100	98.40	88.80

FAST SWITCHING POWER RECTIFIERS

TYPE	Vrm (rep) Volts	Forward Current Io Amp	Ir(av) mA	1-99	100-999
Case 59		75°C	75°C		
MR810**	50	0.75	30	.67	.45
MR811**	100	0.75	30	.75	.50
MR812**	200	0.75	30	.97	.65
MR814**	400	0.75	30	1.27	.85
MR816**	600	0.75	30	2.40	1.60
1N4933*	50	1.0	30	1.12	.75
1N4934*	100	1.0	30	1.42	.95
1N4936*	200	1.0	30	1.65	1.10
1N4937*	400	1.0	30	2.45	1.65
Case 52		75°C	75°C		
MR1337-1*	50	0.75	30	3.35	2.25
MR1337-2*	100	0.75	30	4.95	3.30
MR1337-3*	200	0.75	30	6.75	4.50
MR1337-5*	400	0.75	30	12.00	8.00
Case 60		75°C	75°C		
MR830*	50	3.0	30	2.40	1.60
MR831*	100	3.0	100	2.75	1.85
MR832*	200	3.0	100	3.35	2.25
MR834*	400	3.0	100	5.60	3.75
MR836*	600	3.0	100	9.35	6.25
MR840**	50	3.0	100	1.27	.85
MR841**	100	3.0	100	1.42	.95
MR842**	200	3.0	100	1.80	1.20
MR844**	400	3.0	100	2.55	1.70
MR846**	600	3.0	100	5.60	3.75
Case 56-02		100°C	100°C		
1N3879*‡	50	6.0	75	3.60	2.40
1N3880*‡	100	6.0	75	3.90	2.60
1N3881*‡	200	6.0	75	5.70	3.80
1N3883*‡	400	6.0	75	10.20	6.80
MR1366*†	600	6.0	75	12.00	8.00
1N2889*	50	12	150	4.20	2.80
1N3890*	100	12	150	4.50	3.00
1N3892*	200	12	150	6.30	4.20
MR1376*	600	12	150	15.00	10.00
MR880**	50	12	200	2.10	1.40
MR881**	100	12	200	2.45	1.65
MR882**	200	12	200	3.30	2.20
MR884**	400	12	200	5.25	3.50
MR886**	600	12	200	6.75	4.50
Case 42		100°C	100°C		
1N3899*	50	20	225	5.85	3.90
1N3900*	100	20	225	6.60	4.40
1N3901*	200	20	225	8.85	5.90

*trz = 0.2us max. **trr = 1.0us max.

† Reverse polarity available. To order add R suffix to type number.

Newark Stocks the Most Complete Inventory of Industrial Electronic Equipment.

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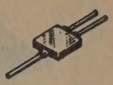
Motorola Rectifier Assemblies

MDA RECTIFIER BRIDGE ASSEMBLIES

Case 106


Case 107

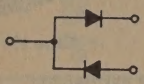
Case 108

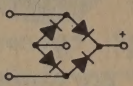
Case 109-110

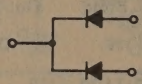
Case 117

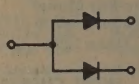
Case 179-01

Case 179-02


Voltage Doubler


Full-Wave Bridge

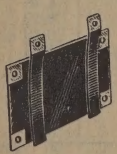

Center Tap Common—Cathode

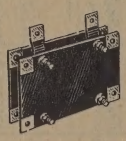

Center Tap Common Anode

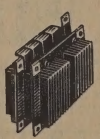
Type	Case	Vrm (rep) Volts	1-24	25-99	100-999
Single-Phase Full-Wave Bridge, Io = 1.0 A, Ifm (rep) = 5.0 Amps.					
MDA920-1		25	1.42	1.26	.95
MDA920-2		50	1.69	1.50	1.13
MDA920-3	108	100	1.95	1.73	1.30
MDA920-4	109	200	2.30	2.05	1.55
MDA920-5	Available	300	2.40	2.10	1.60
MDA920-6	in	400	2.45	2.20	1.65
MDA920-7		600	3.20	2.85	2.15
Single-Phase Full-Wave Bridge, Io=1.8A, Ifm (surge)=60 Amps.					
MDA922-1	Available	25	1.87	1.66	1.25
MDA922-2	in	50	2.00	1.79	1.35
MDA922-3	216-01	100	2.30	2.05	1.55
MDA922-4		200	2.75	2.45	1.85
MDA922-5		300	2.90	2.60	1.95
Single-Phase Voltage Double, Io=0.5A Ifm (rep) = 5.0 Amps.					
MDA930-1	Available	25	.82	.73	.55
MDA930-2	in	50	.90	.80	.60
MDA930-3	106	100	.97	.86	.65
MDA930-4	107	200	1.14	1.01	.76
MDA930-5		300	1.21	1.08	.81
MDA930-6		400	1.27	1.13	.85
MDA930-7		600	1.65	1.46	1.10
Single-Phase Cen. Top Com. Anode, Io=1.0A, Ifm (rep)= 5.0A					
MDA940-1	Available	25	.82	.73	.55
MDA940-2	in	50	.90	.80	.60
MDA940-3	106	100	.97	.86	.65
MDA940-4	107	200	1.14	1.01	.76
MDA940-5		300	1.21	1.08	.81
MDA940-6		400	1.27	1.13	.85
MDA940-7		600	1.65	1.46	1.10

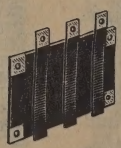
Type	Case	Vrm (rep) Volts	1-24	25-99	100-999
Single-Phase Cen. Top Com. Anode, Io=1.0A, Ifm (rep)= 5.0A					
MDA950-1	Available	25	.82	.73	.55
MDA950-2	in	50	.90	.80	.60
MDA950-3		100	.97	.86	.65
MDA950-4	106	200	1.14	1.01	.76
MDA950-5	107*	300	1.21	1.08	.81
MDA950-6		400	1.27	1.13	.85
MDA950-7		600	1.65	1.46	1.10
Single-Phase Full-Wave Bridge Io=2.5A Ifm = 15A					
MDA960-1	Available	50	2.90	2.55	1.95
MDA960-2	in	100	3.35	2.95	2.25
MDA960-3	117	200	3.75	3.30	2.50
Single-Phase Full-Wave Bridge, Io=4.0A, Ifm=25A					
MDA970-1	Available	50	3.20	2.90	2.15
MDA970-2	in	100	3.65	3.30	2.45
MDA970-3	117	200	4.10	3.70	2.75
Single-Phase Full-Wave Bridge Io=12A, Ifm=25A					
MDA980-1		50	3.20	2.90	2.40
MDA980-2		100	3.45	3.10	2.60
MDA980-3	179-01	200	4.05	3.65	3.05
MDA980-4		300	4.50	4.10	3.40
MDA980-5		400	5.05	4.55	3.80
MDA980-6		600	6.90	6.25	5.20
Single-Phase Full-Wave Bridge, Io=27A, Ifm(surge)= 300 Amps					
MDA990-1	Available	50	4.00	3.60	3.00
MDA990-2	in	100	4.25	3.85	3.20
MDA990-3	179-02	200	4.80	4.30	3.60
MDA990-4		300	5.30	4.80	4.00

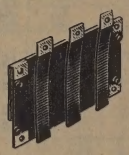
HIGH CURRENT RECTIFIER CIRCUITS


Case 154A
MRA130 Series

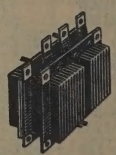

Case 155A
MRA130B Series


Case 157A
MRA160B Series


Case 154
MRA330 Series


Case 156
MRA360 Series

Case 155
MRA330B Series


Case 151
MRA360B Series

SINGLE-PHASE HALF-WAVE BRIDGE

Type	Vrm (rep) Volts	DC Output Current Amperes	1-24	25-99	100-999
MRA130	50		19.30	17.40	14.50
MRA131	100	300 @ 1500 LFM	21.95	19.80	16.50
MRA132	200	75 Free Convection	27.25	24.60	20.50
MRA133	300		31.25	28.20	23.50
MRA134	400		36.55	33.00	27.50
MRA160	50		35.25	31.80	26.50
MRA161	100	600 @ 1500 LFM	37.90	34.20	28.50
MRA162	200	125 Free Convection	44.55	40.20	33.50
MRA163	300		48.55	43.80	36.50
MRA164	400		56.50	51.00	42.50

THREE-PHASE HALF-WAVE BRIDGE

Type	Vrm (rep) Volts	DC Output Current Amperes	1-24	25-99	100-999
MRA330	50		20.60	18.60	15.50
MRA331	100	300 @ 1500 LFM	22.95	20.70	17.25
MRA332	200	75 Free Convection	28.25	25.50	21.25
MRA333	300		32.60	29.40	24.50
MRA334	400		37.55	33.90	28.25
MRA360	50		36.55	33.00	27.50
MRA361	100	650 @ 1500 LFM	39.25	35.40	29.50
MRA362	200	150 Free Convection	45.90	41.40	34.50
MRA363	300		49.85	45.00	37.50
MRA364	400		57.85	52.20	43.50

SINGLE-PHASE FULL WAVE BRIDGE

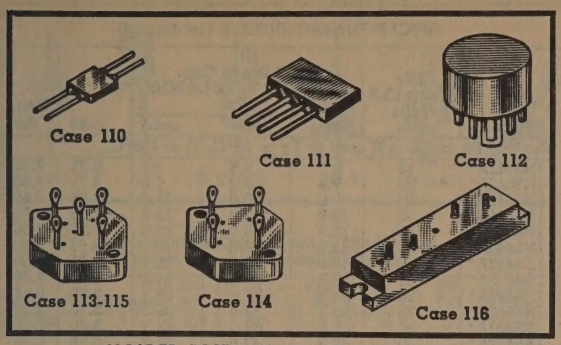
"B" Suffix indicates Bridge Assembly i.e. MRA330B

THREE-PHASE FULL-WAVE BRIDGE

MRA130B	50		45.20	40.80	34.00
MRA131B	100	300 @ 1500 LFM	50.55	45.60	38.00
MRA132B	200	75 Free Convection	61.20	55.20	46.00
MRA133B	300		67.85	61.20	51.00
MRA134B	400		77.15	69.60	58.00
MRA160B	50		77.15	69.60	58.00
MRA161B	100	600 @ 1500 LFM	82.45	74.40	62.00
MRA162B	200	125 Free Convection	95.75	86.40	72.00
MRA163B	300		102.40	92.40	77.00
MRA164B	400		117.05	105.60	88.00

MRA330B	50		47.90	43.20	36.00
MRA331B	100	300 @ 1500 LFM	52.55	47.40	39.50
MRA332B	200	75 Free Convection	62.50	56.40	47.00
MRA333B	300		69.15	62.40	52.00
MRA334B	400		78.45	70.80	59.00
MRA360B	50		79.80	72.00	60.00
MRA361B	100	650 @ 1500 LFM	85.10	76.80	64.00
MRA362B	200	150 Free Convection	98.40	88.80	74.00
MRA363B	300		105.05	94.80	79.00
MRA364B	400		119.70	108.00	90.00

Motorola Rectifiers and Microwave Devices



MOLDED RECTIFIER BRIDGE ASSEMBLIES
Single-Phase Full Wave Bridge

Type	Case	Vrm (rep) Volts	1-24	25-99	100-999
1.5 Amp					
MDA942-1		50	2.50	2.20	1.85
MDA942-2		100	2.80	2.50	2.10
MDA942-3	110	200	3.25	2.95	2.45
MDA942-4		300	3.70	3.35	2.80
MDA942-5		400	4.20	3.80	3.15
MDA942-6		600	4.65	4.20	3.50
MDA942A-1*		50	2.60	2.35	1.95
MDA942A-2*		100	2.90	2.65	2.20
MDA942A-3*	111	200	3.40	3.05	2.55
MDA942A-4*		300	3.85	3.50	2.90
MDA942A-5*		400	4.30	3.90	3.25
MDA942A-6*		600	4.80	4.30	3.60
MDA1491-1		50	3.00	2.65	2.00
MDA1491-2		100	3.30	2.95	2.20
MDA1491-3	112	200	4.00	3.50	2.65
MDA1491-4		300	4.45	3.90	2.95
MDA1491-5		400	5.10	4.50	3.40
MDA1491-6		600	6.40	5.65	4.25

*suffix "A" types for printed circuit insertion without solder lugs.

Type	Case	Vrm (rep) Volts	1-24	25-99	100-999
4.0 Amp					
MDA1591-1		50	2.66	2.40	2.00
MDA1591-2		100	2.82	2.64	2.20
MDA1591-3	113	200	3.62	3.18	2.65
MDA1591-4		300	3.92	3.54	2.95
MDA1591-5		400	4.52	4.08	3.40
MDA1591-6		600	5.65	5.10	4.25
6.0 Amp					
MDA952-1		50	3.25	2.95	2.45
MDA952-2		100	3.50	3.20	2.65
MDA952-3	113	200	4.45	4.00	3.35
MDA952-4		300	4.90	4.45	3.70
MDA952-5		400	6.00	5.40	4.50
MDA952-6		600	7.30	6.60	5.50
10 Amp					
MDA962-1		50	3.65	3.30	2.75
MDA962-2		100	3.90	3.55	2.95
MDA962-3	114	200	4.85	4.40	3.65
MDA962-4		300	5.30	4.80	4.00
MDA962-5		400	6.40	5.75	4.80
16 Amp					
MDA972-1		50	9.65	8.70	7.25
MDA972-2		100	10.25	9.25	7.70
MDA972-3	116	200	11.45	10.30	8.60
MDA972-4		300	12.55	11.35	9.45
MDA972-5		400	13.75	12.40	10.35

THREE-PHASE FULL-WAVE BRIDGE
8 Amp

Type	Case	Vrm (rep) Volts	1-24	25-99	100-999
MDA1505-1		50	5.65	5.10	4.25
MDA1505-2		100	6.05	5.45	4.55
MDA1505-3	114	200	7.32	6.60	5.50
MDA1505-4		300	7.91	7.15	5.95
MDA1505-5		400	9.30	8.40	7.00
MDA1505-6		600	10.45	9.42	7.85

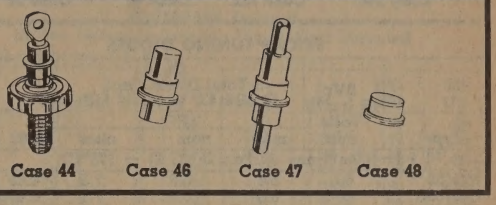
MULTIPLE SWITCHING DIODES
Common Cathode — Case 29

Type	V(BR)@I(BR)=100 mA Min	trr @ Ir=10mA ms Max	1-99	100-999	1000-4999
MSD6100	100	4.0	.36	.24	.18
MSD6101	50	10	.40	.27	.20
MSD6102	70	100	.30	.20	.15
Common Anode — Case 29					
MSD6150	70	100	.37	.25	.19

MICRO MINIATURE DUAL SWITCHING DIODES
Case 28 *Case 166

Type	Vf @ If Min/Max Volts	mA	trr Max nS	1-99	100-999
MMD6050*				1.20	.80
MMD6100				2.10	1.40
MMD6150	0.55/0.7	1.0	5.0	2.40	1.60
MMD7000				2.55	1.70

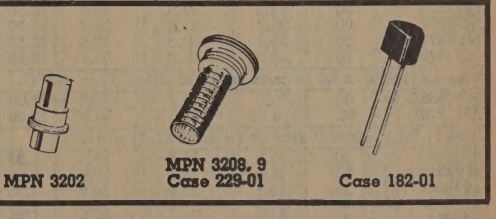
MICROWAVE DEVICES



POWER VARATOR MULTIPLIERS

Type	Case	Pd @ Tc=75°C Ta=75°C** Watts	BVr @ Ir=10μA Volts Min	Rs @ Vr=6.0V f=50MHz Ohms Typ.	1-99	100-499
1N4387	44	20	150	0.7	42.00	28.00
1N4388	44	10	100	0.25	42.00	28.00
1N5149	47	10**	80	0.25	27.00	18.00
1N5150	47	14**	80	0.25	42.00	28.00
1N5150A	47	21	80	0.25	47.00	31.00
1N5151	48	5.5	75	0.5	42.00	28.00
1N5152	46	5.5	75	0.5	42.00	28.00
1N5152A	46	8.4	75	0.5	47.00	31.00
1N5153	47	5.5	75	0.5	42.00	28.00
1N5153A	47	8.4	75	0.5	47.00	31.00
1N5154	48	3.5	35	0.9	42.00	28.00
1N5155	46	3.5	35	0.9	42.00	28.00
1N5155A	46	6.2	35	0.9	47.00	31.00
1N5156	47	3.25	20	1.0	47.00	31.00
1N5157	47	3.25	20	1.0	47.00	31.00
MV1805C	47	18**	80	0.2	42.00	28.00
MV1809C	47	9.0	75	0.25	42.00	28.00
MV1809C1	47	14	75	0.25	47.00	31.00
MV1811C	47	6.2	35	0.5	42.00	28.00
MV1816B	46	5.3	75	0.6	42.00	28.00
MV1816B1	46	8.2	75	0.6	47.00	31.00
MV1817B	46	3.6	35	.0.8	42.00	28.00
MV1817B1	46	5.0	35	.0.8	47.00	31.00

Typical case capacitance for B, and C packages are 0.15 pF, and 0.47 respectively.



MICROWAVE PIN SWITCHING DIODES

Type	V(BR)R IR=10 μADC V min	Rs ohm max	CT pF max	T IF=50 μADC ns typ	1-9	10-49	50-99	100-999
MPN3202	200	1.00*	0.40†	150	20.85	20.85	18.50	13.90
MPN 3208	800	0.40*	4.0†	—	45.00	36.00	33.75	22.50
MPN 3209	900	0.40**	4.0††	—	50.00	40.00	37.50	25.00

(*) If=100mAdc, f=1.0GHz **If = 150mAdc, f=3.0 GHz
(†) Vr=50V, f=1.0 MHz ††Vr=250V, f=1.0MHz

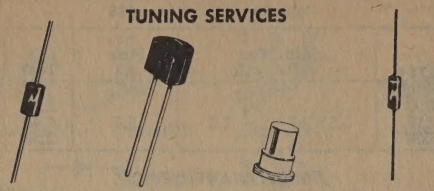
HOT-CARRIER DIODES (Case 182-01)

Type	V(BR)R IR=10μA Volts min	CT PF max	VF IF=10 mA Volts max	IR μA max	1-99	100-999
MBD101	4.0	1.0*	0.6	0.25	.89	.59
MBD501	50	1.0**	1.2	0.20††	.94	.65
MBD701	70	1.0**	1.2	0.20‡	.99	.70

*VR=ov, f=1.0MHZ, **VR=20V,
f=1.0 MHZ †VR=3.0V
††VR=25V ‡VR=35V

Motorola Epicap Diodes

TUNING SERVICES



Case 146 Case 182 Case 45 Case 51

EPICAP TUNING DIODES

Type	BVr @ Ir=10 Volts min	Ct Total Diode Cap. @ Vr=4.0 V, f=1.0 MHz pF min	nom	max	1-99	100-999
Case 51 Pd=400mWmax @ Ta=25°C, Tj = 175°C						
1N5139	60	6.1	6.8	7.5	4.65	3.10
1N5139A	60	6.5	6.8	7.1	6.45	4.30
1N5140	60	9.0	10.0	11.0	4.65	3.10
1N5140A	60	9.5	10.0	10.5	6.45	4.30
1N5141	60	10.8	12.0	13.2	4.65	3.10
1N5141A	60	11.4	12.0	12.6	6.45	4.30
1N5142	60	13.5	15.0	16.5	4.65	3.10
1N5142A	60	14.3	15.0	15.7	6.45	4.30
1N5143	60	16.2	18.0	19.8	4.65	3.10
1N5143A	60	17.1	18.0	18.9	6.45	4.30
1N5144	60	19.8	22.0	24.2	4.65	3.10
1N5144A	60	20.9	22.0	23.1	6.45	4.30
1N5145	60	24.3	27.0	29.7	4.65	3.10
1N5145A	60	25.7	27.0	28.3	6.45	4.30
1N5146	60	29.7	33.0	36.3	4.65	3.10
1N5146A	60	31.4	33.0	34.6	6.45	4.30
1N5147	60	36.1	39.0	42.9	4.65	3.10
1N5147A	60	37.1	39.0	40.9	6.45	4.30
1N5148	60	42.3	47.0	51.7	4.65	3.10
1N5148A	60	44.7	47.0	49.3	6.45	4.30
Case 45 (1) Pd=5.0 W max @ Tc=25°C, Tj=200°C						
MV1858D	60	0.70	1.0	1.30	12.00	8.00
MV1860D	60	1.76	2.2	2.64	12.00	8.00
MV1862D	60	2.97	3.3	3.63	12.00	8.00
MV1863D	60	4.23	4.7	5.17	12.00	8.00
MV1864D	60	6.10	6.8	7.50	12.00	8.00
MV1865D	60	7.38	8.2	9.02	12.00	8.00
MV1866D	60	9.00	10.0	11.00	12.00	8.00
Case 51 Pd = 400mW max @ Ta = 25°C, Tj = 175°C.						
MV1866	60	9.0	10.0	11.0	10.50	7.00
MV1868	60	10.8	12.0	13.2	10.50	7.00
MV1870	60	13.5	15.0	16.5	10.50	7.00
MV1871	60	16.2	18.0	19.8	10.50	7.00
MV1872	60	19.8	22.0	24.2	10.50	7.00
MV1874	60	24.3	27.0	29.7	10.50	7.00
MV1876	60	29.7	33.0	36.3	10.50	7.00
MV1877	60	35.1	39.0	42.9	10.50	7.00
MV1878	60	42.3	47.0	51.7	10.50	7.00
Case 45 (1) Pd =5.0 W max @ Tc = 2°5C, Tj = 200°C.						
MV1868D	60	10.80	12.0	13.20	12.00	8.00
MV1870D	60	13.50	15.0	16.50	12.00	8.00
Case 51 Pd = 400mW max @ Ta = 25°C, Tj = 175°C.						
MV830	30	13.5	15.0	16.5	1.35	.90
MV831	30	16.2	18.0	19.8	1.35	.90
MV832	30	19.8	22.0	24.2	1.35	.90
MV833	30	24.3	27.0	29.7	1.35	.90
MV834	30	29.7	33.0	36.3	1.35	.90
MV835	30	35.1	39.0	42.9	1.35	.90
MV836	30	42.3	47.0	51.7	1.35	.90
MV837	30	50.4	56.0	61.6	1.35	.90
MV838	30	61.2	68.0	74.8	1.35	.90
MV839	30	73.8	82.0	90.2	1.35	.90
MV840	30	90.0	100.0	110.0	1.35	.90
MV2101	30	6.1	6.8	7.5	.90	.60
MV2102	30	7.4	8.2	9.0	.90	.60
MV2103	30	9.0	10.0	11.0	.90	.60
MV2104	30	10.8	12.0	13.2	.90	.60
MV2105	30	13.5	15.0	16.5	.90	.60
Case 182, PD = 280 mW max @ Ta = 25°C, Tj = 175°C.						
MV2106	30	16.2	18.0	19.8	.90	.60
MV2107	30	19.8	22.0	24.2	.90	.60
MV2108	30	24.3	27.0	29.7	.90	.60
MV2109	30	29.7	33.0	36.3	.90	.60
MV2110	30	35.1	39.0	42.9	.90	.60
MV2111	30	42.3	47.0	51.7	.90	.60
MV2112	30	50.4	56.0	61.6	.90	.60
MV2113	30	61.2	68.0	74.8	.90	.60
MV2114	30	73.8	82.0	90.2	.90	.60
MV2115	30	90.0	100.0	110.0	.90	.60

(1) Also available in case 46 or 48 on special request

continued next column.

EPICAP TUNING DIODES (continued)

Type	BVr @ Ir=10.A Volts min	Ct Total Diode Cap. @ Vr=4.0 V, f=1.0 MHz pF min	nom	max	1-99	100-999
Case 51 Pd = 400 mW max @ Ta = 25°C, Tj = 175°C.						
1N5441A*	30	6.1	6.8	7.5	3.75	2.50
1N5442A*	30	7.4	8.2	9.0	3.75	2.50
1N5443A*	30	9.0	10.0	11.0	3.75	2.50
1N5444A*	30	10.8	12.0	13.2	3.75	2.50
1N5445A*	30	13.5	15.0	16.5	3.75	2.50
1N5446A*	30	16.2	18.0	19.8	3.75	2.50
1N5447A*	30	18.0	20.0	22.0	3.75	2.50
1N5448A*	30	19.8	22.0	24.2	3.75	2.50
1N5449A*	30	24.3	27.0	29.7	3.75	2.50
1N5450A*	30	29.7	33.0	36.3	3.75	2.50
1N5451A*	30	35.1	39.0	42.9	3.75	2.50
1N5452A*	30	42.3	47.0	51.7	3.75	2.50
1N5453A*	30	50.4	56.0	61.6	3.75	2.50
1N5454A*	30	73.8	82.0	90.2	3.75	2.50
1N5455A	30	73.8	82.0	90.2	3.75	2.50
1N5456A*	30	90.0	100.0	110.0	3.75	2.50
1N5461A*	30	6.1	6.8	7.5	6.75	4.50
1N5462A*	30	7.4	8.2	9.0	6.75	4.50
1N5463A*	30	9.0	10.0	11.0	6.75	4.50
1N5464A*	30	10.8	12.0	13.2	6.75	4.50
1N5465A*	30	13.5	15.0	16.5	6.75	4.50
1N5466A*	30	16.2	18.0	19.8	6.75	4.50
1N5467A*	30	18.0	20.0	22.0	6.75	4.50
1N5468A*	30	19.8	22.0	24.2	6.75	4.50
1N5469A*	30	24.3	27.0	29.7	6.75	4.50
1N5470A*	30	29.7	33.0	36.3	6.75	4.50
1N5471A*	30	35.1	39.0	42.9	6.75	4.50
1N5472A*	30	42.3	47.0	51.7	6.75	4.50
1N5473A*	30	50.4	56.0	61.6	6.75	4.50
1N5474A*	30	61.2	68.0	74.8	6.75	4.50
1N5475A*	30	73.8	82.0	90.2	6.75	4.50
1N5476A*	30	90.0	100.0	110.0	6.75	4.50
Case 182, Pd = 280 mW max @ Ta = 25°C, Ti = 125°C.						
MV2201	25	5.5	.....	300	.53	.35
MV2203	25	8.5	.....	200	.53	.35
MV2205	25	13	.....	200	.53	.35
MV2209	25	29	.....	150	.53	.35
Case 51, Pd = 400 mW max @ Ta = 25°C, Tj = 175°C.						
MV1620	20	6.1	6.8	7.5	1.42	.95
MV1622	20	7.4	8.2	9.0	1.42	.95
MV1624	20	9.0	10.0	11.0	1.42	.95
MV1626	20	10.8	12.0	13.2	1.42	.95
MV1628	20	13.5	15.0	16.5	1.42	.95
MV1630	20	16.2	18.0	19.8	1.42	.95
MV1632	20	18.0	20.0	22.0	1.42	.95
MV1634	20	19.8	22.0	24.2	1.42	.95
MV1636	20	24.3	27.0	29.7	1.42	.95
MV1638	20	29.7	33.0	36.3	1.42	.95
MV1640	20	35.1	39.0	42.9	1.42	.95
MV1642	20	42.3	47.0	51.7	1.42	.95
MV1644	20	50.4	56.0	61.6	1.42	.95
MV1646	20	61.2	68.0	74.8	1.42	.95
MV1648	20	73.8	82.0	90.2	1.42	.95
MV1650	20	90.0	100.0	110.0	1.42	.95
Case 146, Pd = 400mW @ Ta = 25°C, Tj = 175°C.						
MV1652	20	180	120	135	3.60	2.40
MV1654	20	132	150	165	3.60	2.40
MV1656	20	162	180	198	3.60	2.40
MV1658	20	180	200	220	3.60	2.40
MV1660	20	198	220	242	3.60	2.40
MV1662	15	225	250	275	3.60	2.40
MV1664	15	243	270	300	3.60	2.40
MV1666	15	297	330	362	3.60	2.40
Case 146 Pd = 400mW max @ Ta = 25°C, Tj = 175°C, Vr = 1.0 V, f = 1.0 MHz.						
MV1401	12	.....	550	.....	8.95	5.95
Case 51, Pd = 400mW max @ Ta = 25°C, Tj = 175°C, Vr = 2.0 V, f = 1.0 MHz.						
MV1403	12	.....	175	.....	8.95	5.95
MV1404	12	.....	120	.....	8.95	5.95
MV1405	12	.....	250	.....	8.95	5.95

*To order devices with Cr Nom. ±5.0% or ±2.0% add Suffix B or C respectively. A = ±10%.

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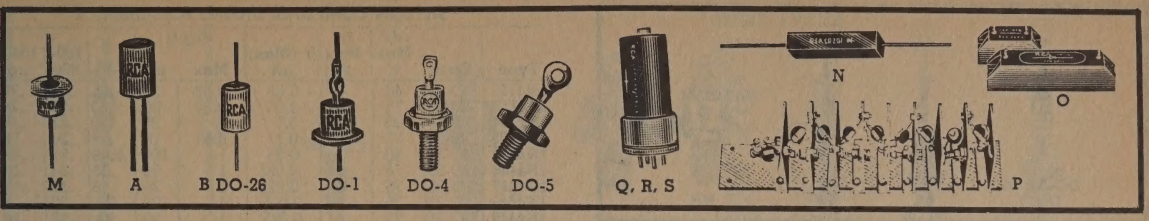
Stocking Warehouses from Coast to Coast to Serve You Better



Germanium Compensating Diodes For Temperature and Voltage Variations

Type	Package	Ifm mA	If (AV) mA	Vrm V	1-99	100-999	1000-Up
1N2326	A	200	100	—1	.55	.40	.33

RECTIFIERS
Silicon Diffused—Junction Types

Type	Package	If (AV) A	@ °C	PRV	1-99	100-999	1000-Up
1N3754	A	0.125	65	100	.32	.23	.19
1N3755	A	0.125	65	200	.33	.24	.20
1N3756	A	0.125	65	400	.35	.26	.21
40265	A	0.125	65	400	.35	.25	.21
1N3563	B	0.3	75	1000	.94	.69	.57
1N3196	B	0.4	75	800	.74	.54	.45
1N3256	B	0.4	75	800	.78	.57	.47
1N3193	B	0.5	75	200	.35	.26	.21
1N3194	B	0.5	75	400	.38	.28	.23
1N3195	B	0.5	75	600	.53	.39	.32
1N3253	B	0.5	75	200	.38	.28	.23
1N3254	B	0.5	75	400	.42	.30	.25
1N3255	B	0.5	75	600	.56	.41	.34
1N5214	B	0.6	75	800	.81	.59	.49
1N5218	B	0.6	75	800	.85	.62	.51
1N537	DO-1	0.75	50	100	.40	.29	.24
1N538	DO-1	0.75	50	200	.45	.32	.27
1N539	DO-1	0.75	50	300	.50	.36	.30
1N540	DO-1	0.75	50	400	.56	.41	.34
1N547	DO-1	0.75	50	600	.79	.57	.48
1N1095	DO-1	0.75	50	500	.61	.48	.40
1N1763A	DO-1	1	75	400	.42	.30	.25
1N1764A	DO-1	1	75	500	.52	.38	.31
1N2858A	DO-1	1	75	50	.33	.24	.20
1N2859A	DO-1	1	75	100	.37	.27	.22
1N2860A	DO-1	1	75	200	.40	.29	.24
1N2863A	DO-1	1	75	500	.58	.42	.35
1N2864A	DO-1	1	75	600	.70	.51	.42
1N5211	B	1	75	200	.38	.28	.23
1N5212	B	1	75	400	.42	.30	.25
1N5213	B	1	75	600	.56	.41	.34
1N5215	B	1	75	200	.42	.30	.25
1N5216	B	1	75	400	.45	.33	.27
1N5217	B	1	75	600	.60	.44	.36
40642	DO-26	1	45	550	.99	.72	.60
40643	DO-26	1	45	450	.91	.66	.55
40644	DO-26	1	45	550	.83	.61	.51
40266	DO-1	2	105	100	.29	.21	.175
40267	DO-1	2	105	200	.33	.24	.20

RCA Transistor, Thyristor, & Diode Manual, SC-14. Complete, authoritative reference provides comprehensive definitive information on biopolar & MOS field-effect transistors, thyristors (silicon controlled rectifiers, triacs, diacs), silicon rectifiers, other types of semiconductor diodes. Twelve text chapters on the operation, application & testing of semiconductor devices. Extensive Applications Guide. 656 pages.
52F837 ..... 2.50

RCA Power Circuits, DC to Microwave. SP-51. Expanded reference includes chapters on: Semiconductor Materials, Junctions & Devices; Silicon Rectifiers; Thyristors; Silicon Power Transistors; Regulation; Thyristor AC Line-Voltage Controls; High-Frequency Power Amplifiers; Control & Low-Frequency Power Amplifiers. 448 pages.
52F870 ..... 2.00

High-Speed, High-Voltage, High-Current Power Transistors, PM-80. 96-page manual describes theory and application of RCA medium-frequency power transistors. Typical circuits illustrate use of power transistors in amplifier, switching, and control applications. Selection charts facilitate choice of optimum type for military, industrial, or commercial applications.
52F902 ..... 2.00

RECTIFIERS (cont'd)
Silicon Diffused—Junction Types, Stud Mounted

If AV: above If(av): 5 to 40 A

Type	Package	If (AV) A	@ °C	Vrm Max V	1-99	100-999	1000-Up
1N1612	DO-4	5	135	50	1.08	.78	.65
1N1613	DO-4	5	135	100	1.24	.90	.75
1N1614	DO-4	5	135	200	1.90	1.38	1.15
1N1615	DO-4	5	135	400	3.71	2.70	2.25
1N1616	DO-4	5	135	600	5.36	3.90	3.25
1N1342B	DO-4	6	150	100	1.32	.96	.80
40108	DO-4	10	150	50	.99	.72	.60
40109	DO-4	10	150	100	1.16	.84	.70
40110	DO-4	10	150	200	1.57	1.14	.95
1N1199A	DO-4	12	150	50	1.24	.90	.75
1N1200A	DO-4	12	150	100	1.41	1.02	.85
1N1202A	DO-4	12	150	200	2.48	1.80	1.50
1N1204A	DO-4	12	150	400	4.46	3.24	2.70
1N1198A	DO-5	20	150	600	7.01	5.10	4.25
1N1183A	DO-5	40	150	50	2.15	1.56	1.30
1N1184A	DO-5	40	150	100	2.48	1.80	1.50
1N1186A	DO-5	40	150	200	3.55	2.58	2.15
1N1190A	DO-5	40	150	600	8.65	6.30	5.25

Silicon Plug-in Types

Type	Package	Replaces Tube	NET
CR273/8008	Q	8008	60.00
CR274/872A	R	872, 872A	60.00
CR275/866	S	866, 866A, 3B28, 3B25	13.10
3B28/3B25			

SILICON RECTIFIER STACKS—HIGH VOLTAGE TYPES

Vrm (rep): 1200 to 12000 V

Type	Package	Vrm (max) V	Vr V(RMS)	If(AV) A	1-29	30-Up
CR101	O	1265	895	1	5.75	5.47
CR201	N	1900	1345	0.4	3.10	2.96
CR102	O	2530	1790	0.925	7.20	6.85
CR103	O	3165	2240	0.825	8.15	7.75
CR203	N	3165	2240	0.4	4.80	4.56
CR204	N	4800	3395	0.4	5.75	5.47
CR105	O	5065	3580	0.7	10.55	10.05
CR106	O	6330	4475	0.65	12.00	11.40
CR206	N	6330	4475	0.4	6.95	6.60
CR208	N	8000	5655	0.4	8.40	8.00
CR108	O	8230	5820	0.6	13.90	13.20
CR210	N	10000	7070	0.4	10.10	9.60
CR110	O	10130	7160	0.6	16.30	15.50
CR212	N	12000	8485	0.4	12.00	11.40

SILICON RECTIFIER BRIDGES

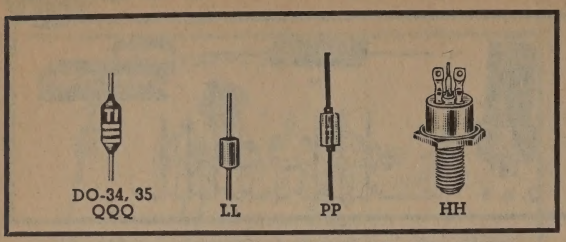
Single Phase Full Wave; Case P

Type	If(AV) A	Vout(AV) V	Vr(RMS) V	1-29	30-Up
CR401	18	200	222	28.00	26.60
CR402	18	400	444	32.00	30.40
CR403	18	800	888	44.00	41.80
CR404	34	200	222	30.00	28.50
CR405	34	400	444	36.00	34.20
CR406	34	800	888	54.00	51.30
CR407	70	200	222	40.00	38.00
CR408	70	400	444	48.00	45.60
CR409	70	800	888	64.00	60.80

Three Phase Full Wave

CR501	24	300	222	40.00	38.00
CR502	24	600	444	48.00	45.60
CR503	46	300	222	50.00	47.50
CR504	46	600	444	62.00	58.90
CR505	92	300	222	64.00	60.80
CR506	92	600	444	84.00	79.80

Texas Instruments Diodes



SILICON VOLTAGE VARIABLE CAPACITANCE DIODES

Type	Case	@Vr=4V Ct (pF) Min.	@Vr=4V Ct (pF) Max.	Q* Min.	Vbr (V) Min.	1-99	100-999
TIV306	QQQ	5	9	200	20	1.00	.80
TIV307	QQQ	7	11	200	20	1.00	.80
TIV308	QQQ	9	14	200	20	1.00	.80

*Frequency to 50 MHz.

GENERAL PURPOSE SILICON DIODES

Type	Case	Vr Max. Volts	If Min. mA@1v	Ir Max. @ Vr Max. μA	Pwr Diss 25°C mW	1-99	100-999
T151	HH	10	200	1	400	.39	.26
T152	HH	20	200	1	400	.42	.28
T155	HH	60	200	1	400	.57	.34
T156	HH	100	400	1	400	.65	.40
T157	HH	150	400	1	400	.73	.46
T159	HH	200	400	1	400	.90	.60
T160	HH	300	400	1	400	.96	.67
600C	NN	27	3	8@10V	100	1.94	1.58
622C	NN	150	6.5@4V	0.2	90	3.70	3.03
624C	NN	220	3@4V	0.4	80	3.75	3.07
1N456	HH	25	40	.025	200	.35	.23
1N456A	HH	25	100	.025	500	.35	.23
1N457	HH	60	20	.025	200	.44	.29
1N457A	HH	60	100	.025	500	.44	.29
1N458	HH	125	7	.025	200	.47	.31
1N458A	HH	125	100	.025	500	.47	.31
1N459	HH	175	3	.025	200	.48	.32
1N459A	HH	175	100	.025	500	.48	.32
1N461	HH	25	15	.5	200	.34	.23
1N462	HH	60	5	.5	200	.36	.24
1N463	HH	175	1	.5	200	.44	.29
1N464	HH	125	3	.5	200	.45	.30
1N482	HH	36	100*	.25	250	.48	.32
1N482A	HH	36	200	.025	250	.48	.32
1N483A	HH	70	200	.025	250	.51	.32
1N483B	HH	70	200	.025	250	.51	.32
1N484	HH	130	100*	.25	250	.51	.32
1N484A	HH	130	200	.025	250	.51	.32
1N485	HH	180	100*	.25	250	.58	.38
1N485A	HH	180	200	.025	250	.58	.38
1N485B	HH	180	200	.025	250	.58	.38
1N645	MM	225	400	0.2	600	1.40	.80
1N646	MM	300	400	0.2	600	1.60	1.05
1N647	MM	400	400	0.2	600	1.70	1.10
1N648	MM	500	400	0.2	600	1.80	1.20
1N649	MM	600	400	0.2	600	2.25	1.40

*Measured at 1.1 V.

SILICON COMPUTER DIODES

Type	Case	Vr Max. V	trr Max. ns	Ir (max. μA	Vf @ If Max.	mA	1-99	100-999	1000-UP
TID21A	TO-89	30	25	0.1	1	100	6.00	4.90	4.00
TID22A	TO-89	15	25	0.1	1.1	100	4.95	4.10	3.30
TID23A	TO-89	30	25	0.1	1	100	6.00	4.90	4.00
TID24A	TO-89	15	25	0.1	1.1	100	4.95	4.10	3.30
TID25A	TO-89	30	25	0.1	1	100	9.05	7.50	6.30
TID26A	TO-89	15	25	0.1	1.1	100	7.60	6.30	5.30
TID29A	TO-84	30	25	0.1	1	100	11.50	9.65	8.15
TID30A	TO-84	15	25	0.1	1	100	9.75	8.15	6.90
1N251	PP	30	150	0.1	1	5	.32	.21	.13
1N625	PP	20	1000	1	1.5	4	.40	.26	.16
1N626	PP	35	1000	1	1.5	4	.40	.26	.16
1N627	PP	75	1000	1	1.5	4	.51	.34	.16
1N628	PP	125	1000	1	1.5	4	.61	.40	.16
1N661	PP	200	300	10	1	6	.98	.68	.18
1N662	PP	80	500	20	1	10	.25	.15	.13
1N663	PP	80	500	5	1	100	.58	.38	.18
1N914	PP	75	4	5	1	10	.32	.21	.13
1N914A	PP	75	4	5	1	20	.37	.24	.14
1N914B	DO-35	75	4	5	1	100	.77	.52	.16
1N9'6	PP	75	4	5	1	10	.50	.32	.15
1N916A	PP	75	4	5	1	20	.56	.37	.16
1N916B	PP	75	4	5	1	100	.72	.48	.28
1N3064	PP	50	4	0.01	1	10	.24	.14	.13
1N3070	PP	175	50	0.1	1	100	1.22	.98	.28
1N4148	DO-35	75	4	0.025	1	10	.33	.22	.12
1N4149	DO-35	75	4	0.025	1	10	.50	.32	.15
1N4151	DO-35	75	4	0.05	1	50	.73	.48	.17

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SILICON COMPUTER DIODES (Continued)

Type	Case	Vr Max v	trr Max ns	Ir (Max) μA	Vf@If Max	mA	1-99	100-999	1000-up
1N4152	DO-35	40	4	0.05	0.88	20	.65	.41	.22
1N4153	DO-35	75	4	0.05	0.88	20	.90	.60	.29
1N4154	DO-35	35	4	0.1	1	30	.35	.21	.16
1N4305	DO-35	75	4	0.1	0.85	10	.58	.38	.16
1N4444	DO-35	50	7	0.05	1	100	1.49	.97	.29
1N4446	DO-35	75	4	0.025	1	20	.38	.24	.14
1N4447	DO-35	75	4	0.025	1	20	.56	.36	.16
1N4448	DO-35	75	4	0.025	1	100	.78	.52	.16
1N4449	DO-35	75	4	0.025	1	30	.78	.52	.16
1N4454	DO-35	75	4	0.1	1	10	.33	.19	.13
1N4531	DO-34	75	4	0.025	1	10	.45	.30	.24
1N4532	DO-34	75	4	0.1	1	10	.83	.56	.35
1N4533	DO-34	40	4	0.05	0.88	20	.72	.48	.30
1N4534	DO-34	75	4	0.05	0.88	20	1.00	.67	.40
1N4536	DO-34	35	4	0.1	1	30	.42	.28	.21
1N4727	DO-35	20	4	0.1	0.85	10	.37	.23	.13
1N4938	DO-35	175	50	0.1	1	100	1.22	.98	.28

SILICON RECTIFIERS 1 Amp (Io) CASE LL

Type	Case	PRV	Max Ir @ 100°C uA	Max Ir @ 25°C uA	1-99	100-999	1000-up
1N4001	LL	50	10	50	.39	.26	.16
1N4002	LL	100	10	50	.44	.29	.18
1N4003	LL	200	10	50	.50	.33	.19
1N4004	LL	400	10	50	.56	.37	.22
1N4005	LL	600	10	50	.66	.45	.26
1N4006	LL	800	10	50	.99	.65	.36
1N4007	LL	1000	10	50	1.49	.99	.39

MICROWAVE DIODES

Silicon Schottky Barrier Diodes

Case RR, trr=100 psec max.

Type	Vbr Min Volts	Max Ct pf	Vf V	Vf @	Vf mA	1-99	100-999
TIXD27	20	1.5	1	@	50	9.50	5.70
TIXD28	15	2	0.85	@	50	4.75	3.10

Silicon Schottky Mixer Diodes

Case RR

Type	Vbr Min Volts	Typ Ct pf	Noise Figure db typ @ MHz	1-99	100-999
TIXV304	10	1.6	10 @ 900	3.25	1.75
TIXV305	4	.75	6.5 @ 900	3.25	1.75

Gallium Arsenide Switching Diodes

	Case	Vbr Min Volts	Max Ct pf	trr n sec max	1-9	10-99
A516	EE	8	0.75	.6	30.00	25.00
A517	EE	10	0.50	.3	35.00	30.00

VARACTOR DIODES

GaAs devices, total cap @ Vr = o, cutoff freq. @ Vr = 6v.

Type	Case	Vbr Min Volts	Total Cap. max pf	Cut off freq	1-9	10-99	100-up
TIXV01	SS	6	1	100	112.50	90.00	81.00
TIXV02	SS	6	0.7	150	135.00	108.00	90.00
TIXV03	SS	6	0.6	200	180.00	160.00	140.00
TIXV04	SS	6	0.6	300	200.00	180.00	160.00
XD500	EE	6	1.4	60	136.00	136.00	112.00
XD501	EE	6	1.4	81	224.00	224.00	192.00
XD502	EE	6	1.4	108	320.00	320.00	263.00
A600	EE	8	1.0	90	180.00	139.00	112.00
A601	EE	8	1.0	120	260.00	202.00	200.00
A602	EE	8	1.0	150	320.00	262.00	200.00
A610	SS	8	1.0	90	180.00	139.00	112.00
A611	SS	8	1.0	120	260.00	232.00	200.00
A612	SS	8	1.0	150	340.00	320.00	262.00

Silicon—Epi—Diff, total cap. @ Vr = 6v., cutoff freq. @ 6v.

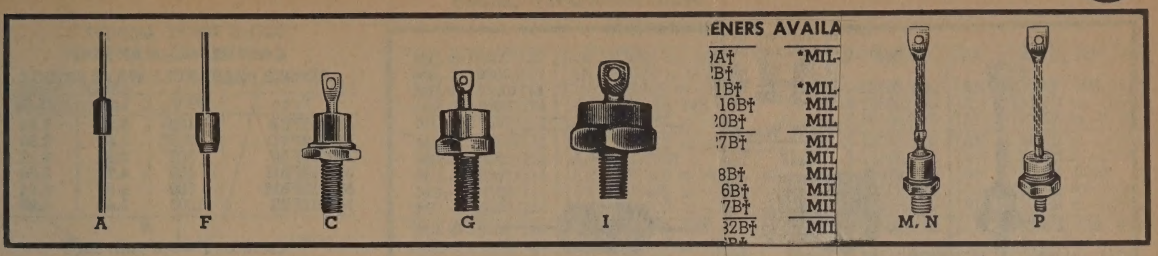
A706-3MN	EE	24—(120)†	.8	5—140*	170.00	136.00	125.00
A707-3M	EE	24—(120)†	1.3	5—120*	145.00	116.00	106.00
A708-3K	EE	24—(120)†	2.1	5— 90*	33.00	26.40	24.00
A709-3J	EE	24—(120)†	4.1	5— 80*	33.00	26.40	24.00
A710-3H	EE	24—(120)†	8.2	5— 60*	19.00	15.20	14.00
A711-3E	EE	24—(120)†	14.4	5— 30*	15.00	12.00	11.00
A712-3D	EE	24—(120)†	21	5— 20*	15.00	12.00	11.00
A713-3D	EE	24—(120)†	30	5— 20*	15.00	12.00	11.00

*Min. cutoff frequency decreases as Vbr requirements increase.
†Vbr min. available to 120V on special order.

Epi—GaAs, total cap. @ Vr = 6v, cutoff freq. @ 6v.

A900	.....	30	1.4	50	56.00	45.00	41.00
A901	.....	30	1.4	100	65.00	52.00	44.00
A902	.....	30	1.4	200	81.00	65.00	59.00
A903	.....	30	1.4	300	170.00	138.00	118.00
A905	.....	50	1.4	50	108.00	86.00	79.00
A906	.....	50	1.4	100	128.00	102.00	93.00
A907	.....	50	1.4	200	280.00	224.00	204.00
A908	.....	50	1.4	300	585.00	466.00	428.00

Westinghouse Diodes and Rectifiers



ENERS AVAILA

A†	*MIL-
B†	
1B†	*MIL-
16B†	MIL
20B†	MIL
7B†	MIL
	MIL
8B†	MIL
6B†	MIL
7B†	MIL
32B†	MIL

LOW POWER RECTIFIER DIODES

Type	Fig.	PRV	Max. IDC Resistive Load	1-99	100-999
388A	A	50	1 Amp @ 50°C Ambient (Fast Switching)	.65	.42
388B	A	100		.70	.45
388C	A	150		.73	.47
388D	A	200		.75	.48
388F	A	300		.85	.54
388H	A	400		.90	.66
388K	A	500		1.15	.74
388M	A	600		1.25	.80
1N4816	F	50	1.5 Amp. @ 40°C Case	.27	.23
1N4817	F	100		.31	.27
1N4818	F	200	1.5 Amp. @ 40° C Case	.37	.31
1N4819	F	300		.43	.35
1N4820	F	400		.45	.38
1N4821	F	500		.49	.42
1N4822	F	600		.55	.47
1N5052	F	700	1.5 Amp @ 40°C Ambient	.75	.51
1N5053	F	800		.81	.54
1N5054	F	1000		.90	.62

MEDIUM POWER RECTIFIER DIODES

Type	Fig.	PRV	Max. IDC Resistive Load	1-99	100-999
1N5400	F	50	3 Amp @ 50°C Ambient	.36	.31
1N5401	F	100		.41	.34
1N5402	F	200		.47	.40
1N5403	F	300		.55	.43
1N5404	F	400		.61	.51
1N5405	F	500		.65	.57
1N5406	F	600		.73	.65
1N5407	F	800		1.14	1.00
1N5408	F	1000		1.50	1.25
1N1612R	C	50	5 Amp @ 150°C Case	1.07	.72
1N1613R	C	100		1.24	.83
1N1614R*	C	200		1.90	1.27
1N1615R*	C	400		3.71	2.48
1N1616R	C	600		5.36	3.58
1N1341R,A	C	50	6 Amp @ 150°C Case	1.13	.75
1N1342R,A	C	100		1.28	.85
1N1343R,A	C	150		1.64	1.09
1N1344R,A	C	200		2.15	1.43
1N1345R,A	C	300		3.05	2.04
1N1346R,A	C	400		3.96	2.64
1N1347R,A	C	500		4.65	3.10
1N1348R,A	C	600		5.48	3.65
1N3987,R	C	700	6 Amp @ 140°C Case (Fast Switching)	7.65	5.15
1N3988,R	C	800		8.60	5.75
1N3989,R	C	900		9.30	6.20
1N3990,R	C	1000		9.75	6.50
1N1199R,A	G, C	50	12 Amp @ 150°C Case	1.25	.83
1N1200R,A	G, C	100		1.41	.94
1N1201R,A	G, C	150		1.82	1.21
1N1202R,A	G, C	200		2.48	1.65
1N1203R,A	G, C	300		3.47	2.31
1N1204R,A	G, C	400		4.46	2.97
1N1205R,A	G, C	500		5.33	3.55
1N1206R,A	G, C	600		6.19	4.13
1N3670A	C	700		7.88	5.25
1N3671A	C	800		8.78	5.85
1N3672A	C	900		9.45	6.30
1N3673A	C	1000		9.90	6.60
1N3889*	C	50	12 Amp @ 140°C Case (Fast Switching)	3.75	2.50
1N3890*	C	100		4.35	2.90
1N3891*	C	200		5.55	3.70
1N3892*	C	300		6.75	4.50
1N3893*	C	400		7.95	5.30
368A,AR	C	50	15 Amp @ 130°C Case	.79	.67
368B,BR	C	100		.83	.71
368C,CR	C	150		.93	.72
368D,DR	C	200		1.10	.77
368F,FR	C	300		1.31	.88
368H,HR	C	400		1.52	.99
368K,KR	C	500		1.79	1.16
368M,MR	C	600		2.05	1.42

*Mil. Types Available

MEDIUM POWER RECTIFIER DIODES (Cont'd)

Type	Fig.	PRV	Max. IDC Rseistive Load	1-99	100-999
1N1191R	I	50	18 Amp @ 140°C Case	1.65	1.10
1N1192R	I	100		1.73	1.15
1N1193R	I	150		2.10	1.40
1N1194R	I	200		2.48	1.65
1N1195R	I	300		3.88	2.59
1N1196R	I	400		4.85	3.30
1N1197R	I	500		6.15	3.96
1N1198R	I	600		6.65	4.45
1N250A*	J	200	20 Amp @ 100°C Case (Fast Switching)	2.48	1.65
1N3899,R	.....	50		5.25	3.50
1N3900,R	.....	100		6.15	4.10
1N3901,R	.....	200		7.95	5.30
1N3902,R	.....	300		9.75	6.50
1N3903,R	.....	400		11.55	7.70
1N1183R	I	50	35, 40** Amp @ 140°C Case	2.14	1.43
1N1183A	I	50		2.14	1.43
1N1184R	I	100		2.47	1.65
1N1184A,RA	I	100		2.47	1.65
1N1185R	I	150		3.10	2.07
1N1185A,RA	I	150		3.10	2.07
1N1186R	I	200		3.55	2.37
1N1186A,RA	I	200		3.55	2.37
1N1187R	I	300		4.95	3.30
1N1187R,RA	I	300		4.95	3.30
1N1188R	I	400		6.19	4.13
1N1188A,AR*	I	400		6.19	4.13
1N1189R	I	500		7.42	4.95
1N1189A,AR	I	500		7.42	4.95
1N1190R	I	600		8.65	5.80
1N1190A	I	600		8.65	5.80
1N3765,R	I	700	40 Amp @ 150°C Case	9.10	6.15
1N3766,R	I	800		9.75	6.50
1N3767,R	I	900		10.72	7.15
1N3768,R	I	1000		11.62	7.75
1N3288A, AR	M, N	100	100 Amp @ 130°C Surge 2300A	13.00	8.00
1N3289A, AR*	M, N	200		14.50	9.15
1N3291A, AR*	M, N	400		16.50	11.66
1N3293A, AR*	M, N	600		19.50	15.15
1N3294A, AR*	M, N	800		24.00	18.85
1N3295A, AR	M, N	1000		28.50	22.55
1N4587	M, N	100	150 Amp @ 110°C Surge 3000A	14.50	10.50
1N4588	M, N	200		16.50	13.25
1N4590	M, N	400		18.75	14.80
1N4592	M, N	600		23.05	18.90
1N4593	M, N	800		28.70	23.80
1N4594	M, N	1000		34.60	28.70
1N3260R	P	50	160 Amp @ 125°C Case	16.00	9.75
1N3261R	P	100		17.00	10.25
1N3263R*	P	200		19.50	12.60
1N3264R	P	250		20.50	14.10
1N3265R	P	300		22.00	14.70
1N3266R	P	350		23.00	15.95
1N3267R*	P	400		24.50	16.20
1N3268R	P	500		27.50	17.95
1N3269R*	P	600		30.50	21.00
1N3270R	P	700		33.00	23.80
1N3271R	P	800		35.50	25.45
1N3272R	P	900		39.00	28.90
1N3273R	P	1000		43.00	32.00
1N3274R	P	1200		42.50	35.70
1N3275R	P	1400		46.70	39.35
1N3276R	P	1600		51.45	43.55

*Mil. Types Available

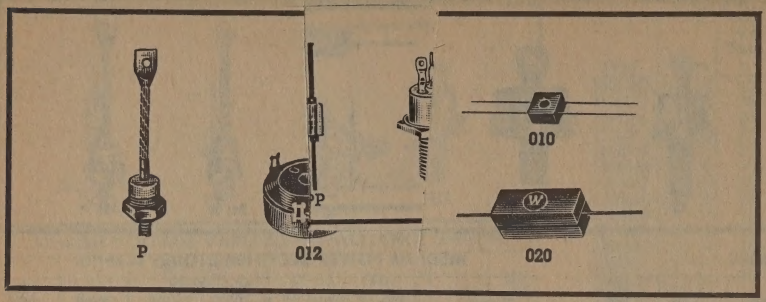
NEWARK

Can Supply Your Semi Needs

at O. E. M. Prices

Competitive With Manufacturers

Westinghouse Diodes and Rectifiers



HIGH POWER RECTIFIER DIODES—Fig. P.

Type	PRV	Max. Idc Res. Load	1-24	25-99
1N3161	50		19.25	14.20
1N3162	100		22.95	17.20
1N3163	150		26.95	20.95
1N3164	200		31.80	24.00
1N3165	250		36.15	27.30
1N3166	300		41.20	31.00
1N3167	350	240 Amp @ 125°C Case	52.55	39.50
1N3168	400		60.20	45.50
1N3169	500		72.70	55.00
1N3170	600		89.05	68.00
1N3171A	700		103.45	83.00
1N3172A	800		122.40	100.00
1N3173A	900		145.40	120.00
1N3174A	1000		176.85	141.00
1N4044R	50		16.00	11.75
1N4046R	150		23.90	19.00
1N4047R	200		28.50	21.90
1N4048R	250		30.50	23.50
1N4049R	300		32.75	25.25
1N4050R	400	275 Amp @120°C Case	36.00	27.50
1N4051R	500		44.50	34.50
1N4052R	600		52.75	40.75
1N4053R	700		59.00	45.50
1N4054R	800		67.50	52.75
1N4055R	900		72.50	58.00
1N4056R	1000		80.00	63.50

MOLDED RECTIFIER ASSEMBLIES

Reduce manufacturing and stocking costs with encapsulated assemblies. Complete assemblies offer these benefits:

1. Elimination of design, test and manufacturing time with an assembly.
2. A power tested assembly manufactured with proven components.
3. Reduction of heat sinks.

All ratings at Tsink=55°C.

CASE 010 — 1.75 AMPERES
SINGLE-PHASE FULL-WAVE BRIDGE

Type	PRV	1-24	25-99
MP010ABB	100	2.20	1.76
MP010ABD	200	2.40	1.92
MP010ABF	300	2.60	2.08
MP010ABH	400	2.80	2.24
MP010ABM	600	3.20	2.56
MP010ABZ	1000	4.00	3.20

CASE 011—2.0 AMPERES
SINGLE-PHASE FULL-WAVE BRIDGE

MP011BBB	100	2.86	2.29
MP011BBD	200	3.12	2.50
MP011BBF	300	3.38	2.70
MP011BBH	400	3.64	2.91
MP011BBM	600	4.16	3.33
MP011BBZ	1000	5.20	4.16

CASE 012 — 4 AMPERES
SINGLE PHASE FULL-WAVE BRIDGE

Type	PRV	1-24	25-99
MP012FBB	100	3.30	2.64
MP012FBD	200	3.60	2.88
MP012FBF	300	3.90	3.12
MP012FBH	400	4.20	3.36
MP012FBM	600	4.80	3.84
MP012FBZ	1000	6.00	4.80

CASE 012 — 6 AMPERES
SINGLE PHASE FULL-WAVE BRIDGE

MP012HBD	200	4.08	3.26
MP012HBF	300	4.42	3.54
MP012HBH	400	4.76	3.81
MP012HBM	600	5.44	4.35
MP012HBZ	1000	6.80	5.44

CASE 012 ASSEMBLY, 10 AMPERES
SINGLE PHASE FULL-WAVE BRIDGE

MP012JBB	100	4.84	3.87
MP012JBD	200	5.28	4.22
MP012JBF	300	5.72	4.58
MP012JBH	400	6.16	4.93
MP012JBM	600	7.04	5.63
MP012JBZ	1000	8.80	7.04

CASE 013 ASSEMBLY, 15 AMPERES
SINGLE PHASE FULL-WAVE BRIDGE

MP013MBB	100	6.60	5.28
MP013MBD	200	7.20	5.76
MP013MBF	300	7.80	6.24
MP013MBH	400	8.40	6.72
MP013MBM	600	9.60	7.68

CASE 013 ASSEMBLY, 20 AMPERES
SINGLE PHASE FULL-WAVE BRIDGE

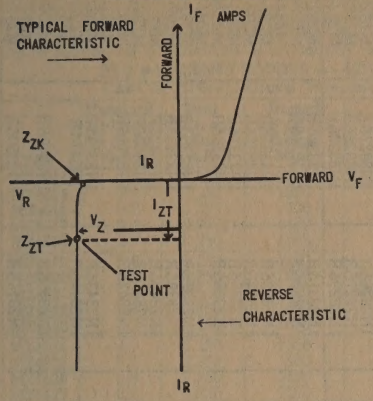
MP013RBB	100	8.80	7.04
MP013RBD	200	9.60	7.68
MP013RBF	300	10.40	8.32
MP013RBH	400	11.20	8.96
MP013RBM	600	12.80	10.24

NEWARK IS A MATCH MAKER

NEW! NEWARK'S EXPANDING CUSTOMER SERVICES NOW OFFER YOU THE ABILITY TO HAVE SEMICONDUCTORS MATCHED WITH BURN-IN CAPABILITY BEFORE THEY LEAVE THE WAREHOUSE. THIS SPECIAL FEATURE IS OFFERED WITH FAST SERVICE AT COMPETITIVE PRICES AND THERE ARE NO QUANTITY RESTRICTIONS.

BASIC INFORMATION

TYPICAL ZENER DIODE CHARACTERISTICS



I_R — Reverse Current.
I_{RT} — Test Level Reverse Current.
V_Z — Breakdown or Zener Voltage.
Z_{ZT} — Impedance at Test Condition.
Z_{ZK} — Impedance at Breakdown.

MILITARY ZENERS AVAILABLE ±5%

MIL-S-19500/127	JAN 1N746A to –59A†
MIL-S-19500/117	JAN 1N962B to –92B†
MIL-S-19500/114	JAN 1N2804B to –11B†
MIL-S-19500/114	JAN 1N2813B, 14B, 16B†
MIL-S-19500/114	JAN 1N2818B to –20B†
MIL-S-19500/114	JAN 1N2822B to –27B†
MIL-S-19500/114	JAN 1N2829B†
MIL-S-19500/114	JAN 1N2831B to –38B†
MIL-S-19500/114	JAN 1N2840B to –46B†
*MIL-S-19500/124	JAN 1N2970B to –77B†
*MIL-S-19500/124	JAN 1N2979B, 80B, 82B†
*MIL-S-19500/124	JAN 1N2984B to –86B†
*MIL-S-19500/124	JAN 1N2988B to –93B†
*MIL-S-19500/124	JAN 1N2995B, 97B†
*MIL-S-19500/124	JAN 1N2999B to 3005B†
*MIL-S-19500/124	JAN 1N3007B to –09B†
*MIL-S-19500/124	JAN 1N3001B to –09B†
*MIL-S-19500/124	JAN 1N3011B, 12B, 14B, 15B†
*MIL-S-19500/124	JAN 1N3014B, 15B, 17B†
MIL-S-19500/115	JAN 1N3016B to –51B*
MIL-S-19500/115	JAN 1N3019B to –21B†
MIL-S-19500/115	JAN 1N3023B to –25B†
MIL-S-19500/115	JAN 1N3026B to –28B†
MIL-S-19500/115	JAN 1N3030B, 32B†
MIL-S-19500/115	JAN 1N3034B to –40B†
MIL-S-19500/115	JAN 1N3043B to –44B†
MIL-S-19500/115	JAN 1N3046B, 47B, 49B, 50B†
*MIL-S-19500/358B	JAN 1N3305B to –12B†
MIL-S-19500/115	JAN 1N3821A to –28A†
**MIL-S-19500/272	JAN 1N3993A to –4000A†
MIL-S-19500/127	JAN 1N4370A to –72A†
MIL-S-19500/358B	JAN 1N4549B to –54B†

MIL — T_C REFERENCE DIODES

MIL-S-19500/299	JAN 1N429†
MIL-S-19500/159	JAN 1N821†
MIL-S-19500/159	JAN 1N823†
MIL-S-19500/159	JAN 1N825†
MIL-S-19500/159	JAN 1N827†
MIL-S-19500/159	JAN 1N829†
MIL-S-19500/156	JAN 1N935B†
MIL-S-19500/156	JAN 1N937B†
MIL-S-19500/156	JAN 1N938†
MIL-S-19500/156	JAN 1N939B†
MIL-S-19500/157	JAN 1N941B†
MIL-S-19500/157	JAN 1N943B†
MIL-S-19500/157	JAN 1N944B†
MIL-S-19500/158	JAN 1N3154†
MIL-S-19500/158	JAN 1N3155†
MIL-S-19500/158	JAN 1N3156†
MIL-S-19500/158	JAN 1N3157†

†Recommended TX device.
*Reverse polarity available (suffix RB).
**Reverse polarity available (suffix RA).

VOLTAGE REGULATION

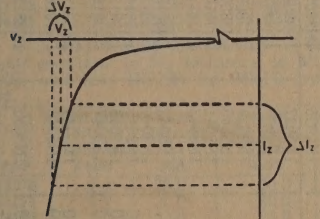
INSTRUCTIONS

Voltage regulation relates to the parameters of a zener diode as follows:

$\pm\%$ Regulation $= \frac{1}{2} V_Z \cdot \Delta I_Z \cdot T_C \cdot R_T$

where

V_Z = Nominal zener voltage in volts.
ΔI_Z = Zener current change in mA.
T_C = Temperature coefficient of V_Z in %/°C.
R_T = Thermal resistance in °C/watt.



HOW TO FIND % REGULATION

Step 1: Draw a line connecting V_Z on scale A with the typical T_C on scale B.

Step 2: Draw a line connecting intersection of line (step 1) on scale E with R_T on scale C.

Step 3: Draw a line connecting intersection of line (step 2) on scale B with zener current range ΔI_Z on scale D.

Step 4: Extend line step 3 to scale E and read value of regulation.

EXTRA SERVICE PROCUREMENT PROVIDES EXACT SEMICONDUCTOR COMPONENT TAILORING

- Beta Selection
- Dynamic Testing
- Component Matching
- Voltage Selection
- Burn-in
- Static Tests
- High-Reliability Testing
- Tape and Reel Packaging

TYPICAL T_C, R_T

Wattage	Approx.* T_C %/°C	Approx.* R_T °C/watt
250 mW	0.01	700
400 mW	0.01	300
1 W	0.08	150
5 W	0.1	25
10 W	0.1	12
50 W	0.1	2

*Actual parameter for a specific device may vary widely. Please consult your Newark Semiconductor specialist for critical application.

EXAMPLE

Given: 1N2974 (10 watt), $V_Z = 10$ volts. $\Delta I_Z = 10$ mA.

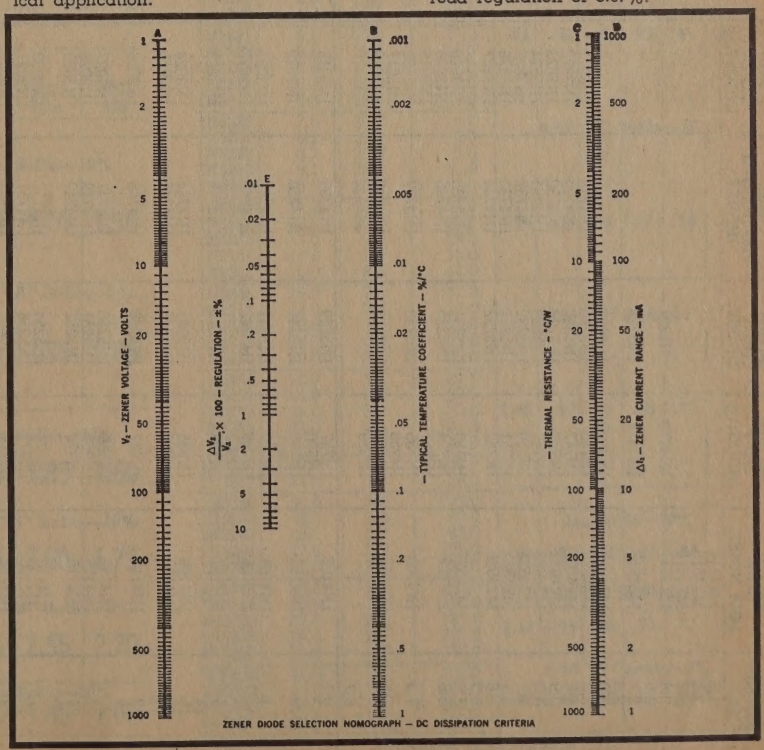
From Table: $T_C = 0.1$ and $R_T = 12$

Step 1: Draw a line from 10 (V_Z) on scale A to 0.1 on scale B (T_C).

Step 2: From intersection on E, draw line to 12 (R_T) on scale C.

Step 3: From intersection of line step 2 on B, draw a line to 10 (ΔI_Z) on scale D.

Step 4: Extend line, step 3, to scale E and read regulation of 0.07%.



NOM. ZENER VOLT.	250 mW DO-7 LOW NOISE	400 mW DO-7 INDUST.	500mW DO-7 INDUST.	1 Watt Plastic DO-41 INDUST.	1 Watt DO-13 INDUST.	1½ Watt CASE 55 INDUST.	5 Watt PLASTIC CASE 17 INDUST.	10 Watt DO-4 INDUST.	50 Watt CASE 54 INDUST.	50 Watt CASE 58 INDUST.	500 mW CASE 182 INDUST.
1.8	MZ4614	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.0	MZ4615	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.2	MZ4616	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.4	MZ4617	1N4370	1N5221	.....	.....	.....	.....	.....	.....	.....	.....
2.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-2.4
2.7	MZ4618	1N4371	1N5223	.....	.....	.....	.....	.....	.....	.....	MZ92-2.5
2.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-2.7
3.0	MZ4619	1N4372	1N5225	.....	.....	.....	.....	.....	.....	.....	MZ92-2.8
3.3	MZ4620	1N746	1N5226	1N4728	1N3821	.....	1N5333	.....	.....	.....	MZ92-3.0
3.6	MZ4621	1N747	1N5227	1N4729	1N3822	.....	1N5334	.....	.....	.....	MZ92-3.3
3.9	MZ4622	1N748	1N5228	1N4730	1N3823	.....	1N5335	1N3993&R	1N4557&R	1N4549&R	MZ92-3.6
4.3	MZ4623	1N749	1N5229	1N4731	1N3824	.....	1N5336	1N3994&R	1N4558&R	1N4550&R	MZ92-3.9
4.7	MZ4624	1N750	1N5230	1N4732	1N3825	.....	1N5337	1N3995&R	1N4559&R	1N4551&R	MZ92-4.3
5.1	MZ4625	1N751	1N5231	1N4733	1N3826	.....	1N5338	1N3996&R	1N4560&R	1N4552&R	MZ92-4.7
5.6	MZ4626	1N752	1N5232	1N4734	1N3827	.....	1N5339	1N3997&R	1N4561&R	1N4553&R	MZ92-5.1
6.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-5.6
6.2	MZ4627	1N753	1N5234	1N4735	1N3828	.....	1N5341	1N3998&R	1N4562&R	1N4554&R	MZ92-6.0
6.8	1N4099	1N754	1N5235	1N4736	1N3829	1N3785	1N5342	1N3999&R	1N4563&R	1N4555&R	MZ92-6.2
.....	.....	1N957	.....	.....	1N3016	.....	.....	1N2970&R	1N2804&R	1N3305&R	MZ92-6.8
7.5	1N4100	1N755	1N5236	1N4737	1N3830	1N3786	1N5343	1N4000&R	1N4564&R	1N4556&R	.....
.....	.....	1N958	.....	.....	1N3017	.....	.....	1N2971&R	1N2805&R	1N3306&R	MZ92-7.5
8.2	1N4101	1N756	1N5237	1N4738	1N3018	1N3787	1N5344	1N2972&R	1N2806&R	1N3307&R	.....
.....	.....	1N959	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-8.2
8.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9.1	1N4103	1N757	1N5239	1N4739	1N3019	1N3788	1N5346	1N2973&R	1N2807&R	1N3308&R	MZ92-8.7
.....	.....	1N960	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-9.1
10	1N4104	1N758	1N5240	1N4740	1N3020	1N3789	1N5347	1N2974&R	1N2808&R	1N3309&R	.....
.....	.....	1N961	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-10
11	1N4105	1N962	1N5241	1N4741	1N3021	1N3790	1N5348	1N2975&R	1N2809&R	1N3310&R	.....
12	1N4106	1N759	1N5242	1N4742	1N3022	1N3791	1N5349	1N2976&R	1N2810&R	1N3311&R	MZ92-11
.....	.....	1N963	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-12
13	1N4107	1N964	1N5243	1N4743	1N3023	1N3792	1N5350	1N2977&R	1N2811&R	1N3312&R	.....
14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-13
15	1N4109	1N965	1N5245	1N4744	1N3024	1N3793	1N5352	1N2979&R	1N2813&R	1N3314&R	MZ92-14
16	1N4110	1N966	1N5246	1N4745	1N3025	1N3794	1N5353	1N2980&R	1N2814&R	1N3315&R	MZ92-15
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-16
18	1N4112	1N967	1N5248	1N4746	1N3026	1N3795	1N5355	1N2982&R	1N2816&R	1N3317&R	MZ92-17
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-18
20	1N4114	1N968	1N5250	1N4747	1N3027	1N3796	1N5357	1N2984&R	1N2818&R	1N3319&R	MZ92-19
22	1N4115	1N969	1N5251	1N4748	1N3028	1N3797	1N5358	1N2985&R	1N2819&R	1N3320&R	MZ92-20
24	1N4116	1N970	1N5252	1N4749	1N3029	1N3798	1N5359	1N2986&R	1N2820&R	1N3321&R	MZ92-22
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-24
27	1N4118	1N971	1N5254	1N4750	1N3030	1N3799	1N5361	1N2988&R	1N2822&R	1N3323&R	MZ92-25
30	1N4120	1N972	1N5256	1N4751	1N3031	1N3800	1N5363	1N2989&R	1N2823&R	1N3324&R	MZ92-27
33	1N4121	1N973	1N5257	1N4752	1N3032	1N3801	1N5364	1N2990&R	1N2824&R	1N3325&R	MZ92-30
36	1N4122	1N974	1N5258	1N4753	1N3033	1N3802	1N5365	1N2991&R	1N2825&R	1N3326&R	MZ92-33
39	1N4123	1N975	1N5259	1N4754	1N3034	1N3803	1N5366	1N2992&R	1N2826&R	1N3327&R	MZ92-36
43	1N4124	1N976	1N5260	1N4755	1N3035	1N3804	1N5367	1N2993&R	1N2827&R	1N3328&R	MZ92-39
47	1N4125	1N977	1N5261	1N4756	1N3036	1N3805	1N5368	1N2995&R	1N2829&R	1N3330&R	MZ92-43
51	1N4126	1N978	1N5262	1N4757	1N3037	1N3806	1N5369	1N2997&R	1N2831&R	1N3332&R	MZ92-47
56	1N4127	1N979	1N5263	1N4758	1N3038	1N3807	1N5370	1N2999&R	1N2832&R	1N3334&R	MZ92-51
60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-56
62	1N4129	1N980	1N5265	1N4759	1N3039	1N3808	1N5372	1N3000&R	1N2833&R	1N3335&R	MZ92-60
88	1N4130	1N981	1N5266	1N4760	1N3040	1N3809	1N5373	1N3001&R	1N2834&R	1N3336&R	MZ92-62
75	1N4131	1N982	1N5267	1N4761	1N3041	1N3810	1N5374	1N3002&R	1N2835&R	1N3337&R	MZ92-68
82	1N4132	1N983	1N5268	1N3762	1N3042	1N3811	1N5375	1N3003&R	1N2836&R	1N3338&R	MZ92-75
87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-82
91	1N4134	1N984	1N5270	1N4763	1N3043	1N3812	1N5377	1N3004&R	1N2837&R	1N3339&R	MZ92-87
100	1N4135	1N985	1N5271	1N4764	1N3044	1N3813	1N5378	1N3005&R	1N2838&R	1N3340&R	MZ92-91
110	.....	1N986	1N5272	1M110ZS10	1N3045	1N3814	1N5379	1N3007&R	1N2840&R	1N3342&R	MZ92-100
120	.....	1N987	1N5273	1M120ZS10	1N3046	1N3815	1N5380	1N3008&R	1N2841&R	1N3343&R	MZ92-110
130	.....	1N988	1N5274	1M130ZS10	1N3047	1N3816	1N5381	1N3009&R	1N2842&R	1N3344&R	MZ92-120
140	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-130
150	.....	1N989	1N5276	1M150ZS10	1N3048	1N3817	1N5383	1N3011&R	1N2843&R	1N3346&R	MZ92-140
160	.....	1N990	1N5277	1M160ZS10	1N3049	1N3818	1N5384	1N3012&R	1N2844&R	1N347&R	MZ92-150
170	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-160
180	.....	1N991	1N5279	1M180ZS10	1N3050	1N3819	1N5386	1N3014&R	1N2845&R	1N3349&R	MZ92-170
190	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-180
200	.....	1N922	1N5281	1M200ZS10	1N3051	1N3820	1N5388	1N3015&R	1N2846&R	1N3350&R	MZ92-190
											MZ92-200

DIFFUSED SILICON ZENER DIODES 250 mW to 50 W

The industries highest quality and most popular line of zener diodes offers wattages from 250 mW to 50 watts. A wide selection of voltages and mounting arrangements are available for all applications. Please refer to the first page in the zener diode section for a definition of unfamiliar terms and application assistance. Detailed case size drawings at the end of the semiconductor section. Should you need for additional information check the Motorola Zener Handbook or call your nearest Newark semiconductor specialist. (Phone number on the cover)

250 mW ZENER DIODES — LOW NOISE

Case 51 (DO-7), Glass, Tolerance ± 5%

Type	Nominal Voltage Vz @ Izt Volts	Test Current Izt mA	Imped Zzt @ Izt Ohms Max	1-99	100-Mixed	100-999
MZ4614	1.8	0.250	1200			
MZ4615	2.0	0.250	1250			
MZ4616	2.2	0.250	1300			
MZ4617	2.4	0.250	1400			
MZ4618	2.7	0.250	1500			
MZ4619	3.0	0.250	1600			
MZ4620	3.3	0.250	1650	3.85	3.35	2.90
MZ4621	3.6	0.250	1700			
MZ4622	3.9	0.250	1650			
MZ4623	4.3	0.250	1600			
MZ4624	4.7	0.250	1550			
MZ4625	5.1	0.250	1500			
MZ4626	5.6	0.250	1400			
MZ4627	6.2	0.250	1200			
1N4099	6.8	0.250	200			
1N4100	7.5	0.250	200			
1N4101	8.2	0.250	200			
1N4102	8.7	0.250	200			
1N4103	9.1	0.250	200			
1N4104	10	0.250	200			
1N4105	11	0.250	200			
1N4106	12	0.250	200	3.85	3.35	2.90
1N4107	13	0.250	200			
1N4109	15	0.250	100			
1N4110	16	0.250	100			
1N4113	19	0.250	150			
1N4114	20	0.250	150			
1N4115	22	0.250	150			
1N4121	33	0.250	200			
1N4123	39	0.250	200			
1N4124	43	0.250	250			
1N4125	47	0.250	250	5.05	4.35	3.80
1N4130	68	0.250	700			
1N4132	82	0.250	800			
1N4135	100	0.250	1500			

400 mW ZENER DIODES — Case 51 Glass

*Types available in 5% tolerance as Military (JAN 1N000A for 746-59, and JAN 1N000B for 962-92 types) and Meg-a-life II units.

Type	Nominal Voltage Vz @ Izt Volts	Test Current Izt mA	Imped. Zzt @ Izt Ohms max	1-99	100-Mix	100-999
1N4370	2.4	20.0	30.0			
1N4371	2.7	20.0	30.0			
1N4372	3.0	20.0	29.0	No Suffix—10%		
1N746*	3.3	20.0	28.0			
1N747*	3.6	20.0	24.0			
1N748*	3.9	20.0	23.0			
1N749*	4.3	20.0	22.0	2.00	1.70	1.50
1N750*	4.7	20.0	19.0			
1N751*	5.1	20.0	17.0			
1N752*	5.6	20.0	11.0			
1N753*	6.2	20.0	7.0	Add "A" Suffix—5%		
1N754*	6.8	20.0	5.0			
1N755*	7.5	20.0	6.0			
1N756*	8.2	20.0	8.0	2.75	2.35	2.05
1N757*	9.1	20.0	10.0			
1N758*	10	20.0	17.0			
1N759*	12	20.0	30.0			
1N957	6.8	18.5	4.5			
1N958	7.5	16.5	5.5	No Suffix—20%		
1N959	8.2	15.0	6.5			
1N960	9.1	14.0	7.5	2.15	1.85	1.60
1N961	10	12.5	8.5			
1N962*	11	11.5	9.5			
1N963*	12	10.5	11.5	Add "A" Suffix—10%		
1N964*	13	9.5	13.0			
1N965*	15	8.5	16.0	2.35	2.00	1.75
1N966*	16	7.8	17.0			
1N967*	18	7.0	21.0			
1N968*	20	6.2	25.0	Add "B" Suffix—5%		
1N969*	22	5.6	29.0			
1N970*	24	5.2	33.0	2.95	2.55	2.20
1N971*	27	4.6	41.0			
1N972*	30	4.2	49.0			
1N973*	33	3.8	58.0	No Suffix—20%		
1N974*	36	3.4	70.0	2.15	1.85	1.60
1N975*	39	3.2	80.0			

Continued, Next Column

400 mW ZENER DIODES (Continued)

Type	Nominal Voltage Vz @ Izt Volts	Test Current Izt mA	Imped. Zzt @ Izt Ohms Max	1-99	100-Mix	100-999
1N976*	43	3.0	93.0	No Suffix—20%		
1N977*	47	2.7	105.0	2.15	1.85	1.60
1N978*	51	2.5	125.0			
1N979*	56	2.2	150.0	Add "A" Suffix—10%		
1N980*	62	2.0	185.0	2.35	2.00	1.75
1N981*	68	1.8	230.0			
1N982*	75	1.7	270.0	Add "B" Suffix—5%		
1N984*	91	1.4	400.0	2.95	2.55	2.20
1N985*	100	1.3	500.0	No Suffix—20%		
1N986*	110	1.1	750.0	2.60	2.25	1.95
1N987*	120	1.0	900.0			
1N988*	130	0.95	1100.0	Add "A" Suffix—10%		
1N989*	150	0.85	1500.0	3.00	2.60	2.25
1N990*	160	0.80	1700.0			
1N991*	180	0.68	2200.0	Add "B" Suffix—5%		
1N992*	200	0.65	2500.0	3.65	3.15	2.75

500 MW ZENER DIODES

Case 51 (DO-7) Plastic Molded

The JEDEC type numbers shown indicate a tolerance of 10% with guaranteed limits on Vz, Ir, and Vf. Units with guaranteed limits on Vz, Ir, Zzt, Zzx, and TC are indicated by suffix "A" for 10% tolerance and suffix "B" for 5% tolerance.

Type	Nominal Voltage Vz @ Izt Volts	Test Current Izt mA	Imped. Zzt @ Izt Ohms max	1-24	25-99	100-249	250-499	500-999	1K
1N5221	2.4	20.0	30.0						
1N5222	2.5	20.0	30.0						
1N5223	2.7	20.0	30.0						
1N5224	2.8	20.0	30.0						
1N5225	3.0	20.0	29.0						
1N5226	3.3	20.0	28.0	No Suffix—20%					
1N5227	3.6	20.0	24.0						
1N5228	3.9	20.0	23.0						
1N5229	4.3	20.0	22.0						
1N5230	4.7	20.0	19.0						
1N5231	5.1	20.0	17.0	.67	.60	.45	.43	.40	.38
1N5232	5.6	20.0	11.0						
1N5233	6.0	20.0	7.0						
1N5234	6.2	20.0	7.0						
1N5235	6.8	20.0	5.0						
1N5236	7.5	20.0	6.0	Add "A" Suffix—10%					
1N5237	8.2	20.0	8.0						
1N5238	8.7	20.0	8.0						
1N5239	9.1	20.0	10.0						
1N5240	10.0	20.0	17.0						
1N5241	11.0	20.0	22.0						
1N5242	12.0	20.0	30.0	.90	.80	.60	.57	.54	.51
1N5243	13.0	9.5	13.0						
1N5244	14.0	9.0	15.0						
1N5245	15.0	8.5	16.0						
1N5246	16.0	7.8	17.0						
1N5247	17.0	7.4	19.0	Add "B" Suffix—5%					
1N5248	18.0	7.0	21.0						
1N5249	19.0	6.6	23.0						
1N5250	20.0	6.2	25.0						
1N5251	22.0	5.6	29.0						
1N5252	24.0	5.2	33.0						
1N5253	25.0	5.0	35.0	1.05	.93	.70	.66	.63	.59
1N5254	27.0	4.6	41.0						
1N5255	28.0	4.5	44.0						
1N5256	30.0	4.2	49.0						
1N5257	33.0	3.8	58.0						
1N5258	36.0	3.4	70.0						
1N5259	39.0	3.2	80.0	No Suffix—20%					
1N5260	43.0	3.0	93.0						
1N5261	47.0	2.7	105.0	.90	.80	.60	.57	.54	.51
1N5262	51.0	2.5	125.0						
1N5263	56.0	2.2	150.0						
1N5264	60.0	2.1	170.0	Add "A" Suffix—10%					
1N5265	62.0	2.0	185.0						
1N5266	68.0	1.8	230.0	1.12	1.00	.75	.71	.67	.64
1N5267	75.0	1.7	270.0						
1N5268	82.0	1.5	330.0						
1N5269	87.0	1.4	370.0	Add "B" Suffix—5%					
1N5270	91.0	1.4	400.0						
1N5271	100.0	1.3	500.0	1.27	1.13	.85	.81	.76	.72

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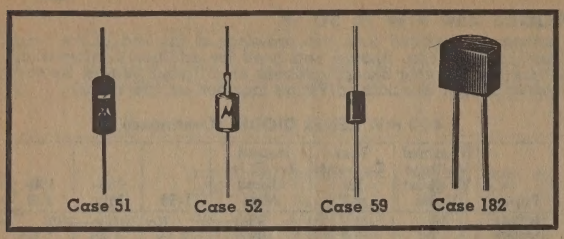
Motorola Zener Diodes



500 mW ZENER DIODES (Cont'd)

Type	Nominal Voltage Vz @ Izt Volts	Test Cur. Izt mA	Max. Imp. Zzt@Izt Ohms	1-24	25-99	100-249	250-499	500-999	1K
1N5274	130	0.95	1100			"A" Suffix 10%			
1N5275	140	0.90	1300						
1N5276	150	0.85	1500	1.50	1.33	1.00	.95	.90	.85
1N5277	160	0.80	1700						
1N5278	170	0.74	1900						
1N5279	180	0.68	2200			"B" Suffix 5%			
1N5280	190	0.66	2400						
1N5281	200	0.65	2500	1.65	1.46	1.10	1.04	.99	.93

500 mW ZENER DIODE UNIBLOC SILICON OXIDE PASSIVATED

Guaranteed limits on Vz, Ir, and Vf only on ± 20% units. In addition impedance (Zzt, Zzk) are guaranteed on a A(10%), B(5%), C(2%) and D(1%) units. C and D tolerances available on special order. Note: Vf = 1.5 max @ If=200 mA for all types.

MZ92-2.4	2.4	20	50						
MZ92-2.5	2.5	20	50						
MZ92-2.7	2.7	20	50						
MZ92-2.8	2.8	20	50						
MZ92-3.0	3.0	20	50						
MZ92-3.3	3.3	20	50						
MZ92-3.6	3.6	20	48			No Suffix 20%			
MZ92-3.9	3.9	20	40						
MZ92-4.3	4.3	20	25						
MZ92-4.7	4.7	20	19	.67	.60	.45	.43	.40	.38
MZ92-5.1	5.1	20	17						
MZ92-5.6	5.6	20	15						
MZ92-6.2	6.2	20	14						
MZ92-6.8	6.8	20	17						
MZ92-7.5	7.5	20	23						
MZ92-8.2	8.2	20	34			"A" Suffix 10%			
MZ92-8.7	8.7	20	44						
MZ92-9.1	9.1	20	50						
MZ92-10	10	20	62	.90	.80	.60	.57	.54	.51
MZ92-11	11	20	68						
MZ92-12	12	20	70						
MZ92-13	13	9.5	70						
MZ92-14	14	9.0	70						
MZ92-15	15	8.5	34						
MZ92-16	16	7.8	38			"B" Suffix 5%			
MZ92-17	17	7.4	42						
MZ92-18	18	7.0	48						
MZ92-19	19	6.6	52						
MZ92-20	20	6.2	57	1.05	.93	.70	.66	.63	.59
MZ92-22	22	5.6	68						
MZ92-24	24	5.2	78						
MZ92-25	25	5.0	85						
MZ92-27	27	4.6	98						
MZ92-28	28	4.5	105						
MZ92-30	20	4.2	117						
MZ92-33	33	3.8	140						
MZ92-36	36	3.4	160			20% No Suffix			
MZ92-39	39	3.2	190						
MZ92-43	43	3.0	225	.90	.80	.60	.57	.54	.51
MZ92-47	47	2.7	260						
MZ92-51	51	2.5	300						
MZ92-56	56	2.2	360			10% "A" Suffix			
MZ92-60	60	2.1	410						
MZ92-62	62	2.0	430	1.12	1.00	.75	.71	.67	.64
MZ92-68	68	1.8	520						
MZ92-75	75	1.7	600						
MZ92-82	82	1.5	700			5% "B" Suffix			
MZ92-87	87	1.4	780						
MZ92-91	91	1.4	840	1.27	1.13	.85	.81	.76	.72
MZ92-100	100	1.3	1000			20% No Suffix			
MZ92-110	110	1.1	1200	1.27	1.13	.85	.81	.76	72
MZ92-120	120	1.0	1400			10% "A" Suffix			
MZ92-130	130	0.95	1600	1.50	1.33	1.00	.95	.90	.85
MZ92-140	140	0.90	1800			5% "B" Suffix			
				1.65	1.46	1.10	1.04	.99	.93

500 MW UNIBLOC SILICON-OXIDE PASSIVATED (Cont'd.)

Type	Nominal Voltage Vz@Izt Volts	Test Current Izt mA	Imped Zzt@Izt Ohms Max.	1-24	25-99	100-249	250-499	500-Up	1K
MZ92-150	150	0.85	2100			20% No Suffix			
MZ92-160	160	0.80	2300	1.27	1.13	.85	.81	.76	.72
MZ92-170	170	0.74	2600			10% "A" Suffix			
MZ92-180	180	0.68	2900	1.50	1.33	1.00	.95	.90	.85
MZ92-190	190	0.66	3200			5% "B" Suffix			
MZ92-200	200	0.65	3500	1.65	1.46	1.10	1.04	.99	.93

1.0 WATT SUMERIC ZENER DIODE-CASE 59 (DO-4)

Type	Nominal Voltage Vz @ Izt Volts	Test Current Izt mA	Max. Imped. Zzt @ Izt Ohms	1-99	100-Mix	100-999
1N4728	3.3	76	10	1.26	1.09	
1N4729	3.6	69	10	1.26	1.09	
1N4730	3.9	64	9.0	1.26	1.09	
1N4731	4.3	58	9.0	1.26	1.09	
1N4732	4.7	53	8.0	1.26	1.09	
1N4733	5.1	49	7.0	1.26	1.09	
1N4734	5.6	45	5.0	1.26	1.09	
1N4735	6.2	41	2.0	1.26	1.09	
1N4736	6.8	37	3.5	1.26	1.09	
1N4737	7.5	34	4.0	1.26	1.09	
1N4738	8.2	31	4.5			
1N4739	9.1	28	5.0			
1N4740	10	25	7.0			
1N4741	11	23	8.0			
1N4742	12	21	9.0			
1N4743	13	19	10		No Suffix 10%	
1N4744	15	17	14			
1N4745	16	15.5	16			
1N4746	18	14	20			
1N4747	20	12.5	22	1.26	1.09	.95
1N4748	22	11.5	23			
1N4749	24	10.5	25			
1N4750	27	9.5	35			
1N4751	30	8.5	40			
1N4752	33	7.5	45			
1N4753	36	7.0	50			
1N4754	39	6.5	60			
1N4755	43	6.0	70			
1N4756	47	5.5	80			
1N4757	51	5.0	95			
1N4758	56	4.5	110		"A" Suffix 5%	
1N4759	62	4.0	125			
1N4760	68	3.7	150			
1N4761	75	3.3	175			
1N4762	82	3.0	200	1.93	1.66	1.45
1N4763	91	2.8	250			
1N4764	100	2.5	350			
1M110ZS10	110	2.3	450			
1M120ZS10	120	2.0	550			
1M130ZS10	130	1.9	700			
1M150ZS10	150	1.7	1000			
1M160ZS10	160	1.6	1100		No Suffix 10%	
1M180ZS10	180	1.4	1200	2.26	1.95	1.70
1M200ZS10	200	1.2	1500			

1 WATT DIFFUSED ZENER DIODES—Case 52

All types available as Military and Meg-a-life 11 units except (*). Reverse polarity types available—add suffix "R" to type number.

1N3821*	3.3	76	10		No Suffix 10%	
1N3822*	3.6	69	10			
1N3823*	3.9	64	9.0	2.10	1.85	1.60
1N3824*	4.3	58	9.0			
1N3825*	4.7	53	8.0			
1N3826*	5.1	49	7.0		"A" Suffix 5%	
1N3827*	5.6	45	5.0			
1N3828*	6.2	41	2.0			
1N3829	6.8	37	1.5	2.65	2.30	2.00
1N3830	7.5	34	1.5			

Continued on next page

LARGER QUANTITY PRICES AVAILABLE ON REQUEST

IT IS OUR POLICY TO SELL AT THE MANUFACTURER'S ESTABLISHED OEM PRICE SCHEDULE IN EFFECT AT ORDER TIME WHICH MAY BE DIFFERENT THAN PRICES IN EFFECT AT PUBLISHING TIME.

1 WATT DIFFUSED ZENER DIODE — (Cont'd.)

Type	Nominal Voltage Vz@Izt Volts	Test Current Izt mA	Max Imped. Zzt@Izt Ohms	1-99	100-MIX	100-999
1N3016	6.8	37	3.5			
1N3017	7.5	34	4.0			
1N3018	8.2	31	4.5	NO SUFFIX 20%		
1N3019	9.1	28	5.0			
1N3020	10	25	7.0	2.85	2.45	2.15
1N3021	11	23	8.0			
1N3022	12	21	9.0			
1N3023	13	19	10	"A" SUFFIX 10%		
1N3024	15	17	14			
1N3025	16	15.5	16	3.20	2.75	2.40
1N3026	18	14.0	20			
1N3027	20	12.5	22			
1N3028	22	11.5	23	"B" SUFFIX 5%*		
1N3029	24	10.5	25			
1N3030	27	9.5	35	3.70	3.20	2.80
1N3031	30	8.5	40			
1N3032	33	7.5	45			
1N3033	36	7.0	50			
1N3034	39	6.5	60			
1N3035	43	6.0	70			
1N3036	47	5.5	80			
1N3037	51	5.0	95	NO SUFFIX 20%		
1N3038	56	4.5	110			
1N3039	62	4.0	125	2.95	2.55	2.20
1N3040	68	3.7	150			
1N3041	75	3.3	175			
1N3042	82	3	200	"A" SUFFIX 10%		
1N3043	91	2.8	250			
1N3044	100	2.5	350	3.25	2.80	2.45
1N3045	110	2.3	450			
1N3046	120	2	550			
1N3047	130	1.9	700	"B" SUFFIX 5%*		
1N3048	150	1.7	1000			
1N3049	160	1.6	1100	4.65	4.05	3.50
1N3050	180	1.4	1200			
1N3051	200	1.2	1500			

*Also available in MIL types.

1.5 WATT DIFFUSED ZENER DIODES—Case 55

1N3785	6.8	55	2.7			
1N3786	7.5	50	3			
1N3787	8.2	46	3.5			
1N3788	9.1	41	4.0			
1N3789	10	37	5			
1N3790	11	34	6	NO SUFFIX 20%		
1N3791	12	31	7			
1N3792	13	29	8	3.75	3.20	2.80
1N3793	15	25	10			
1N3794	16	23	11			
1N3795	18	21	13	"A" SUFFIX 10%		
1N3796	20	19	15			
1N3797	22	17	16	5.30	4.60	4.00
1N3798	24	16	17			
1N3799	27	14	20			
1N3800	30	12	25	"B" SUFFIX 5%		
1N3801	33	11	30			
1N3802	36	10	35	6.95	6.00	5.25
1N3803	39	10	40			
1N3806	51	7.4	65			
1N3807	56	6.7	75			
1N3808	62	6.0	85			
1N3810	75	5.0	110			
1N3813	100	3.7	200			
1N3814	110	3.4	300			
1N3816	130	2.9	400	4.75	4.10	3.55
1N3820	200	1.9	1000			

5 WATT ZENER DIODES — CASE 17

1N5333	3.3	380	3.0			
1N5334	3.6	350	2.5			
1N5335	3.9	320	2.0			
1N5336	4.3	290	2.0	NO SUFFIX 20%		
1N5337	4.7	260	2.0			
1N5338	5.1	240	1.5	2.20	1.90	1.65
1N5339	5.6	220	1.0			
1N5340	6.0	200	1.0			
1N5341	6.2	200	1.0			
1N5342	6.8	175	1.0	"A" SUFFIX 10%		
1N5343	7.5	175	1.5			
1N5344	8.2	150	1.5	2.20	1.90	1.65
1N5345	8.7	150	2.0			
1N5346	9.1	150	2.0			
1N5347	10	125	2.0			
1N5348	11	125	2.5	"B" SUFFIX 5%		
1N5349	12	100	2.5			
1N5350	13	100	2.5	2.45	2.10	1.85
1N5351	14	100	2.5			
1N5352	15	75	2.5			
1N5353	16	75	2.5			
1N5354	17	70	2.5			

Continued next column

Case 17

Case 55

Case 56

5 WATT ZENER DIODES — (Cont'd.)

Type	Nominal Voltage Vz@Izt mA	Current Izt mA	Max Imped. Zzt @ Izt Ohms	1-99	100-Mix	100-999
1N5355	18	65	2.5			
1N5356	19	65	3.0			
1N5357	20	65	3.0	NO SUFFIX 20%		
1N5358	22	30	3.5			
1N5359	24	50	3.5	2.20	1.90	1.65
1N5360	25	50	4.0			
1N5361	27	50	5.0			
1N5362	28	50	6.0			
1N5363	30	40	8.0			
1N5364	33	40	10			
1N5365	36	30	11	ADD "A" SUFFIX 10%		
1N5366	39	30	14			
1N5367	43	30	20	2.20	1.90	1.65
1N5368	47	25	25			
1N5369	51	25	27			
1N5370	56	20	35			
1N5371	60	20	40			
1N5372	62	20	42			
1N5373	68	20	44	ADD "B" SUFFIX 5%		
1N5374	75	20	45			
1N5375	82	15	65	2.45	2.10	1.85
1N5376	87	15	75			
1N5377	91	15	75			
1N5378	100	12	90			
1N5379	110	12	125	NO SUFFIX 20%		
1N5380	120	10	170	2.60	2.25	1.95
1N5381	130	10	190			
1N5382	140	8.0	230	ADD "A" SUFFIX 10%		
1N5383	150	8.0	330	2.60	2.25	1.95
1N5384	160	8.0	350			
1N5385	170	8.0	380			
1N5386	180	5.0	430	ADD "B" SUFFIX 5%		
1N5387	190	5.0	450	2.85	2.50	2.15
1N5388	200	5.0	480			

10 WATT DIFFUSED ZENER DIODES — Case 56

Reverse polarity types available — add "R" to type number. Military and Meg-a-life units available. Military and Meg-a-life units available on 5% units.

1N3993	3.9	640	2	NO SUFFIX 10%		
1N3994	4.3	580	1.5			
1N3995	4.7	530	1.2	5.65	4.90	4.25
1N3996	5.1	490	1.1			
1N3997	5.6	445	1	ADD "A" SUFFIX 5%		
1N3998	6.2	405	1.1			
1N3999	6.8	370	1.2	7.70	6.65	5.80
1N4000	7.5	335	1.3			
1N2970	6.8	370	1.2	NO SUFFIX 20%		
1N2972	8.2	305	1.5			
1N2973	9.1	275	2.0	5.45	4.70	4.10
1N2974	10	250	3.0			
1N2975	11	230	3.0	ADD "A" SUFFIX 10%		
1N2976	12	210	3.0			
1N2977	13	190	3.0	5.85	5.05	4.40
1N2979	15	170	3.0			
1N2980	16	155	4.0	ADD "B" SUFFIX 5%		
1N2982	18	140	4.0			
1N2984	20	125	4.0			
1N2985	22	115	5.0			
1N2986	24	105	5.0	7.30	6.30	5.50
1N2988	27	95	7.0			
1N2989	30	85	8.0			
1N2990	33	75	9.0			
1N2991	36	70	10			
1N2992	39	65	11			
1N2993	43	60	12			
1N2995	47	55	14			
1N3000	62	40	17			
1N3001	68	37	18			
1N3002	75	33	22			
1N3003	82	30	25			
1N3004	91	28	35			
1N3005	100	25	40			
1N3007	110	23	55			
1N3008	120	20	75			
1N3009	130	19	100			
1N3011	150	17	175			

Motorola Zener and Reference Diodes

50 WATT DIFFUSED ZENER DIODES—Case 54 & 58

Reverse polarity types available — add "R" suffix to type number.
*Military and Meg-a-life units available.

Type Case 54	Type Case 58	Nominal Voltage Vz@Izt Volts	Test Current Izt mA	Max Imped. Zzt @ Izt Ohms	1-99	100-Mix	100-999
1N4557	1N4549	3.9	3200	0.16			
1N4558	1N4550	4.3	2900	0.16			
1N4559	1N4551	4.7	2650	0.12	No Suffix 20%		
1N4560	1N4552	5.1	2450	0.12			
1N4561	1N4553	5.6	2250	0.12	6.05	5.25	4.55
1N4562	1N4554	6.2	2000	0.14			
1N4563	1N4555	6.8	1850	0.16			
1N4564	1N4556	7.5	1650	0.24			
1N2804*	1N3305	6.8	1850	0.20	Add "A" Suffix 10%		
1N2805*	1N3306	7.5	1700	0.3			
1N2806*	1N3307	8.2	1500	0.4			
1N2808*	1N3308	9.1	1370	0.5	8.00	6.90	6.00
1N2809*	1N3309	10	1200	0.6			
1N2810*	1N3310	11	1100	0.8			
.....	1N3311	12	1000	1.0	Add "B" Suffix 5%		
1N2811*	1N3312	13	960	1.1			
1N2812	1N3313	14	890	1.2			
1N2813*	1N3314	15	830	1.4	11.50	9.95	8.65
1N2814*	1N3315	16	780	1.6			
1N2815	1N3316	17	740	1.8			
1N2816*	1N3317	18	700	2.0			
1N2817	1N3318	19	660	2.2			
1N2818*	1N3319	20	630	2.4			
1N2819*	1N3320	22	570	2.5	No Suffix 20%		
1N2820*	1N3321	24	520	2.6			
1N2821	1N3322	25	500	2.7			
1N2822*	1N3323	27	460	2.8	5.65	4.90	4.25
1N2823*	1N3324	30	420	3.0			
1N2824*	1N3325	33	380	3.2			
1N2825*	1N3326	36	350	3.5	Add "A" Suffix 10%		
1N2826*	1N3327	39	320	4.0			
1N2827*	1N3328	43	290	4.5			
1N2828	1N3329	45	280	4.5	7.65	6.60	5.75
1N2829*	1N3330	47	270	5.0			
1N2830	1N3331	50	250	5.0			
1N2831*	1N3332	51	245	5.2			
1N2832*	1N3334	56	220	6.0	Add "B" Suffix 5%		
1N2833*	1N3335	62	200	7.0			
1N2834*	1N3336	68	180	8.0			
1N2835*	1N3337	75	170	9.0	10.65	9.20	8.00
1N2836*	1N3338	82	150	11			
1N2837*	1N3339	91	140	15			
1N2838*	1N3340	100	120	20			
1N2839	1N3341	105	120	25	No Suffix 20%		
1N2840*	1N3342	110	110	30	6.80	5.85	5.10
1N2841*	1N3343	120	80	40			
1N2842*	1N3344	130	68	50	Add "A" Suffix 10%		
1N2843*	1N3346	150	65	75	11.30	9.75	8.50
1N2844*	1N3347	160	100	80			
1N2845*	1N3349	180	95	90	Add "B" Suffix 5%		
1N2846*	1N3350	200	85	100	17.95	15.50	13.50

400 MILLIWATT ZENER REFERENCE DIODES—CASE 51

Max Ta=25°C; Tj & Tstg=175°C Max; Ir=0.10 uA max @ Vr=4.0V.

Type	Vf@If Volts min/max.	mA	1-99	100-Mix	100-999
1N816/ .4M64FR10	0.58/0.70	1.0	.33	.....	.25
.4M1.36FR5	1.29/1.43	10	1.66	1.44	1.25
.4M1.36FR2	1.33/1.39	10	2.30	2.00	1.75
.4M2.04FR5	1.64/2.14	10	2.40	2.05	1.80
.4M.204FR2	2.00/2.08	10	3.05	2.65	2.30

400 MILLIWATT ZENER REFERENCE DIODES—CASE 51

Temperature compensated silicon reference diodes. Vz variation holds over entire specified temperature range.
*Available as Mil. and Meg-A-Life Units.

Type	△Vz @ Test Temperature Volts	°C	1-24	25-99	100-Mix	100-Up
Vz = 6.2 volts ±5% (Izt = 7.5 mA)						
1N821*	0.096		2.75	2.35	2.10	1.90
1N823*	0.048	—55, 0,	3.60	3.10	2.75	2.50
1N825*	0.019	+25, +75	5.80	5.00	4.40	4.00
1N827*	0.009	+100	10.85	9.35	8.25	7.50
1N829*	0.005		16.30	14.05	12.35	11.25
1N821A	0.096		3.05	2.60	2.30	2.10
1N823A	0.048	—55, 0,	3.90	3.35	2.95	2.70
1N825A	0.019	+25, +75	6.50	5.60	4.95	4.50
1N827A	0.009	+100	13.05	11.25	9.90	9.00
1N829A	0.005		19.55	16.85	14.85	13.50

400 MILLIWATT ZENER REFERENCE DIODES (Cont'd.)

Type	△Vz @ Test Temperature Volts	°C	1-99	100-Mix	100-999
Vz = 6.4 Volts ± 5% (Izt = 0.5 mA)					
1N4565	0.048		8.65	7.45	6.50
1N4566	0.024		11.70	10.10	8.80
1N4567	0.010	0, +25	23.80	20.60	17.90
1N4568	0.005	+75	41.10	35.55	30.90
1N4569	0.002		89.50	77.40	67.30
1N4565A	0.099		9.70	8.40	7.30
1N4566A	0.050	—55, 0	13.05	11.25	9.80
1N4567A	0.020	+25, +75	26.45	22.90	19.90
1N4568A	0.010	+100	45.75	39.55	34.40
1N4569A	0.005		99.50	86.00	74.80
Vz = 6.4 Volts ± 5% (Izt = 1.0 mA)					
1N4570	0.048		5.85	5.05	4.40
1N4571	0.024		7.30	6.30	5.50
1N4572	0.010	0, +25	13.25	11.45	9.95
1N4570A	0.099		6.50	5.65	4.90
1N4571A	0.050	—55, 0	8.10	7.00	6.10
1N4572A	0.020	+25, +75	14.75	12.75	11.10
Vz = 6.4 Volts ±5% (Izt = 2.0 mA)					
1N4575	0.048		3.00	2.60	2.25
1N4576	0.024		3.65	3.15	2.75
1N4577	0.010	1, +25	6.60	5.70	4.95
1N4578	0.005	+75	12.15	10.50	9.15
1N4579	0.002		28.25	24.45	21.25
1N4575A	0.099		3.30	2.85	2.50
1N4576A	0.050	—55, 0	4.05	3.50	3.05
1N4577A	0.020	+25, +75	7.30	6.30	5.50
1N4578A	0.010	+100	13.50	11.65	10.15
1N4579A	0.005		31.40	27.15	23.60
Vz = 6.4 Volts ± 5% (Izt = 4.0 mA)					
1N4580	0.048		3.00	2.60	2.25
1N4581	0.024		3.65	3.15	2.75
1N4582	0.010	0, +25	6.60	5.70	4.95
1N4583	0.005	+75	12.15	10.50	9.15
1N4584	0.002		28.25	24.45	21.25
1N4580A	0.099		3.30	2.85	2.50
1N4581A	0.050	—55, 0	4.05	3.50	3.05
1N4582A	0.020	+25, +75	7.30	6.30	5.50
1N4583A	0.010	+100	13.50	11.65	10.60
1N4584A	0.005		31.40	27.15	23.60

400 MILLIWATT LOW NOISE DIODES CASE 51

Type	△Vz.@ Volts Max.	Test Temperature °C	1-99	100-Mix	100-Up
Vz = 12.8 Volts ±5% (Izt = 1.0 mA) Nd = 0.4 μV-√Hz					
1N4900	0.096		10.50	9.10	7.90
1N4901	0.048	+25,	13.15	11.40	9.90
1N4902	0.019	+75,	23.80	20.60	17.90
1N4903	0.010	+100	43.75	37.85	32.90
1N4900A	0.198		11.70	10.10	8.80
1N4901A	0.099	—55	14.65	12.65	11.00
1N4902A	0.040	0, +25,	26.60	23.00	20.00
1N4903A	0.020	+75, +100	48.65	42.10	36.60
Vz = 12.8 Volts ± 5% (Izt = 2.0 mA) Nd = 0.25 μV-√ Hz					
1N4904	0.096		5.40	4.65	4.05
1N4905	0.048	+25,	6.60	5.70	4.95
1N4906	0.019	+75,	11.85	10.25	8.92
1N4907	0.010	+100	21.85	18.90	16.45
1N4904A	0.198		6.00	5.15	4.50
1N4905A	0.099	—55	7.20	6.20	5.41
1N4906A	0.040	0, +25,	13.15	11.40	9.90
1N4907A	0.020	+75, +100	24.35	21.05	18.30
Vz = 12.8 Volts ± 5% (Izt = 4.0 mA) Nd = 0.22 μV-√ Hz					
1N4908	0.096		5.40	4.65	4.05
1N4909	0.048	+25,	6.60	5.70	4.95
1N4910	0.019	+75,	11.85	10.25	8.90
1N4911	0.010	+100	19.75	17.05	14.85
1N4908A	0.198		6.00	5.15	4.50
1N4909A	0.099	—55	7.20	6.20	5.40
1N4910A	0.040	0, +25,	13.15	11.40	9.90
1N4911A	0.020	+75, +100	22.00	19.05	16.55
Vz = 12.8 Volts ±5% (Izt = 7.5 mA) Nd = 0.20 μV-√Hz					
1N4912	0.096		6.00	5.15	4.50
1N4913	0.048	+25,	7.20	6.20	5.41
1N4914	0.019	+75,	13.15	11.40	9.90
1N4915	0.010	+100	21.95	18.95	16.50
1N4912A	0.198		10.15	8.80	7.65
1N4913A	0.099	—55	13.15	11.40	9.90
1N4914A	0.040	0, +25,	20.20	17.50	15.20
1N4915A	0.020	+75, +100	29.40	25.40	22.10

Motorola Zener, Regulator and Reference Diodes

400 MILLIWATT-LOW NOISE (Continued)

Type	△Vz. @ Test Volts Max.	Temperature °C	1-99	100-Mix	100-Up
Vz = 19.2 Volts ±5% (Izt = 0.5 mA) Nd = 1.0 μV-√Hz					
1N4916	0.144	+25,	20.75	17.95	15.60
1N4917	0.072	+75,	28.05	24.25	21.10
1N4918	0.029	+100	57.20	49.45	43.00
1N4916A	0.298	−55	23.25	20.10	17.50
1N4917A	0.149	0, +25,	31.25	27.00	23.50
1N4918A	0.060	+75, +100	63.45	54.85	47.70
Vz = 19.2 Volts ±5% (Izt = 1.0 mA) Nd = 0.5 μV-√Hz					
1N4919	0.144	+25,	14.05	12.15	10.55
1N4920	0.072	+75,	17.55	15.20	13.20
1N4921	0.029	+100	31.80	27.50	23.90
1N4919A	0.298	−55	15.60	13.50	11.75
1N4920A	0.149	0, +25,	19.40	16.80	14.60
1N4921A	0.060	+75, +100	35.35	30.60	26.60
Vz = 19.2 Volts ±5% (Izt = 2.0 mA) Nd = 0.25 μ-√Hz					
1N4922	0.144	+25,	7.20	6.20	5.40
1N4923	0.072	+75,	8.75	7.60	6.60
1N4924	0.029	+100	15.80	13.80	11.90
1N4922A	0.298	−55	8.00	6.90	6.00
1N4923A	0.149	0, +25,	9.55	8.30	7.20
1N4924A	0.060	+75, +100	17.55	15.20	13.20
Vz = 19.2 Volts ±5% (Izt = 4.0 mA) Nd = 0.22					
1N4925	0.144		7.20	6.20	5.40
1N4926	0.072	+25,	8.75	7.60	6.60
1N4927	0.029	+75,	15.80	13.70	11.90
1N4928	0.014	+100	26.35	22.75	19.80
1N4925A	0.298		8.00	6.90	6.00
1N4926A	0.149	−55	9.55	8.30	7.20
1N4927A	0.060	0, +25,	17.55	15.20	13.20
1N4928A	0.030	+75, +100	29.40	25.40	22.10
Vz = 19.2 Volts ±5% (Izt = 7.5 mA) Nd = 0.20					
1N4929	0.144		8.10	7.00	6.10
1N4930	0.072	+25,	9.70	8.40	7.30
1N4931	0.029	+75,	17.80	15.40	13.40
1N4932	0.014	+100	29.40	25.40	22.10
1N4929A	0.298		13.75	11.90	10.35
1N4930A	0.149	−55	17.80	15.40	13.40
1N4931A	0.060	0, +25,	26.85	23.25	20.20
1N4932A	0.030	+75, +100	39.10	33.80	29.40

500 MILLIWATT—Case 51

Vz = 9.0 Volts ±5% (Izt = 7.5 mA)

Type	△Vz @ Max	Test Temperature °C	1-24	25-99	100-MIX	100-999
1N935	0.067		2.30	2.00	1.75	1.60
1N936	0.033		2.75	2.35	2.10	1.90
1N937	0.013	0, +25,	5.35	4.60	4.05	3.70
1N938	0.006	+75	6.95	6.00	5.30	4.80
1N935A	0.139		2.60	2.25	2.00	1.80
1N936A	0.069	−55, 0,	3.55	3.05	2.70	2.45
1N937A	0.027	+25, +75,	6.15	5.30	4.65	4.25

Vz = 9.0 Volts ±5% (Izt = 7.5 mA)

Type	△Vz.@ Volts Max.	Test Temperature °C	1-24	25-99	100-MIX	100-999
1N938A	0.013	+100	7.55	6.50	5.70	5.20
1N935B*	0.184		3.55	3.05	2.70	2.45
1N936B	0.092	−55, 0,	4.20	3.60	3.20	2.90
1N937B*	0.037	+25, +75,	7.10	6.10	5.40	4.90
1N938B*	0.018	+100, +150	10.00	8.60	7.60	6.90

Vz = 11.7 Volts +5% (Izt = 7.5 mA)

1N941	0.088		3.20	2.75	2.40	2.20
1N942	0.044	0, +25,	3.50	3.00	2.65	2.40
1N943	0.018	+75	6.90	5.95	5.20	4.75
1N944	0.009		10.15	8.75	7.70	7.00
1N941A	0.181	−55, 0,	3.40	2.90	2.55	2.34
1N942A	0.090	+25, +75,	4.35	3.75	3.30	3.00
1N944A	0.018	+100	13.05	11.25	9.90	9.00
1N941B	0.239	−55, 0	3.60	3.10	2.75	2.50
1N942B	0.120	+25, +75	4.95	4.25	3.75	3.40
1N944B	0.024	+100, +150	17.30	14.95	13.15	11.95

***Available as Jan/JANTX and "Meg-A-Life" 11" devices.**

750 MILLWATT—Case 52

Vz = 9.3 Volts ±5% (Izt = 10 mA)

Type	△Vz Volts Max.	Test Temperature °C	1-99	100-Mix	100-999
1N2620	0.070		4.10	3.55	3.05
1N2621	0.035		4.60	3.95	3.45
1N2622	0.014	0, +25,	7.60	6.55	5.70
1N2623	0.007	+75	8.80	7.60	6.60
1N2620A	0.144	−55, 0, +25, +75, +100	4.35	3.75	3.25

REGULATOR DIODES

Current Regulator Diodes — Case 51

Type	Regulator Current Ip @ Vt=25 V Nom nA	1-24	25-99	100-MIX	100-999
1N5283	0.22				
1N5284	0.24				
1N5285	0.27				
1N5286	0.30				
1N5287	0.33				
1N5288	0.39				
1N5289	0.43				
1N5290	0.47				
1N5291	0.56				
1N5292	0.62				
1N5293	0.68				
1N5294	0.75				
1N5295	0.82				
1N5296	0.91				
1N5297	1.00				
1N5298	1.10	4.45	3.90	3.40	2.95
1N5299	1.20				
1N5300	1.30				
1N5301	1.40				
1N5302	1.50				
1N5303	1.60				
1N5304	1.80				
1N5305	2.00				
1N5306	2.20				
1N5307	2.40				
1N5308	2.70				
1N5309	3.00				
1N5310	3.30				
1N5311	3.60				
1N5312	3.90				
1N5313	4.30				
1N5314	4.70				

LOW VOLTAGE AVALANCHE ZENER DIODES—Case 51

The JEDEC type numbers shown are ±20%, with guaranteed limits for only Vz, Ir, and Vf. Units with "A" suffix are ±10% with guaranteed limits for Vz, Ir, and Vf. Units with guaranteed limits for all six parameters are indicated by a "B" suffix for ±5% units.

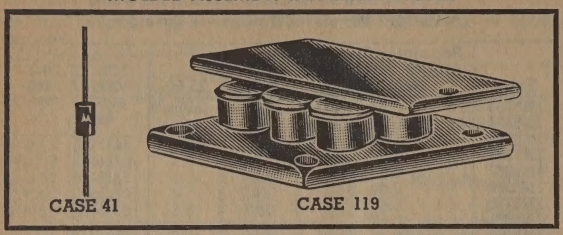
(Vf = 1.1 max@If = 200 mA for all types)

Type	Nominal Voltage Vz@Izt Volts	Test Current Izt mA	Imped. Zzt@Izt Ohms max	1-99	100-Mixed	100-999
1N5518	3.3	20	26			
1N5519	3.6	20	24	No Suffix ±20%		
1N5520	3.9	20	22			
1N5521	4.3	20	18	2.95	2.55	2.25
1N5522	4.7	10	22			
1N5523	5.1	5.0	26			
1N5524	5.6	3.0	30	"A" Suffix ±10%		
1N5525	6.2	1.0	30			
1N5526	6.8	1.0	30	2.95	2.55	2.25
1N5527	7.5	1.0	35			
1N5528	8.2	1.0	40			
1N5529	9.1	1.0	45	"B" Suffix		
1N5530	10.0	1.0	60			
1N5531	11.0	1.0	80	4.20	3.60	3.15
1N5532	12.0	1.0	90			
1N5533	13.0	1.0	90			
1N5534	14.0	1.0	100	"B" Suffix ±5%		
1N5535	15.0	1.0	100			
1N5536	16.0	1.0	100	2.95	2.55	2.25
1N5537	17.0	1.0	100			
1N5538	18.0	1.0	100			
1N5539	19.0	1.0	100	"A" Suffix		
1N5540	20.0	1.0	100			
1N5541	22.0	1.0	100	2.95	2.55	2.25
1N5542	24.0	1.0	100			
1N5543	25.0	1.0	100			
1N5544	28.0	1.0	100	"B" Suffix		
1N5545	30.0	1.0	100			
1N5546	33.0	1.0	100	4.20	3.60	3.15

Newark Electronics offers our customers special testing, selection and matching on all semiconductors. We can provide on short notice components to fit your special tolerance requirements. Be sure to contact your nearest Newark representative for his quotation on this fast-delivery service.

Motorola Diodes & Transient Suppressors

MOLDED ASSEMBLY REFERENCE DIODES



CASE 41 CASE 119

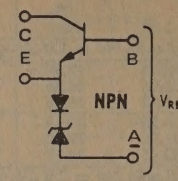
Type	Vz @ Izt Volts	mA	△Vz @ Izt (+25, +100°C)	△Vz (—55, +25°C)	1-99	100-Mix	100-Up
CASE 41-8							
1N4057	12.4	10	0.047	0.050	5.90	5.10	4.45
1N4057A	12.4	10	0.019	0.020	7.10	6.15	5.35
1N4058	14.6	10	0.055	0.058	6.40	5.50	4.80
1N4058A	14.6	10	0.022	0.023	10.75	9.30	8.10
1N4059	16.8	10	0.063	0.067	7.20	6.20	5.40
1N4059A	16.8	10	0.025	0.027	8.55	7.40	6.45
1N4060	18.5	10	0.069	0.074	7.70	6.65	5.80
1N4060A	18.5	10	0.028	0.030	9.25	8.00	6.95
1N4061	21	10	0.079	0.084	8.95	7.75	6.75
1N4061A	21	10	0.032	0.034	10.75	9.30	8.10
1N4062	23	10	0.086	0.092	9.70	8.40	7.30
1N4062A	23	10	0.035	0.037	11.70	10.10	8.80
1N4063	27	10	0.108	0.101	10.75	9.30	8.10
1N4063A	27	10	0.043	0.041	12.90	11.15	9.70
1N4064	30	10	0.120	0.113	12.05	10.40	9.05
1N4064A	30	10	0.048	0.045	14.45	12.45	10.85
1N4065	33	10	0.132	0.124	12.75	11.05	9.60
1N4065A	33	10	0.053	0.050	15.35	13.30	11.55
1N4066	37	7.5	0.148	0.139	13.55	11.75	10.20
1N4066A	37	7.5	0.059	0.056	16.30	14.10	12.25
1N4067	43	7.5	0.172	0.161	14.80	12.80	11.15
1N4067A	43	7.5	0.069	0.065	17.80	15.40	13.40
1N4068	47	7.5	0.188	0.176	15.90	13.75	11.95
1N4068A	47	7.5	0.075	0.071	19.00	16.45	14.30
CASE 41-9							
1N4069	51	7.5	0.204	0.191	17.95	15.50	13.50
1N4069A	51	7.5	0.082	0.077	21.55	18.65	16.20
1N4070	56	7.5	0.224	0.210	19.70	17.00	14.80
1N4070A	56	7.5	0.090	0.084	23.60	20.40	17.75
1N4071	62	7.5	0.248	0.232	22.35	19.30	16.80
1N4071A	62	7.5	0.099	0.093	26.80	23.15	20.15
1N4072	68	5.0	0.272	0.255	23.15	20.00	17.40
1N4072A	68	5.0	0.109	0.102	27.65	23.90	20.80
1N4073	75	5.0	0.300	0.281	25.25	21.85	19.00
1N4073A	75	5.0	0.120	0.113	30.30	26.20	22.80
1N4074	82	5.0	0.323	0.307	27.25	23.55	20.50
1N4074A	82	5.0	0.131	0.123	32.70	28.30	24.60
1N4075	87	5.0	0.348	0.326	28.85	24.95	21.70
1N4075A	87	5.0	0.139	0.131	34.60	29.90	26.00
1N4076	91	5.0	0.364	0.341	30.30	26.20	22.80
1N4076A	91	5.0	0.146	0.137	36.35	31.45	27.35
1N4077	100	5.0	0.400	0.375	33.25	28.75	25.00
1N4077A	100	5.0	0.160	0.150	39.90	34.50	30.00
1N4078	105	2.5	0.420	0.394	34.90	30.20	26.25
1N4078A	105	2.5	0.168	0.158	41.90	36.20	31.50
1N4079	110	2.5	0.440	0.413	36.85	31.85	27.70
1N4079A	110	2.5	0.176	0.165	44.15	38.20	33.20
1N4080	120	2.5	0.480	0.450	39.90	34.50	30.00
1N4080A	120	2.5	0.192	0.180	47.90	41.40	36.00
CASE 41-10							
1N4081	130	2.5	0.520	0.488	42.40	36.70	31.90
1N4081A	130	2.5	0.208	0.195	50.85	44.00	38.25
1N4082	140	2.5	0.560	0.525	45.75	39.55	34.40
1N4082A	140	2.5	0.224	0.210	54.85	47.45	41.25
1N4083	150	2.5	0.600	0.563	49.85	43.10	37.50
1N4083A	150	2.5	0.240	0.225	59.85	51.75	45.00
1N4084	175	2.5	0.700	0.656	57.05	49.35	42.90
1N4084A	175	2.5	0.280	0.263	68.40	59.15	51.45
1N4085	200	2.5	0.800	0.750	63.95	55.30	48.10
1N4085A	200	2.5	0.320	0.300	76.75	66.35	57.70

TRANSIENT SUPPRESSORS CASE 119

PD=350 W max @ Tc ± 25°C, Tj ± 175°C. Ir (max)=50uA.

Type	Vop (pk) Volts (dc)	Vz (max) / Vz (min)	Vz (max) VDC	@ Iz ADC	1-99	100-Mix	100-999
MPZ5-16A*	14	1.25	24	200	24.75	21.40	18.60
MPZ5-16B*	14	1.25	20	200	44.30	38.30	33.30
MPZ5-32A*	28	1.25	50	100	17.70	15.30	13.30
MPZ5-32B	28	1.25	45	100	26.45	22.90	19.90
MPZ5-32C*	28	1.25	40	100	44.30	38.30	33.30
MPZ5-180A*	165	1.14	250	20	26.45	22.90	19.90
MPX5-180B*	165	1.14	225	20	44.30	38.30	33.30
MPZ5-180C*	165	1.14	205	20	61.85	53.45	46.50

REFERENCE AMPLIFIERS



For use in regulated power supplies as a combination voltage reference element and error voltage amplifier.

REFERENCE AMPLIFIERS CASE 212

Iz=20mA; Ic=20mA; Vceo=30V; Tj, Tstg=—65 to +175°C; Izt=5.0mA

Type	Vref Volts	△ Vref @ Test Volts	°C	1-99	100-Up
MCA1911	6.8	0.051		4.50	3.00
MCA1912	6.8	0.025	0, +25, +75	7.95	5.30
MCA1913	6.8	0.010		14.10	9.40
MCA1914	6.8	0.005		23.40	15.60
MCA1921	6.8	0.105		7.95	5.30
MCA1922	6.8	0.052	—55, 0, +25,	14.10	9.40
MCA1923	6.8	0.020	+75, +100	22.50	15.00
MCA1924	6.8	0.010		45.00	29.00
MCA1931	6.8	0.139		8.25	5.50
MCA1932	6.8	0.069	—55, 0, +25,	14.10	9.40
MCA1933	6.8	0.026	+75, +100,	23.40	15.60
MCA1934	6.8	0.013	+150	49.50	33.00
MCA2011	8.6	0.060		4.50	3.00
MCA2012	8.6	0.030	0, +25, +75	7.95	5.30
MCA2013	8.6	0.012		14.10	9.40
MCA2014	8.6	0.006		23.40	15.60
MCA2021	8.6	0.124		7.95	5.30
MCA2022	8.6	0.062	—55, 0, +25	14.10	9.40
MCA2023	8.6	0.024	+75, +100	22.50	15.00
MCA2024	8.6	0.012		45.00	29.00
MCA2031	8.6	0.164		8.25	5.50
MCA2032	8.6	0.082	—55, 0, +25,	14.10	9.40
MCA2033	8.6	0.032	+75, +100	23.40	15.60
MCA2034	8.6	0.016	+150	49.50	33.00
MCA2111	9.5	0.071		5.25	3.95
MCA2112	9.5	0.035	0, +25, +75	7.95	5.30
MCA2113	9.5	0.014		14.10	9.40
MCA2114	9.5	0.007		23.40	15.60
MCA2121	9.5	0.147		7.95	5.30
MCA2122	9.5	0.073	—55, 0, +25,	14.10	9.40
MCA2123	9.5	0.028	+75, +100	22.50	15.00
MCA2124	9.5	0.014		45.00	29.00
MCA2131	9.5	0.194		8.25	5.50
MCA2132	9.5	0.097	—55, 0, +25,	14.10	9.40
MCA2133	9.5	0.038	+75, +100	23.40	15.60
MCA2134	9.5	0.019	+150	49.50	33.00
MCA2211	11	0.082		4.50	3.00
MCA2212	11	0.041	0, +25, +75	7.95	5.30
MCA2213	11	0.016		14.10	9.40
MCA2214	11	0.008		23.40	15.60
MCA2221	11	0.170		7.95	5.30
MCA2222	11	0.085	—55, 0, +25,	14.10	9.40
MCA2223	11	0.034	+75, +100	22.50	15.00
MCA2224	11	0.017		45.00	29.00
MCA2231	11	0.225		8.25	5.50
MCA2232	11	0.112	—55, 0, +25,	14.10	9.40
MCA2233	11	0.044	+75, +100	23.40	15.60
MCA2234	11	0.022	+150	49.50	33.00

For PNP add suffix "P"; For NPN add suffix "N".

PRECISION REFERENCE AMPLIFIERS CASE 51

Vz=6.2V 7.5mA

Type	Change uV/1000 Hours	△Vz mV Max.	Test Temperature °C	1-10	11-99	100-Up
MZ605	30	2.5		54.55	47.15	41.00
MZ610	60	2.5	0, +25,	27.80	24.05	20.90
MZ620	120	2.5	+75, +100	20.95	18.10	15.75
MZ640	240	2.5		18.55	16.05	13.95

Vz=8.4 Volts 10 mA

MZ805	45	3.5		46.55	40.25	35.00
MZ810	90	3.5	0, +25,	22.35	19.30	16.80
MZ820	130	3.5	+75, +100	16.30	14.10	12.25
MZ840	360	3.5		13.95	12.05	10.50

International Rectifier Zener Diodes IOR

150 mW ZENER DIODES

Type	Case	Vz	Izt MA	1-99	100-999
1N465	C-1	2.0-3.2	5	No Suffix—10%	
1N466	C-1	3.0-3.9	5	3.20	2.20
1N467	C-1	3.7-4.5	5	Add "A" Suffix—5%	
1N468	C-1	4.3-5.4	5		
1N469	C-1	5.2-6.4	5	3.90	2.95
1N470	C-1	6.2-8.0	5		
1N1313	C-1	7.5-10	0.20		
1N1314	C-1	9.0-12	0.20	No Suffix—10%	
1N1315	C-1	11-14.5	0.20		
1N1316	C-1	13.5-18	0.20	2.70	2.25
1N1317	C-1	17-21	0.20		
1N1318	C-1	20-27	0.20	Add "A" Suffix—5%	
1N1319	C-1	25-32	0.20	4.70	3.90
1N1320	C-1	30-39	0.20		

250 mW ZENER DIODES

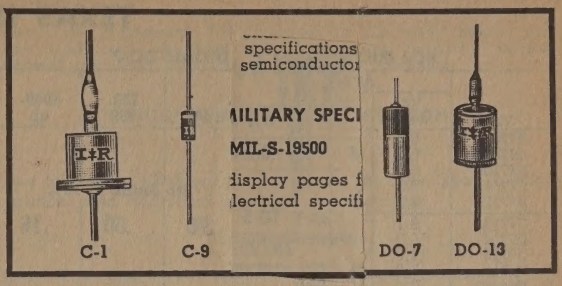
1N702	DO-7	2.0-3.2	5		
1N703	DO-7	3.0-3.9	5		
1N704	DO-7	3.7-4.5	5		
1N705	DO-7	4.3-5.4	5		
1N706	DO-7	5.2-6.4	5		
1N707	DO-7	6.2-8.0	5	No Suffix—10%	
1N708	DO-7	5.6	25		
1N709	DO-7	6.2	25		
1N710	DO-7	6.8	25		
1N711	DO-7	7.5	25	1.00	.80
1N712	DO-7	8.2	25		
1N713	DO-7	9.1	12		
1N714	DO-7	10.0	12		
1N715	DO-7	11.0	12		
1N716	DO-7	12.0	12		
1N718	DO-7	15.0	12	Add "A" Suffix—5%	
1N719	DO-7	16.0	12		
1N720	DO-7	18.0	12		
1N721	DO-7	20.0	4	1.00	.85
1N722	DO-7	22.0	4		
1N724	DO-7	27.0	4		

400 mW ZENER DIODES

1N4370	DO-7	2.4	20		
1N4371	DO-7	2.7	20		
1N4372	DO-7	3.0	20	No Suffix—10%	
1N746	DO-7	3.3	20		
1N747	DO-7	3.6	20		
1N748	DO-7	3.9	20	1.00	.80
1N749	DO-7	4.3	20		
1N750	DO-7	4.7	20		
1N751	DO-7	5.1	20		
1N752	DO-7	5.6	20		
1N753	DO-7	6.2	20	Add "A" Suffix—5%	
1N754	DO-7	6.8	20		
1N755	DO-7	7.5	20		
1N756	DO-7	8.2	20	1.00	.85
1N757	DO-7	9.1	20		
1N758	DO-7	10	20		
1N759	DO-7	12	20		
1N957	DO-7	6.8	18.5	No Suffix—20%	
1N960	DO-7	9.1	14.0	1.00	.80
1N961	DO-7	10	12.5		
1N962	DO-7	11	11.5		
1N963	DO-7	12	10.5	Add "A" Suffix—10%	
1N965	DO-7	15	8.5	1.00	.80
1N969	DO-7	22	5.6		
1N970	DO-7	24	5.2		
1N971	DO-7	27	4.6	Add "B" Suffix—5%	
1N972	DO-7	30	4.2		
1N973	DO-7	33	3.8	1.00	.85

1 WATT ZENER DIODES

1N3016	DO-13	6.8	37		
1N3017	DO-13	7.5	34		
1N3018	DO-13	8.2	31	No Suffix—20%	
1N3020	DO-13	10	25		
1N3021	DO-13	11	23	2.45	1.95
1N3022	DO-13	12	21		
1N3024	DO-13	15	17		
1N3025	DO-13	16	15.5		
1N3026	DO-13	18	14		
1N3027	DO-13	20	12.5	Add "A" Suffix—10%	
1N3028	DO-13	22	11.5		
1N3029	DO-13	24	10.5	2.76	2.15
1N3030	DO-13	27	9.5		
1N3031	DO-13	30	8.5		
1N3033	DO-13	36	7.0		
1N3034	DO-13	39	6.5		
1N3036	DO-13	47	5.5	Add "B" Suffix—5%	
1N3037	DO-13	51	5.0		
1N3038	DO-13	56	4.5	3.20	2.25
1N3042	DO-13	82	3.0		
1N3043	DO-13	91	2.8		



1 WATT ZENER DIODES (Cont'd.)

Type	Case	Vz	Izt MA	1-99	100-999
1N3044	DO-13	100	2.5	No Suffix—20%	
1N3045	DO-13	110	2.3	2.45	1.95
1N3047	DO-13	130	1.9	Add "A" Suffix—10%	
1N3048	DO-13	150	1.7	2.76	2.15
1N3050	DO-13	180	1.4	Add "B" Suffix—5%	
1N3051	DO-13	200	1.2	3.20	2.25
1N4728	C-9	3.3	76		
1N4729	C-9	3.6	69		
1N4730	C-9	3.9	64		
1N4731	C-9	4.3	58		
1N4732	C-9	4.7	53		
1N4733	C-9	5.1	49		
1N4734	C-9	5.6	45		
1N4735	C-9	6.2	41		
1N4736	C-9	6.8	37	No Suffix—10%	
1N4737	C-9	7.5	34		
1N4738	C-9	8.2	31		
1N4739	C-9	9.1	28	1.25	.93
1N4740	C-9	10	25		
1N4741	C-9	11	23		
1N4742	C-9	12	21		
1N4743	C-9	13	19		
1N4744	C-9	15	17		
1N4745	C-9	16	15.5		
1N4746	C-9	18	14		
1N4747	C-9	20	12.5		
1N4748	C-9	22	11.5		
1N4749	C-9	24	10.5		
1N4750	C-9	27	9.5		
1N4751	C-9	30	8.5		
1N4752	C-9	33	7.5		
1N4753	C-9	36	7.0	Add "A" Suffix—5%	
1N4754	C-9	39	6.5		
1N4755	C-9	43	6.0		
1N4756	C-9	47	5.5	1.90	1.40
1N4757	C-9	51	5.0		
1N4758	C-9	56	4.5		
1N4759	C-9	62	4.0		
1N4760	C-9	68	3.7		
1N4761	C-9	75	3.3		
1N4762	C-9	82	3.0		
1N4763	C-9	91	2.8		
1N4764	C-9	100	2.5		

10 WATT ZENER DIODES — DO-4

For reverse polarity add "R" to type number.

Type	Case	Vz	Zz @ Iz mA	Izt MA	1-99	100-999
1N2970	DO-4	6.8	1.2	370		
1N2971	DO-4	7.5	1.3	335		
1N2972	DO-4	8.2	1.5	305	No Suffix—20%	
1N2973	DO-4	9.1	2.0	275		
1N2974	DO-4	10	3	250		
1N2976	DO-4	12	3	210	3.00	2.40
1N2977	DO-4	13	3	190		
1N2979	DO-4	15	3	170		
1N2980	DO-4	16	4	155		
1N2981	DO-4	17	4	145		
1N2982	DO-4	18	4	140		
1N2983	DO-4	19	4	130	Add "A" Suffix—10%	
1N2984	DO-4	20	5	125		
1N2985	DO-4	22	6	115		
1N2986	DO-4	24	7	105	3.30	2.65
1N2987	DO-4	25	8	100		
1N2988	DO-4	27	9	95		
1N2989	DO-4	30	10	85		
1N2990	DO-4	33	11	75		
1N2991	DO-4	36	12	70		
1N2992	DO-4	39	13	65	Add "B" Suffix—5%	
1N2993	DO-4	43	16	60		
1N2994	DO-4	45		55		
1N2999	DO-4	56	18	45	4.25	3.30
1N3000	DO-4	62	22	40		
1N3001	DO-4	68		37		
1N3002	DO-4	75		33		

Zener Diodes

TEXAS INSTRUMENT

400 MILLIWATT ZENER DIODES DO-7

Type	At Izt Vz Volts	1-99	100-999	1000-up
		No Suffix ± 10%		
IN708	5.6	.90	.60	.16
IN709	6.2			
IN710	6.8			
IN711	7.5			
IN712	8.2			
IN713	9.1			
IN714	10.0			
IN715	11.0			
IN716	12.0			
IN4370	2.4	Add "A" Suffix ± 5%		
IN4371	2.7			
IN4372	3.0			
IN746	3.3	1.05	.85	.18
IN747	3.6			
IN748	3.9			
IN749	4.3			

Type	At Izt Vz Volts	Zz Max Ohms	1-99	100-999	1000-up
			No Suffix ± 10%		
IN750	4.7	19.0	.90	.60	.16
IN751	5.1	17.0			
IN752	5.6	11.0			
IN753	6.2	7.0			
IN754	6.8	5.0			
IN755	7.5	6.0	Add "A" Suffix ± 5%		
IN756	8.2	8.0			
IN757	9.1	10.0	1.05	.85	.18
IN758	10.1	17.0			
IN759	12.0	30.0			

*JAN and Tx version available.

10 WATT ZENER DIODE (DOUBLE-ANODE) DO-4

Type	Vz Volts	Zz@25°C Max. Ohms	Izt mA	1-99	100-999
1N1816	13	2	500		
1N1817	15	2	500		
1N1818	16	3	500		
1N1819	18	3	500	No Suffix ±10%	
1N1820	20	3	250	5.10	4.50
1N1821	22	3	250		
1N1822	24	3	250		
1N1823	27	3	250		
1N1824	30	4	250		
1N1825	33	4	150	Add "A" Suffix ±5%	
1N1826	36	5	150		
1N1827	39	5	150	5.80	5.05
1N1828	43	6	150		
1N1829	47	7	150		
1N1830	51	8	150		
1N1831	56	9	150		

Continued next column

10 WATT ZENER DIODE (DOUBLE-ANODE) DO-4 (Cont'd)

Type	Vz Volts	Zz@25°C Max. Ohms	Izt mA	1-99	100-999
1N1832	62	12	50	No Suffix ±10%	
1N1833	68	14	50	5.10	4.50
1N1834	75	20	50	Add "A" Suffix ±5%	
1N1835	82	22	50	5.80	5.05
1N1836	91	35	50		

10 WATT ZENER DIODE (SINGLE-ANODE) DO-4

Type	Vz Volts	Zz@25°C Max. Ohms	Izt mA	1-99	100-999
1N2970	6.8	1.2	370		
1N2971	7.5	1.3	335		
1N2972	8.2	1.5	305		
1N2973	9.1	2	275		
1N2974	10	3	250	No Suffix ±20%	
1N2975	11	3	230		
1N2976	12	3	210	3.60	2.40
1N2977	13	3	190		
1N2978	14	3	180		
1N2979	15	3	170	Add "A" Suffix ±10%	
1N2980	16	4	155		
1N2981	17	4	145	3.98	2.65
1N2982	18	4	140		
1N2983	19	4	130		
1N2984	20	4	125		
1N2985	22	5	115	Add "B" Suffix ±5%	
1N2986	24	5	105		
1N2987	25	6	100	4.95	3.30
1N2988	27	7	95		
1N2989	30	8	85		
1N2990	33	9	75		
1N2991	36	10	70		
1N2992	39	11	65		
1N2993	43	12	60		
1N2994	45	13	55		
1N2995	47	14	55	No Suffix ±20%	
1N2996	50	15	50		
1N2997	51	15	50	3.60	2.40
1N2998	52	15	50		
1N2999	56	16	45		
1N3000	62	17	40	Add "A" Suffix ±10%	
1N3001	68	18	37		
1N3002	75	22	33	3.98	2.65
1N3003	82	25	30		
1N3004	91	35	28		
1N3005	100	40	25	Add "B" Suffix ±5%	
1N3006	105	45	25		
1N3007	110	55	23	4.95	3.30
1N3008	120	75	20		
1N3009	130	100	19		
1N3010	140	125	18		
1N3011	150	175	17		

SARKES-TARZIAN

1 WATT ECONOMY LINE ZENER DIODES DO-7

Type	Vz	Toler.	1-99	100-UP
VR6	6	±10%		
VR7	7	±10%	No Suffix ±10%	
VR8.5	8.5	±10%	1.25	.93
VR10	10	±10%		
VR12	12	±10%	Add "A" Suffix ±5%	
VR14	14	±10%	1.80	1.35
VR18	18	±10%		
VR20	20	±10%		
VR24	24	±10%	Add "B" Suffix ±20%	
VR28	28	±10%	.90	.72
VR33	33	±10%		

Continued on next column

Type	Vz	Toler.	1-99	100-UP
VR39	39	±10%	No Suffix ±10%	
VR47	47	±10%	1.25	.93
VR56	56	±10%	Add "A" Suffix ±5%	
VR67	67	±10%	1.80	1.35
VR80	80	±10%	Add "B" Suffix ±20%	
VR90	90	±10%	.90	.72
VR105	105	±10%	No Suffix ±10%	
VR110	110	±10%	1.90	1.43
VR120	120	±10%	Add "A" Suffix ±5%	
VR130	130	±10%	2.26	1.70
VR150	150	±10%	Add "B" Suffix ±20%	
VR160	160	±10%	1.50	1.25
VR180	180	±10%		
VR200	200	±10%		

SPECIAL NEEDS?

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- BURN-IN
- DYNAMIC TESTING
- VOLTAGE SELECTION
- HI-REL TESTING
- STATIC TESTS

BASIC INFORMATION

There is wide industry variation in the use of terminology applicable to SCR, triac and triggering devices. We have attempted to use individual manufacturer's terminology wherever possible. In most instances the terminology is self-evident when referenced the appropriate E-I characteristic discussed below. For any additional electrical specifications or technical advice consult your local Newark semiconductor specialist.

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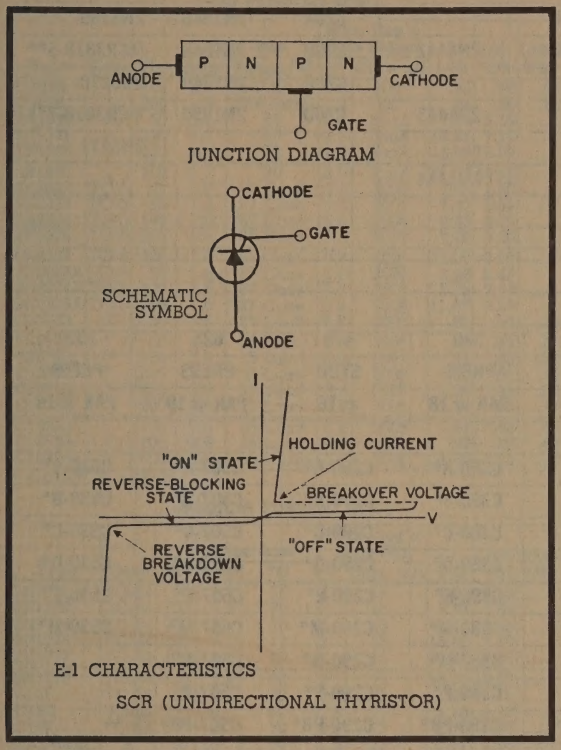
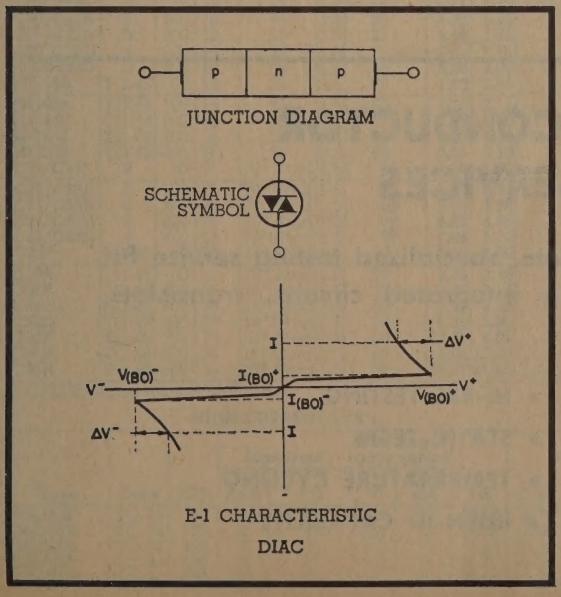
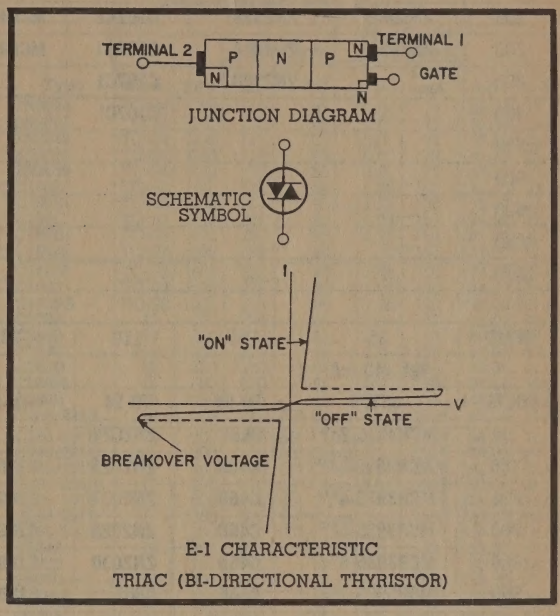
APPLICABLE MILITARY SPECIFICATION

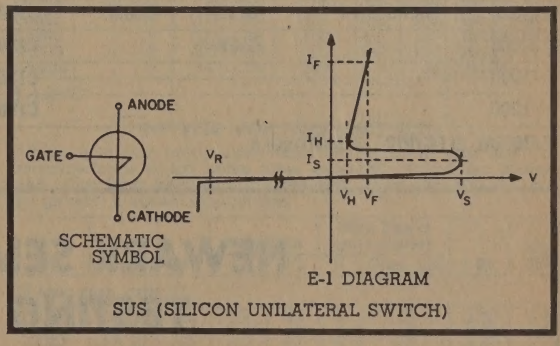
MIL-S-19500

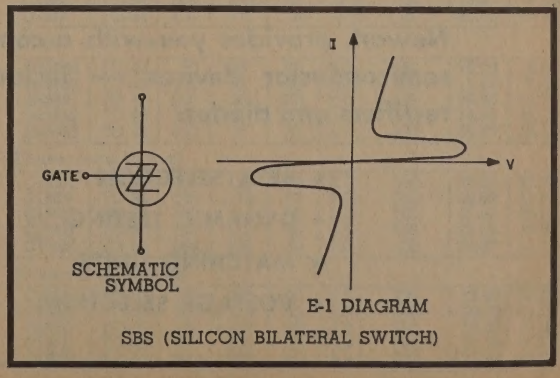
See following individual display pages for case types, configurations and additional electrical specifications.











SCR Selection Guide

Convenient, Easy-to-Use Reference
Listed by Voltage and Forward Current to Part Number

IfRMS	0.8	0.6	3.6	4.0	8.0	10	16	20
	Igt –0.2 mA	Igt –0.2 mA	Igt –0.5 mA	Igt –0.2 mA	Igt –30 mA			Igt –40 mA
	(Economy)		(Economy)	(Economy)	(Economy)		TO-48	#175
VOLTS	CASE 29	TO-5	CASE 7	CASE 90	CASE 90	STUD #9	2N1843	2N5168
50	2N5061	2N2323	C107F1*	MCR407-2**	2N4441	C20F*	2N1844	MCR3818-3**
100	2N5062	2N2324	C107A1	MCR407-3	.....	C20A	2N1846	2N5169
200	2N5064	2N2326	C107B1	MCR407-4	2N4442	C20B	2N1848	MCR3818-5**
300	.....	2N2328	C107C1	.....	.....	C20C	2N1849	2N5170
400	.....	.....	C107DI	.....	2N4443	C20D	2N1850	MCR3818-7**
500	.....	.....	.....	.....	.....	.....	.....	2N5171
600	.....	.....	.....	.....	2N4444	.....	.....	.....
800	.....	.....	.....	.....	.....	.....	.....	.....
1000	.....	.....	.....	.....	.....	.....	.....	.....
1200	.....	.....	.....	.....	.....	.....	.....	.....

IfRMS	35	55	110	235	370	470	625	1000
	Igt –40 mA				PRESS	STUD	PRESS	PRESS
VOLTS	#175	TO-94	TO-94	TO-93	PAK #18	#16	PAK #19	PAK #19
50	MCR3935-2**	C46F	2N2024	.....	.....	.....	.....	.....
100	MCR3935-3**	C46A	2N2025	C180-A*	C380-A*	C290-A*	C507-A*	C530-A*
200	MCR3935-4**	C46B	2N2027	C180-B*	C380-B*	C290-B*	C507-B*	C530-B*
300	MCR3935-5**	C46C	2N2029	C180-C*	C380-C*	C290-C*	C507-C*	C530-C*
400	MCR3935-6**	C46D	2N2030	C180-D*	C380-D*	C290-D*	C507-D*	C530-D*
500	MCR3935-7**	C46E	C60E	C180-E*	C380-E*	C290-E*	C507-E*	C530-E*
600	MCR3935-8**	C46M	C60M*	C180-M*	C380-M*	C290-M*	C507-M*	C530-M*
800	.....	C46N	.....	C180-N*	C380-N*	C290-N*	C507-N*	.....
1000	.....	.....	.....	C180-P*	C380-P*	C290-P*	C507-P*	.....
1200	.....	.....	.....	C180-PB*	C380-PB*	C290-PB*	C507-PB*	.....

*GENERAL ELECTRIC **MOTOROLA

NEWARK SEMICONDUCTOR TESTING SERVICES

Newark provides you with a complete, specialized testing service for semiconductor devices — including integrated circuits, transistors, rectifiers and diodes.

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- STATIC TESTS
- TEMPERATURE CYCLING
- BURN-IN CAPABILITY

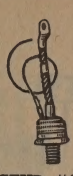
Silicon Controlled Rectifier

TO-64

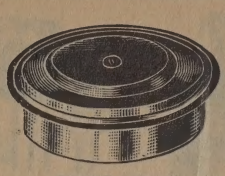
TO-48

TO-94

TO-93


STUD #9

STUD #17


PRESS PAK 18

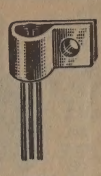


FIG. 1

FIG. 4

FIG. 7

LOW CURRENT SCR's

Type	Case	Vbo	Max. Irms Amp	Max. Irms Temp. °C	Max. Reg'd Gate Signal V	Max. Reg'd Gate Signal Curr. μA	1-99	100-999	1000-9999
C103A	1	100	0.8	25-P Strap	1.0	500*	.75	.50	.40
C103B	1	200	0.8	25-P Strap	1.0	500*	.84	.56	.45
2N1930	2	50	1.1	20	2.0	8 mA	7.65	5.10	.....
2N1931	2	100	1.1	20	2.0	8 mA	10.65	7.10	.....
2N1933	2	200	1.1	20	2.0	8 mA	15.00	10.00	.....
2N1935	2	300	1.1	20	2.0	8 mA	21.97	14.65	.....
2N2322	TO-5	25	1.6	87 Case	0.8	200†	2.25	1.50	.....
2N2323	TO-5	50	1.6	87 Case	0.8	200†	2.47	1.65	.....
2N2324	TO-5	100	1.6	87 Case	0.8	200†	4.05	2.70	.....
2N2326	TO-5	200	1.6	87 Case	0.8	200†	7.80	5.20	.....
2N2328	TO-5	300	1.6	87 Case	0.8	200†	12.00	8.00	.....
2N2323A	TO-5	50	1.6	87 Case	0.8	200†	3.60	2.40	.....
2N2324A	TO-5	100	1.6	87 Case	0.8	200†	5.76	3.84	.....
2N2326A	TO-5	200	1.6	87 Case	0.8	200†	11.07	7.38	.....
C107Y1	7	30	3.6	25 Lead	0.8	500†	.66	.44	.35
C107F1	7	50	3.6	25 Lead	0.8	500†	.69	.46	.37
C107A1	7	100	3.6	25 Lead	0.8	500†	.72	.48	.38
C107B1	7	200	3.6	25 Lead	0.8	500†	.90	.60	.48
C107C1	7	300	3.6	25 Lead	0.8	500†	1.70	1.15	.92
C107D1	7	400	3.6	25 Lead	0.8	500†	1.44	.96	.77
C106A1	7	100	3.6	25 Lead	0.8	200†	.81	.54	.43
C106B1	7	200	3.6	25 Lead	0.8	200†	.90	.60	.48
C106D1	7	400	3.6	25 Lead	0.8	200†	1.80	1.20	1.00

* —65°C † +25°C

MEDIUM CURRENT SCR's

Type	Case	PRV	Max. Irms Amp	Max. Irms °C	Max. Reg'd Gate Sig. V	Max. Reg'd Gate Sig. Curr. mA	1-99	100-999	1000-9999
2N1771	TO-64	50	7.4	70	2	15	4.65	3.10	.....
2N1772	TO-64	100	7.4	70	2	15	5.77	3.85	.....
2N1774	TO-64	200	7.4	70	2	15	8.17	5.45	.....
2N1776	TO-64	300	7.4	70	2	15	10.65	7.10	.....
2N1777	TO-64	400	7.4	70	2	15	12.45	8.30	.....
2N1778	TO-64	500	7.4	70	2	15	18.15	12.10	.....
C15F	TO-64	50	8	70	2.5	25	1.87	1.25	.....
C15A	TO-64	100	8	70	2.5	25	2.10	1.40	.....
C15B	TO-64	200	8	70	2.5	25	3.75	2.50	.....
C20/C22F	9	50	10	80	1.5	25	1.77	1.18	.....
C20/C22A	9	100	10	80	1.5	25	1.92	1.28	.....
C20/C22B	9	200	10	80	1.5	25	1.98	1.32	.....
C20/C22C	9	300	10	80	1.5	25	2.64	1.76	.....
C20/C22D	9	400	10	80	1.5	25	3.00	2.00	.....
2N1843	TO-48	50	16	25	3.5	80	3.60	2.40	.....
2N1844	TO-48	100	16	25	3.5	80	4.72	3.15	.....
2N1846	TO-48	200	16	25	3.5	80	6.15	4.10	.....
2N1848	TO-48	300	16	25	3.5	80	6.97	4.65	.....
2N1849	TO-48	400	16	25	3.5	80	8.55	5.70	.....
C31/C33F	9	50	25	70° Stud	1.5	9†	4.50	3.00	.....
C31/C33A	9	100	25	70° Stud	1.5	9†	5.19	3.46	.....
C31/C33B	9	200	25	70° Stud	1.5	9†	5.99	3.99	.....
C31/C33C	9	300	25	70° Stud	1.5	9†	6.98	4.65	.....
C31/C33D	9	400	25	70° Stud	1.5	9†	7.86	5.24	.....
C35F	TO-48	50	35	18° Stud	1.5	50	3.90	2.60	.....
C35A	TO-48	100	35	18° Stud	1.5	50	5.10	3.40	.....
C35B	TO-48	200	35	18° Stud	1.5	50	6.37	4.25	.....
C35C	TO-48	300	35	18° Stud	1.5	50	7.27	4.85	.....
C35D	TO-48	400	35	18° Stud	1.5	50	8.92	5.95	.....
C35E	TO-48	500	35	18° Stud	1.5	50	12.07	8.05	.....
C35M	TO-48	600	35	18° Stud	1.5	50	19.05	12.70	.....
C35N	TO-48	800	35	18° Stud	1.5	50	33.07	22.05	.....

†(C30/32) same except higher Igt.

HIGH CURRENT SCR's

Type	Case	PRV	Max Irms Amp	Max Irms °C	Max Reg'd gate signal V	Max Reg'd gate signal Curr. mA	1-9	10-99
C46/45F	TO-94	50	55	85	3.0	75	16.00	9.75
C46/45A	TO-94	100	55	85	3.0	75	16.50	10.00
C46/45B	TO-94	200	55	85	3.0	75	17.50	10.50
C46/45C	TO-94	300	55	85	3.0	75	21.00	12.75
C46/45D	TO-94	400	55	85	3.0	75	26.00	15.75

HIGH CURRENT SCR's (Cont'd)

Type	Case	PRV	Max Irms Amp	Max Irms °C	Max Reg'd gate signal V	Max Reg'd gate signal Curr. mA	1-9	10-99
2N2024	TO-94	50	110	85	3.0	75	28.50	17.25
2N2025	TO-94	100	110	85	3.0	75	32.50	19.50
2N2027	TO-94	200	110	85	3.0	75	37.00	22.25
2N2029	TO-94	300	110	85	3.0	75	41.50	25.00
2N2030	TO-94	400	110	85	3.0	75	48.00	29.00
C180A	TO-93	100	235	80	1.25	150	55.00	33.00
C180B	TO-93	200	235	80	1.25	150	59.00	35.50
C180C	TO-93	300	235	80	1.25	150	70.50	42.50
C180D	TO-93	400	235	80	1.25	150	82.00	49.25
C180M	TO-93	600	235	80	1.25	150	121.00	72.75
C180N	TO-93	800	235	80	1.25	150	174.00	105.00
C180P	TO-93	1000	235	80	1.25	150	224.00	135.00
C180PB	TO-93	1200	235	80	1.25	150	278.00	167.00
C380A	18	100	370	65	3.0	150	42.00	25.25
C380B	18	200	370	65	3.0	150	50.50	30.50
C380C	18	300	370	65	3.0	150	57.00	34.25
C380D	18	400	370	65	3.0	150	68.50	41.25
C380M	18	600	370	65	3.0	150	98.00	59.00
C380N	18	800	370	65	3.0	150	143.00	86.00
C290/291A	290	100	470	65° Case	3.5	150†	58.00	35.00
C290/291B	16	200	470	65° Case	3.5	150†	66.50	40.00
C290/291C	291	300	470	65° Case	3.5	150†	79.00	47.50
C290/291D	17	400	470	65° Case	3.5	150†	103.00	62.00
C290/291M	17	600	470	65° Case	3.5	150†	153.00	91.50
C290/291N	17	800	470	65° Case	3.5	150†	224.00	135.00
C290/291P	17	1000	470	65° Case	3.5	150†	282.00	170.00
C290/291PB	17	1200	470	65° Case	3.5	150†	348.00	209.00
C507A	19	100	625	50	4.0	150	90.50	54.50
C507B	19	200	625	50	4.0	150	97.00	58.25
C507D	19	400	625	50	4.0	150	118.00	71.00
C507N	19	800	625	50	4.0	150	180.00	108.00
C530A	19	100	1000	100	4.0	150	131.00	78.50
C530B	19	200	1000	100	4.0	150	143.00	86.00
C530C	19	300	1000	100	4.0	150	154.00	92.25
C530D	19	400	1000	100	4.0	150	166.00	99.75
C530M	19	600	1000	100	4.0	150	198.00	119.00

† +25°C

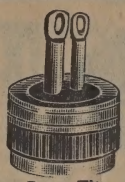
INVERTER HIGH FREQUENCY SCR's

All units in this group have high Dv/Dt; Di/Dt and fast turn characteristics which make them especially suited for inverter and other high frequency applications. They can also be used for general purpose applications.

Type	Case	PRV	Max Irms A	Max Irms °C	Max Reg'd gate signal V	Max Reg'd gate signal Curr. mA	1-99	100-999
12 μsec max. turn off.								
C12F	TO-64	50	7.4	70	2	15	6.60	4.40
C12A	TO-64	100	7.4	70	2	15	8.40	5.60
C12B	TO-64	200	7.4	70	2	15	13.95	9.30
C12D	TO-64	400	7.4	70	2	15	30.00	20.00
15 μsec max. turn off.								
2N3649	TO-48	50	35	30	3.0	180	10.32	6.88
2N3650	TO-48	100	35	30	3.0	180	11.25	7.50
2N3651	TO-48	200	35	30	3.0	180	16.05	10.70
2N3652	TO-48	300	35	30	3.0	180	24.30	16.20
2N3653	TO-48	400	35	30	3.0	180	29.47	19.65
10 μsec max. turn off.								
C154A	TO-94	100	110	80	3.0	500	36.00	21.75
C155B	TO-94	200	110	80	3.0	500	36.00	21.75
C154C	TO-94	300	110	80	3.0	500	46.50	28.00
C154D	TO-94	400	110	80	3.0	500	55.00	33.00
C154M	TO-94	600	110	80	3.0	500	76.00	45.75
20 μsec max. turn off.								
C185A	TO-93	100	235	90	3.0	300	63.00	38.00
C185B	TO-93	200	235	90	3.0	300	69.50	41.75
C185C	TO-93	300	235	90	3.0	300	78.00	47.00
C185D	TO-93	400	235	90	3.0	300	92.50	55.50
C185M	TO-93	600	235	90	3.0	300	131.00	78.50

Triacs and Triggers

Stud


Press Fit

Economy

TO-5

TO-18

TO-98

TRIAC's FOR
Zero Voltage Switch, Selected Gate, 400 HZ

Triacs in series SC35, 36, 40, 41, 45, 46, 50, 51 above can be selected for (1) use with GE PA424 zero voltage switch—add suffix-12, example SC41E12. (2) for 25 mA max gate trigger current in all four modes add suffix-13. (3) operation at 400 Hz add suffix-14. **For pricing call your Newark semiconductor specialist.**

TRIACS—Bi DIRECTIONAL SWITCHES

Max Req'd Gate Signal @ 25°C ±2.5V, ±50mA.

Type Stud* 1/4-28 #9	1-99	100-999	Press Fit #11	1-99	100-999	Vbv	Max Irms A	Max Irms °C
SC35B	2.70	1.80	SC36B	2.25	1.50	200	3	70
SC35D	3 39	2.26	SC36D	2.94	1.96	400	3	70
SC40B	3.03	2.02	SC41B	2.58	1.72	200	6	70
SC40D	3.86	2.57	SC41D	3 41	2.27	400	6	70
SC40E	4.31	2.87	SC41E	3.86	2.57	500	6	70
SC45B	3.93	2.62	SC46B	3.48	2.32	200	10	70
SC45D	4.98	3.32	SC46D	4.53	3.02	400	10	70
SC45E	5.64	3.76	SC46E	5.19	3.46	500	10	70
SC50B	4.02	2.68	SC51B	3.57	2.38	200	15	70
SC50D	5.82	3.88	SC51D	5.37	3.58	400	15	70
SC50E	8.50	5.67	SC51E	8.05	5.37	500	15	70
SC60B	6 85	4.56	SC61B	6.30	4.20	200	25	70
SC60D	9.50	6.34	SC61D	8.98	5.98	400	25	70
SC60E	18.00	12.00	SC61E	17.50	11.64	500	25	70

*Isolated stud available.

ECONOMY (PLASTIC) TRIACS—CASE #8

Type	Vbv	Max Irms A	Max Irms °C	Max. Req'd Gate Signal V	Max. Req'd Gate Signal mA	1-99	100-999
SC141B	200	6	70	2.5	50‡	1.50	1.00
SC141D	400	6	70	2.5	50‡	2 08	1.39
SC146B	200	10	70	2.5	50‡	1.95	1.30
SC146D	400	10	70	2.5	50‡	2.72	1.81

SILICON UNILATERAL SWITCH (SUS) TO-98

Type	Max. Vr V	If Max. mA	Switch Volt Min.	Switch Volt Max.	Ih Hold mA	1-99	100-999
2N4987	30	175	6	10	1.5	.84	.56
2N4988	30	200	7.5	9	0.5	1.23	.82
2N4989	30	200	7.5	8.2	1.0	1.73	1.15
2N4990	30	175	7	9	0.75	.89	.59

SILICON BILATERAL SWITCH (SBS)

2N4991	.....	175	6	10	1.5	.75	.50
2N4992	.....	200	7.5	9	0.5	1.35	.90
2N4993	.....	.....	7	9	.....	1.35	.90

DIAC—BIDIRECTIONAL TRIGGER DIODE

Type	Vbr1=Vbr2 Min.	Vbr1=Vbr2 Max.	If peak @ 50°* A	1-99	100-999
ST2	28	36	±2	.61	.44

*10 μsec, 120 Hz, rep. rate.

PROGRAMMABLE UNIJUNCTIONS—TO-98

Designed for a max. anode current of 150 mA and a max. anode reverse voltage of 40 volts. These programmable unijunctions allow the designer to program *n*, Rbb, Ip and Iv. Operating from —50 to +100 C° leakage is less than 40 mA at 40 volts. Minimum output voltage is 6 volts.

Type	Ip (μA) Rg=10K	Ip (μA) Rg=1 Meg	Iv (μA) Rg=10K	1-99	100-999	1000-9999
D13T1	5	2	70	.79	.53	.44
D13T2	1	0.15	25	1.58	1.06	.89

COMPLEMENTARY UNIJUNCTION (CUJT) — TO-18

Devices offer intrinsic standoff ratio of .58 – .62 with a minimum valley current of 1 mA.

Type	Rbbo K ohms	Max. Ip μA	Ieo mA	Min. Vo Peak Volts	1-99	100-999
D5K1	5.5–8.2	5	10	3.5	6.95	4.64
D5K2	5–15	15	10	3.5	2.55	1.70

SILICON CONTROLLED SWITCH (SCS) TO-18

The SCS is a four layer PNPN device with all layers available.

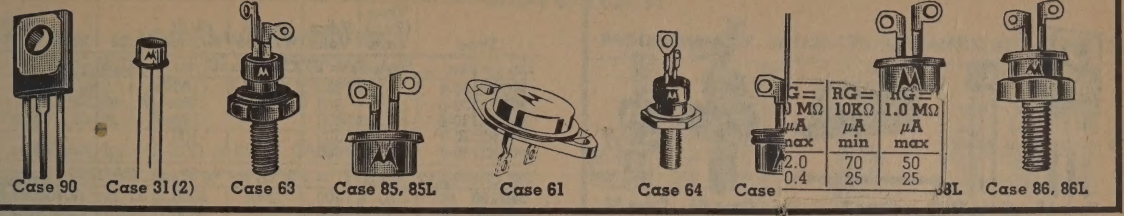
Type	Vb Anode	If Max. mA	Ih mA	Cath–Gate Igt μA	Cath–Gate Vgt V	Trigger–Anode Igt mA	Trigger–Anode Vgt V	1-99	100-999
3N81	65	200	1.5	1.0	.4–.65	1.0	–.4—.8	3.40	2.25
3N82	100	200	1.5	1.0	.4–.65	1.0	–.4—.8	4.95	3.30
3N83	70	50	4.0	150	.2–.1.1	150 μA	.2–1.1	1.98	1.32
3N84	40	175	2.0	10	.4–.65	.....	.....	1.98	1.32
3N85	100	175	2.0	10	.4–.65	.....	.....	3.30	2.20
3N86	65	200	0.2	1.0	.4–.65	0.1	–.4—.8	6.00	4.00

UNIJUNCTION TRANSISTORS

Type TO-18	Type TO-5	Rbbo Interbase Resist. Vbb=3V Ie = 0 K ohms	*n* Intrinsic Standoff Ratio Vbb=10V	Iv Min. Valley Current mA	Ip Max. Peak Pt. Emitter Current μA	1-99	100-999
2N2417	2N489				12	7.10	4.75
2N2417A	2N489A	4.7– 6.8	.51–.62	8	12	7.65	5.10
2N2417B	2N489B				6	9.15	6.10
2N2418	2N490				12	7.80	5.20
2N2418A	2N490A	6.2– 9.1	.51–.62	8	12	8.35	5.55
2N2418B	2N490B				6	9.85	6.55
—	2N490C				2	11.85	7.90
2N2419	2N491				12	8.40	5.60
2N2419A	2N491A	4.7– 6.8	.56–.68	8	12	8.90	5.95
2N2419B	2N491B				6	10 40	6.95
2N2420	2N492				12	9.80	6.60
2N24`0A	2N492A	6.2– 9.1	.56–.68	8	12	10.40	6.95
2N2420B	2N492B				6	11.90	7.95
—	2N492C				2	13.90	9.25
2N2421	2N493				12	10.75	7.20
2N2421A	2N493A	4.7– 6.8	.62–.75	8	12	11.20	7.50
2N2421B	2N493B				6	12.75	8.50
2N2422	2N494				12	10.90	7.30
2N2422A	2N494A	6.2– 9.1	.62–.75	8	12	11.40	7.60
2N2422B	2N494B				6	12.90	8.60
—	2N494C				2	14 95	9.95
5G514	2N1671				25	2.95	1.97
5G515	2N1671A	4.7– 9.1	.47–.62	8	25	3.20	2.13
5G516	2N1671B				6	3.55	2.36
—	2N1671C				2	8.25	5.50
—	2N2160	4.0–12.0	.47–.80	8	25	1.49	.99
2N2646	—	4.7– 9.1	.56–.75	4	5	1.05	.70
2N2647	—	4.7– 9.1	.68–.82	8	2	1.89	1.26
D5E-43	—	4.7– 9.1	.68–.82	6	2	1.05	.70
D5E-44	—	4.7– 9.1	.68–.82	4	5	.97	.65

OEM PRICE POLICY

IT IS OUR POLICY TO SELL SEMICONDUCTORS AT THE MANUFACTURERS' ESTABLISHED OEM PRICES IN EFFECT AT THE TIME OF SHIPMENT. PRICES IN THIS CATALOG ARE OEM PRICES AT THE TIME OF PUBLICATION.



LOW POWER ECONOMY TYPE SCR's

Type	Vdrm and Verm	Itsm (surge) Amp	Forward "On" Voltage Volts Max	Forward "On" Voltage Amp Itm (peak)	1-99	100-999	1K-4999
It(rms) =4.0A, Igt = 200μA, Tj =110°C; CASE 90 ½ cycle							
MCR406-1	30	30	2.2	4.0	.90	.60	.....
MCR406-2	60	30	2.2	4.0	1.05	.70	.....
MCR406-3	100	30	2.2	4.0	1.12	.75	.....
MRC406-4	200	30	2.2	4.0	1.27	.85	.....
It(rms) = 4.0A, Igt = 200μA, Tj = 110°C; CASE 90 ¼ cycle							
MCR407-1	30	20	2.6	4.0	.82	.55	.....
MCR407-2	60	20	2.6	4.0	.97	.65	.....
MRC407-3	100	20	2.6	4.0	1.05	.70	.....
MCR407-4	200	20	2.6	4.0	1.20	.80	.....
It(rms) = 8.0A, Igt =30mA, Tj = 100°C; CASE 90							
2N4441	50	80	1.5	5.0	1.20	.80	.68
2N4442	200	80	1.5	5.0	1.50	1.00	.85
2N4443	400	80	1.5	5.0	2.00	1.35	1.15
2N4444	600	80	1.5	5.0	4.50	3.00	2.55

LOW POWER SCR's

It(rms) = 1.6A, Igt = 10mA; CASE 31 (1)							
2N1595	50	15	2.0	1.0	1.90	1.25	.....
2N1596	100	15	2.0	1.0	2.30	1.55	.....
2N1597	200	15	2.0	1.0	4.20	2.80	.....
2N1598	300	15	2.0	1.0	8.60	5.75	.....
2N1599	400	15	2.0	1.0	12.35	8.25	.....
It(rms) = 1.6, Igt = 0.2, Tj = 125°C; CASE 31 (2)							
2N2322	25	15	1.5	1.0	2.30	1.55	.....
2N2323	50	15	1.5	1.0	2.85	1.90	.....
2N2324	100	15	1.5	1.0	3.75	2.50	.....
2N2325	150	15	1.5	1.0	4.95	3.30	.....
2N2326	200	15	1.5	1.0	5.40	3.60	.....
It(rms) = 1.6, Igt = 0.1mA, Tj = 125°C; CASE 31 (2)							
2N4212	25	15	1.5	1.0	2.15	1.45	.....
2N4213	50	15	1.5	1.0	2.60	1.75	.....
2N4214	100	15	1.5	1.0	3.30	2.20	.....
2N4215	150	15	1.5	1.0	4.50	3.00	.....
2N4216	200	15	1.5	1.0	4.95	3.30	.....
It(rms) = 1.6A, Igt = 1.0mA, Tj = 100°C; CASE 31 (2)							
MCR1906-1	25	15	1.5	1.0	1.35	.90	.....
MCR1906-2	50	15	1.5	1.0	1.43	.95	.....
MCR1906-3	100	15	1.5	1.0	1.65	1.10	.....
MCR1906-4	200	15	1.5	1.0	1.80	1.20	.....
It = 2.0A, Igt = 50mA, Tj = 105°C; CASE 63							
MCR846-1	25	30	1.6	2.0	5.15	3.45	.....
MCR846-2	50	30	1.6	2.0	5.75	3.85	.....
MCR846-3	100	30	1.6	2.0	7.35	4.90	.....
MCR846-4	200	30	1.6	2.0	14.60	9.75	.....

All of the following have forward on voltage of 1.3V (Vtm) @ Itm of 5 amps (except MCR2315 & MCR2614 series where Vtm = 1.6 @ Itm = 5a)

It = 8.0A, Igt = 20, Tj = 100°C

Case 85	Case 85L	Vdrm and Vrrm	1-99	100-999
2N4151	2N4159	25	1.11	.74
2N4152	2N4160	50	1.26	.84
2N4153	2N4161	100	1.41	.94
2N4154	2N4162	200	1.68	1.04
2N4155	2N4163	300	1.93	1.29
2N4156	2N4164	400	2.25	1.49
2N4157	2N4165	500	3.43	2.29
2N4158	2N4166	600	4.46	2.98

Case 86	Case 86L	Vdrm and Vrrm	1-99	100-999
2N4167	2N4175	25	1.34	.89
2N4168	2N4176	50	1.49	.95
2N4169	2N4177	100	1.64	1.09
2N4170	2N4178	200	1.79	1.19
2N4171	2N4179	300	2.16	1.44
2N4172	2N4180	400	2.46	1.64
2N4173	2N4181	500	3.66	2.44
2N4174	2N4182	600	4.69	3.13

LOW POWER SCR's (Cont'd)

Case 86	Case 87L	Case 88L	Vdrm and Vrrm	1-99	100-999
MCR2315-1	2N4183	2N4191	25	1.19	.79
MCR2315-2	2N4184	2N4192	50	1.34	.89
MCR2315-3	2N4185	2N4193	100	1.49	.99
MCR2315-4	2N4186	2N4194	200	1.64	1.09
MCR2315-5	2N4187	2N4195	300	2.01	1.34
MCR2315-6	2N4188	2N4196	400	2.31	1.54
	2N4189	2N4197	500	3.51	2.34
	2N4190	2N4198	600	4.54	3.03

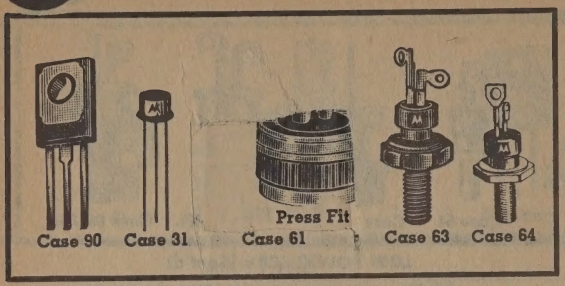
Case 87L	1-99	100-999	Case 87	Case 88	Vdrm and Vrrm	1-99	100-999
MCR2614-1	1.03	.69	MCR2604-1	MCR2605-1	25	1.55	1.15
MCR2614-2	1.08	.79	MCR2604-2	MCR2605-2	50	1.70	1.20
MCR2614-3	1.33	.89	MCR2604-3	MCR2605-3	100	1.85	1.35
MCR2614-4	1.50	.99	MCR2604-4	MCR2605-4	200	2.05	1.45
MCR2614-5	1.86	1.24	MCR2604-5	MCR2605-5	300	2.50	1.70
MCR2615-6	2.16	1.44	MCR2604-6	MCR2605-6	400	2.90	1.95
			MCR2604-7	MCR2605-7	500	5.10	3.45
			MCR2604-8	MCR2605-8	600	6.85	4.60

MEDIUM POWER SCR's

Type	Vrdm and Vrrm Volts	1 Cycle Surge Current @ Tj max Amp	Forward "On" Voltage Volts Vtm @ Itm (Peak)	Forward "On" Voltage Amp Itm (Peak)	1-99	100-UP
It(rms) = 16A, Igt = 80mA, Tj = 100°C (125° on A); CASE 64						
2N1842	25	125	1.8	16	3.00	2.00
2N1842A	25	125	1.6	16	3.15	2.10
2N1843	50	125	1.8	16	3.75	2.50
2N1843A	50	125	1.6	16	4.05	2.70
2N1844	100	125	1.8	16	5.00	3.75
2N1844A	100	125	1.6	16	5.40	3.60
2N1845	150	125	1.8	16	5.70	3.80
2N1845A	150	125	1.6	16	6.05	4.05
2N1846	200	125	1.8	16	6.00	4.00
2N1846A	200	125	1.6	16	6.35	4.25
2N1847	250	125	1.8	16	6.30	4.20
2N1847A	250	125	1.6	16	6.75	4.50
2N1848	300	125	1.8	16	13.25	8.85
2N1848A	300	125	1.6	16	14.25	9.50
2N1849	400	125	1.8	16	15.00	10.00
2N1849A	400	125	1.6	16	16.10	10.75
2N1850	500	125	1.8	16	18.15	12.10
2N1850A	500	125	1.6	16	19.80	13.20
It(rms) = 20A, Igt = 40mA, Tj = 100°C; CASE 174						
2N5164	50	240	1.5	20	3.30	2.20
2N5165	200	240	1.5	20	4.65	3.10
2N5166	400	240	1.5	20	6.45	4.30
2N5167	600	240	1.5	20	9.75	6.50
It(rms) = 20A, Igt = 40mA, Tj = 100°C; CASE 175						
2N5168	50	240	1.5	20	3.70	2.45
2N5169	200	240	1.5	20	5.00	3.35
2N5170	400	240	1.5	20	6.80	4.55
2N5171	600	240	1.5	20	10.10	6.75
It(rms) = 20A, Igt = 40mA, Tj = 100°C; CASE 175 (1)						
MCR3818-1	25	240	1.5	20	3.00	2.00
MCR3818-2	50	240	1.5	20	3.30	2.20
MCR3818-3	100	240	1.5	20	3.75	2.50
MCR3818-4	200	240	1.5	20	4.65	3.10
MCR3818-5	300	240	1.5	20	5.55	3.70
MCR3818-6	400	240	1.5	20	6.45	4.30
MCR3818-7	500	240	1.5	20	8.85	5.90
MCR3818-8	600	240	1.5	20	9.75	6.50
It(rms) = 20A, Igt = 40mA, Tj = 100°C; CASE 174 (1)						
MCR3918-1	25	240	1.5	20	3.40	2.25
MCR3918-2	50	240	1.5	20	3.70	2.45
MCR3918-3	100	240	1.5	20	4.10	2.75
MCR3918-4	200	240	1.5	20	5.00	3.35
MCR3918-5	300	240	1.5	20	5.90	3.95

Continued Next Page

Motorola SCR's and Triacs



MEDIUM POWER SCR's (Cont'd)

Type	Vdrm and Vrrm Volts	1 Cycle Surge Current @ Tj max Amp	Forward "On" Voltage Volts Vtm @	Amp Itm (Peak)	1-99	100-999
It(rms) = 20 A, Igt = 40 mA, Tj = 100°C. CASE 174 (1).						
MCR3918-6	400	240	1.5	20	6.80	4.55
MCR3918-7	500	240	1.5	20	9.20	6.15
MCR3918-8	600	240	1.5	20	10.10	6.75
It(rms) = 20 A, Igt = 80 mA, Tj = 100°C. CASE 61 (2).						
MCR649-1	25	260	1.5	20	3.10	2.05
MCR649-2	50	260	1.5	20	3.45	2.30
MCR649-3	100	260	1.5	20	3.90	2.60
MCR649-4	200	260	1.5	20	5.25	3.50
MCR649-5	300	260	1.5	20	9.90	6 60
MCR649-6	400	260	1.5	20	11.50	7.70
MCR649-7	500	260	1.5	20	13.70	9.15
It(rms) = 25 A, Igt = 25 mA, Tj = 125°C. CASE 64.						
2N681	25	200	1.5	20	3.30	2.20
2N682	50	200	1.5	20	4.10	2.75
2N683	100	200	1.5	20	5.60	3.75
2N684	150	200	1.5	20	6.30	4.20
2N685	200	200	1.5	20	6.60	4.40
2N686	250	200	1.5	20	6 95	4.65
2N687	300	200	1.5	20	14.60	9.75
2N688	400	200	1.5	20	17.10	11.40
2N689	500	200	1.5	20	20.60	13.75
It(rms) = 25 A, Igt = 30 mA, Tj = 125°C. CASE 64 (3).						
MCR1907-1	25	150	1.7	20	9.00	6.00
MCR1907-2	50	150	1.7	20	9.75	6.50
MCR1907-3	100	150	1.7	20	11.25	7.50
MCR1907-4	200	150	1.7	20	16.20	10.80
MCR1907-5	300	150	1.7	20	24.45	16.30
MCR1907-6	400	150	1.7	20	29.25	19.50
It(rms) = 25 A, Igt = 40 mA, Tj = 125°C. CASE 61.						
2N2573	25	260	1.4	20	3.40	2.25
2N2574	50	260	1.4	20	3.90	2.60
2N2575	100	260	1.4	20	5.00	3.35
2N2576	200	260	1.4	20	5.70	3.80
2N2577	300	260	1.4	20	11.20	7.50
2N2578	400	260	1.4	20	13.00	8.65
2N2579	500	260	1.4	20	15.40	10.30
It(rms) = 35 A, Igt = 40 mA, Tj = 100°C. CASE 174.						
MCR3835-1	25	325	1.5	35	3.75	2.50
MCR3835-2	50	325	1.5	35	4.50	3.00
MCR3835-3	100	325	1.5	35	4.85	3.25
MCR3835-4	200	325	1.5	35	5.85	3.90
MCR3835-5	300	325	1.5	35	7.20	4.80
MCR3835-6	400	325	1.5	35	8.25	5.50
MCR3835-7	500	325	1.5	35	10.65	7.10
MCR3835-8	600	325	1.5	35	12.35	8.25
It(rms) = 35 A, Igt = 40 mA, Tj = 100°C. CASE 175.						
MCR3935-1	25	325	1.5	35	4.10	2.75
MCR3935-2	50	325	1.5	35	4.85	3.25
MCR3935-3	100	325	1.5	35	5.25	3.50
MCR3935-4	200	325	1.5	35	6.20	4.15
MCR3935-5	300	325	1.5	35	7.55	5.05
MCR3935-6	400	325	1.5	35	8.60	5.75
MCR3935-7	500	325	1.5	35	11.00	7.35
MCR3935-8	600	325	1.5	35	12.75	8.50

(1) Reverse polarity add "R" suffix to type number.
(2) Devices without lugs (case 54) add "P" suffix.
(3) Fast turn-on, fast turn-off: ton = 0.5 μs typ., toff = 12 μs max.

PULSE MODULATORS — SCR's

Type	Vrrm (Rep) Volts	Vdrm Volts	dv/dt V/μsec	di/dt A/μsec	1.24	25-99	100-UP
Ifm (pulse) = 50 A, Tj = 85°C, Igt = 10 ma. CASE 31.							
MCR2130-4	.....	200	.....	100	.....	.....	.....
MCR2130-5	.....	300	.....	100	.....	.....	.....
MCR2130-6	.....	400	.....	100	.....	.....	.....
MCR2130-7	.....	500	.....	100	.....	.....	.....
MCR2130-8	.....	600	.....	100	.....	.....	.....
Ifm (pulse) = 100 A, Tj = 105°C, Igt = 50 mA. CASE 63 (1).							
2N4199	50	300	250	5000	21.25	19.10	15.00
2N4200	50	400	250	5000	28.75	25.80	20.00
2N4201	50	500	250	5000	32.50	29.10	22.50
2N4202	50	600	250	5000	44.25	38.40	29.50
2N4203	50	700	250	5000	51.75	45.05	34.50
2N4204	50	800	250	5000	63.75	55.70	42.50
MCR729-5	50	300	50	100	18.75	16.60	12.50
MCR729-6	50	400	50	100	26.25	23.30	17.50
MCR729-7	50	500	50	100	30 00	26.60	20.00
MCR729-8	50	600	50	100	40.50	35.90	27.00
MCR729-9	50	700	50	100	48.00	42.55	32.00
MCR729-10	50	800	50	100	60.00	53.20	40.00

(1) 2N4199 to 2N4204 available as Jan.

Type	Vrrm (Rep) Volts	Vdrm Volts	dv/dt V/μsec	di/dt A/μsec	1.24	25-99	100-UP
Ifm (surge) = 300 A, Tj = 105°C, Igt = 40 mA. CASE 63.							
MCR1336-5	50	300	250	1000	20.60	18.30	13.75
MCR1336-6	50	400	250	1000	28.85	25.60	19.25
MCR1336-7	50	500	250	1000	33.75	29.90	22.50
MCR1336-8	50	600	250	1000	44.55	39.50	29.70
MCR1336-9	50	700	250	1000	52.85	46.90	35.25
MCR1336-10	50	800	250	1000	66.75	59.20	44.50
Ifm (pulse) = 1000 A, Tj = 125°C, Igt = 50 mA. CASE 64.							
MCR1718-5	300	300	100	1000	25.50	22.60	17.00
MCR1718-6	400	400	100	1000	30.00	26.60	20.00
MCR1718-7	500	500	100	1000	37.50	33.25	25.00
MCR1718-8	600	600	100	1000	45.00	39.90	30.00

BIDIRECTIONAL THYRISTORS — TRIAC'S

Type	Case	Vdrm Volts	Igt mA Max.	Ih mA Max.	1-99	100-999
It(rms) = 8.0 A, Tj = 100°C.						
MAC11-1	90	25	50	50	1.05	.70
MAC11-2	90	50	50	50	1.19	.79
MAC11-3	90	100	50	50	1.34	.89
MAC11-4	90	200	50	50	1.61	1.07
MAC11-5	90	300	50	50	1.93	1.29
MAC11-6	90	400	50	50	2.36	1.57
It(rms) = 10 A, Tj = 100°C, 4 mode triggering.						
MAC1-2	85	50	30	30	1.98	1.32
MAC1-4	85	200	30	30	3.30	2.20
MAC1-6	85	400	30	30	5.25	3.50
MAC2-2	86	50	30	30	2.20	1.47
MAC2-4	86	200	30	30	3.52	2.35
MAC2-6	86	400	30	30	5.47	3.65
MAC3-2	87L	50	30	30	2.13	1.42
MAC3-4	87L	200	30	30	3.45	2.30
MAC3-6	87L	400	30	30	5.40	3.60
It(rms) = 10 A, Tj = 100°C, 2 mode triggering.						
MAC4-2	85	50	50	50	1.79	1.19
MAC4-4	85	200	50	50	2.97	1.98
MAC4-6	85	400	50	50	4.72	3.15
MAC5-2	86	50	50	50	1.98	1.32
MAC5-4	86	200	50	50	3.18	2.12
MAC5-6	86	400	50	50	4.92	3.28
MAC6-2	87L	50	50	50	1.92	1.28
MAC6-4	87L	200	50	50	3.10	2.07
MAC6-6	87L	400	50	50	4.85	3.24
It(rms) = 25 A, Tj = 110°C.						
MAC21-1	178	25	75	75	.....	.....
MAC21-2	178	50	75	75	.....	.....
MAC21-3	178	100	75	75	.....	.....
MAC21-4	178	200	75	75	.....	.....
MAC21-5	178	300	75	75	.....	.....
MAC21-6	178	400	75	75	.....	.....
MAC21-7	178	500	75	75	.....	.....
MAC35-1	174	25	75	75	2.55	1.70
MAC35-2	174	50	75	75	3.15	2.10
MAC35-3	174	100	75	75	4.40	2.95
MAC35-4	174	200	75	75	6.10	4.05
MAC35-5	174	300	75	75	8.50	5.65
MAC35-6	174	400	75	75	10.80	7.20
MAC35-7	174	500	75	75	16.05	10.70
MAC36-1	175	25	75	75	2.85	1.90
MAC36-2	175	50	75	75	3.45	2.30
MAC36-3	175	100	75	75	4.70	3.15
MAC36-4	175	200	75	75	6.35	4.25
MAC36-5	175	300	75	75	8.75	5.85
MAC36-6	175	400	75	75	11.10	7.40
MAC36-7	175	500	75	75	16.35	10.90

MOTOROLA

SMALL SIGNAL THYRISTORS

Type	VDRM and VRRM Volts	ITSM Surge Amp	Forward "On" Voltage VTM @ ITM(peak) Volts max	Amp	1-99	100-999
IF = 800 mA, Igt = 0.2, Tj = 125°C. CASE 29.						
2N5060	30	6.0	1.7	1.0	.69	.46
2N5061	60	6.0	1.7	1.0	.78	.52
2N5062	100	6.0	1.7	1.0	.90	.60
2N5063	150	6.0	1.7	1.0	1.12	.75
2N5064	200	6.0	1.7	1.0	1.43	.95

UNIJUNCTION TRANSISTORS

Type	PWR Diss mW	N min/max	IP max μA	IEB20 max μA	IV min mA	VB2B1 max Volts	1-99	100-999
Case 29								
MU10	300	0.5 0.85	5.01	—	1.0	—	.60	.40
2N4870	300	0.56 0.75	5.0	1.0	2.0	35	.75	.50
2N4871	300	0.70 0.85	5.0	1.0	4.0	35	.68	.45
MU4891	300	0.55 0.82	5.0	0.01	2.0	—	.90	.60
MU4892	300	0.51 0.69	2.0	0.01	2.0	—	1.15	.77
MU4893	300	0.55 0.82	2.0	0.01	2.0	—	.96	.64
MU4894	300	0.74 0.86	1.0	0.01	2.0	—	1.05	.70
Case 22A								
MU20	300	0.56 0.85	2.01	—	1.0	—	.75	.50
2N2646	300	0.56 0.75	5.0	12.0	4.0	35	1.00	.67
2N2647	300	0.68 0.82	2.0	0.2	8.0	35	1.90	1.26
2N3980	360	0.68 0.82	2.0	0.01	1.0	35	3.40	2.25
2N4851	300	0.56 0.75	2.0	0.1	2.0	35	.97	.65
2N4852	300	0.70 0.85	2.0	0.1	4.0	35	.97	.65
2N4853	300	0.70 0.85	0.4	0.05	6.0	35	2.25	1.50
2N4948*	360	0.55 0.82	2.0	0.01	2.0	—	1.35	.90
2N4949*	360	0.74 0.86	1.0	0.01	2.0	—	2.40	1.60
2N5431	300	0.72 0.80	0.4	0.01	2.0	35	3.50	2.35

*Meets (the requirements of) Mil-S-1—19500/388. Also available as JAN.

PROGRAMMABLE UNIJUNCTION TRANSISTORS—CASE 29

Type	PWR Diss mW	IP RG= 10KΩ μA min	IP RG= 1.0 MΩ μA max	IV RG= 10KΩ μA min	IV RG= 1.0 MΩ μA max	VO min Volts	IF mA max	1-99	100-999
MPU131	300	5.0	2.0	70	50	6.0	200	.79	.53
MPU132	300	1.0	0.4	25	25	6.0	200	1.28	.85

BIDIRECTIONAL SWITCH—CASE 29

Type	VS Vdc min/max	IVS1—VS21 Vdc (max)	IS μAdc (max)	IH mAdc (max)	1-99	100-999
MBS4991	6.0/ 10	0.5	350	1.5	.68	.45
MBS4992	7.5/9.0	0.2	120	0.5	1.35	.90

SILICON UNIDIRECTIONAL SWITCH—CASE 29

Type	PWR Diss mW	VS Volts min/max	IS μA max	IH mA	IB @ 5.0 V μA	VO Volts min	1-99	100-999
MUS4987	300	6.0/10	500	1.5	1.0	3.5	.65	.43
MUS4988	350	7.5/ 9.0	150	.5	0.1	3.5	1.23	.82

BILATERAL TRIGGER DIACS—CASE 92

Type	1 pulse Peak Pulse Current @ 30 us, 120 Hz Amp (max)	V(BR) Breakover Voltage Both Directions Volts (min/max)	1-99	100-999	1000-UP
MPT20	2.0	20	.67	.45	.38
MPT28	2.0	28	.67	.45	.38
MPT32	2.0	32	.67	.45	.38

4 LAYER DIODES—CASE 51

IF = 150 mA (max); 1 pulse = 10A @ PW = 50μs; Tα = 25°C.

Type	V (br) F Volts Min/Max	I (br) F μA Max	IH mA Min/Max	1-24	25-99	100-999
1N5158(M4L3052)	8.0/10	50	1.0/20	3.75	3.25	2.50
1N5159(M4L3053)	9.0/11	50	1.0/20	3.38	2.90	2.25
1N5160(M4L3054)	10/12	50	1.0/20	3.75	3.25	2.50

RCA

SILICON CONTROLLED RECTIFIERS

Type	Case	Irms A	Vbo V	Max. Gate Req'd V	Max. Gate Req'd mA Current	1-99	100-999
2N3528	TO-8	2	200	2	15	1.58	1.14
2N3529	TO-8	2	400	2	15	1.96	1.43
2N4102	TO-8	2	600	2	15	2.64	1.92
2N3228	TO-66	5	200	2	15	1.62	1.18
2N3525	TO-66	5	400	2	15	2.31	1.68
2N4101	TO-66	5	600	2	15	3.05	2.22
40504	E	5	200	2	15	1.78	1.30
40505	E	5	400	2	15	2.48	1.80
40506	E	5	600	2	15	3.22	2.34
40553	TO-66	5	200	3.5	40	2.75	2.00
40554	TO-66	5	400	3.5	40	4.44	3.22
40555	TO-66	5	600	3.5	40	4.76	3.47
40640	TO-66	5	350	4.0	30	2.72	1.98
40641	TO-66	5	400	4.0	30	2.85	2.08
40378	H	7	200	2.0	15	1.47	1.07
40379	H	7	400	2.0	15	1.85	1.34
40507	D	7	200	2.0	15	1.63	1.19
40508	D	7	400	2.0	15	2.01	1.46
40654	H	7	250	1.5	15	1.62	1.18
40656	K	7	250	1.5	15	1.70	1.24
40658	D	7	250	1.5	15	1.86	1.36
40655	H	7	500	1.5	15	2.03	1.48
40657	K	7	500	1.5	15	2.11	1.54
40659	D	7	500	1.5	15	2.19	1.60
40737	G	10	100	2.0	15	2.18	1.58
40738	G	10	200	2.0	15	2.56	1.86
40739	G	10	400	2.0	15	3.33	2.42
40740	G	10	600	2.0	15	4.50	3.28
40741	F	10	100	2.0	15	2.67	1.94
40742	F	10	200	2.0	15	3.05	2.22
40743	F	10	400	2.0	15	3.83	2.78
40744	F	10	600	2.0	15	5.00	3.64
40745	FF	10	100	2.0	15	3.83	2.78
40746	FF	10	200	2.0	15	4.21	3.06
40747	FF	10	400	2.0	15	4.98	3.62
40748	FF	10	600	2.0	15	6.15	4.48

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SILICON CONTROLLED RECTIFIERS (Cont'd)

Type	Case	Irms A	Vbo V	Max. Gate Req'd V	Max. Gate Req'd mA Current	1-99	100-999
2N3669	TO-3	12.5	200	2.0	40	2.81	2.04
2N3670	TO-3	12.5	400	2.0	40	3.80	2.76
40749	G	20	100	2.0	15	3.43	2.50
40750	G	20	200	2.0	15	4.04	2.94
40751	G	20	400	2.0	15	5.45	3.96
40752	G	20	600	2.0	15	7.39	5.38
40753	F	20	100	2.0	15	3.93	2.86
40754	F	20	200	2.0	15	4.54	3.30
40755	F	20	400	2.0	15	5.94	4.32
40756	F	20	600	2.0	15	7.89	5.73
40757	FF	20	100	2.0	15	5.08	3.70
40758	FF	20	200	2.0	15	5.69	4.14
40759	FF	20	400	2.0	15	7.10	5.16
40760	FF	20	600	2.0	15	9.04	6.58
2N685	TO-48	25	200	3.0	25	4.81	3.50
2N687	TO-48	25	200	3.0	25	5.77	4.20
2N689	TO-48	25	500	3.0	25	8.05	5.85
2N690	TO-48	25	600	3.0	25	8.67	6.30
2N3873	G	35	600	2.0	40	8.22	5.98
2N3896	F	35	100	2.0	40	4.37	3.18
2N3897	F	35	200	2.0	40	5.03	3.66
2N3898	F	35	400	2.0	40	6.60	4.80
2N3899	F	35	600	2.0	40	8.75	6.36
2N3650	TO-48	35	100	3.0	180	9.90	7.20
2N3651	TO-48	35	200	3.0	180	12.40	10.26
2N3652	TO-48	35	300	3.0	180	18.71	15.48
2N3653	TO-48	35	400	3.0	180	22.77	18.84
40735	TO-48	35	600	3.0	180	31.40	26.00

THYRISTORS SILICON DIACS

Bidirectional trigger diodes for triggering triacs. IFM: to 2 A.

Type	Package	Ifm	Pwr. Diss. W	Vbo	1-99	100-999	1000-UP
1N5411	DO-26	2	0.5	29	.61	.44	.37
40 583	DO-26	2	0.5	29	.48	.35	.29

RCA Triacs

D

E

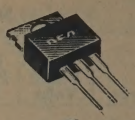
TO-5

F

G

K

TO-66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SILICON TRIACS — GATED BI-DIRECTIONAL

Type	Case	It rms A	It rms T°C	Vbo V	Vgt max. V	Igt max. mA	1-99	100-999
40769	TO-5	0.5	90	200	2.2	3.5	1.95	1.42
40770	TO-5	0.5	90	400	2.2	3.5	2.17	2.02
40771	TO-5	0.5	90	200	2.2	5	1.77	1.28
40772	TO-5	0.5	90	400	2.2	5	2.21	1.61
40684	D	1.9	25	100	0.9	5	1.57	1.14
40685	D	1.9	25	200	0.9	5	1.63	1.19
40686	D	1.9	25	400	0.9	5	2.01	1.46
40687	D	1.9	25	600	0.9	5	2.64	1.92
40731	D	2.3	75	200	1.5	45	1.73	1.26
40732	D	2.3	75	400	1.5	45	2.23	1.62
2N5754	TO-5	2.5	70	100	0.9	5	1.40	1.02
2N5755	TO-5	2.5	70	200	0.9	5	1.47	1.07
2N5756	TO-5	2.5	70	400	0.9	5	1.85	1.34
2N5757	TO-5	2.5	70	600	0.9	5	2.48	1.80
40525	TO-5	2.5	60	100	2.2	3	1.57	1.14
40526	Modified	2.5	60	200	2.2	3	1.78	1.30
40527	TO-5	2.5	60	400	2.2	3	2.48	1.80
40528	Modified	2.5	70	100	2.2	10	1.57	1.14
40529	TO-5	2.5	70	200	2.2	10	1.62	1.18
40530	Modified	2.5	70	400	2.2	10	2.31	1.68
40531	TO-5	2.5	60	100	2.2	3	1.73	1.26
40532	Modified	2.5	60	200	2.2	3	1.94	1.41
40533	TO-5	2.5	60	400	2.2	3	2.65	1.92
40534	Modified	2.5	70	100	2.2	10	1.73	1.26
40535	TO-5	2.5	70	200	2.2	10	1.78	1.30
40536	Modified	2.5	70	400	2.2	10	2.48	1.80
40693	D	2.5	70	100	1.5	45	1.57	1.14
40694	D	2.5	70	200	1.5	45	1.64	1.19
40695	D	2.5	70	400	1.5	45	2.01	1.46
40696	TO-5	2.5	70	100	1.5	45	1.41	1.02
40697	TO-5	2.5	70	200	1.5	45	1.47	1.07
40698	Modified	2.5	70	400	1.5	45	1.85	1.34
40691	TO-5	2.5	90	200	2.2	4	1.70	1.24
40692	TO-5	2.5	90	400	2.2	4	2.40	1.74
40761	D	2.5	90	200	2.2	4	1.86	1.36
40762	D	2.5	90	400	2.2	4	2.56	1.86
40766	TO-5	2.5	90	100	2.2	4	1.57	1.14
40767	D	2.5	90	100	2.2	4	1.73	1.26
40773	TO-5	2.5	90	200	2.2	15	1.88	1.37
40774	Modified	2.5	90	400	2.2	15	2.48	1.80
40733	K	4.2	75	200	1.5	45	1.65	1.20
40734	K	4.2	75	400	1.5	45	2.15	1.56
40429	TO-66	6	75	200	2.2	40	2.06	1.50
40430	TO-66	6	75	400	2.2	40	2.39	1.74
40502	E	6	75	200	2.2	40	2.23	1.62
40503	E	6	75	400	2.2	40	2.56	1.86
40485	TO-5	6	75	200	2.2	40	1.57	1.14
40486	Modified	6	75	400	2.2	40	2.06	1.50
40509	D	6	75	200	2.2	40	1.73	1.26
40510	D	6	75	400	2.2	40	2.23	1.62
40638	K	6	58	200	2.2	40	1.65	1.20
40639	K	6	58	400	2.2	40	2.15	1.56
40664	TO-5 Mod.	6	75	450	4	50	2.22	1.61
40667	K	6	75	450	4	50	2.05	1.49
40723	TO-5 Mod.	6	75	450	1.5	45	1.95	1.42
40724	D	6	75	450	1.5	45	2.05	1.49
40725	TO-5	6	75	200	1.5	45	1.57	1.14
40726	Modified	6	75	400	1.5	45	2.06	1.50
40727	TO-66	6	75	200	1.5	45	2.06	1.50
40728	TO-66	6	75	400	1.5	45	2.39	1.74
40729	E	6	75	200	1.5	45	2.23	1.62
40730	E	6	75	400	1.5	45	2.56	1.86
40775	G	6	90	200	2.5	20	3.07	2.23
40776	G	6	90	400	2.5	20	4.36	3.17
40777	F	6	90	200	2.5	20	3.55	2.58
40778	F	6	90	400	2.5	20	4.83	3.52
40668	Y	8	80	200	2.5	60	1.62	1.18
40669	Y	8	80	400	2.5	60	2.18	1.58
40721	Y	8	80	200	1.5	45	1.62	1.18
40722	Y	8	80	400	1.5	45	2.18	1.58
2N5567	G	10	85	200	2.5	40	3.38	2.46
2N5568	G	10	85	400	2.5	40	4.41	3.20
2N5569	F	10	85	200	2.5	40	3.88	2.82
2N5570	F	10	85	400	2.5	40	4.90	3.56
40717	G	10	85	200	1.5	45	3.38	2.46
40718	G	10	85	400	1.5	45	4.41	3.20
40719	F	10	85	200	1.5	45	3.80	2.82

SILICON TRIACS — GATED BI-DIRECTIONAL (Cont'd)

Type	Case	It rms A	It rms T°C	Vbo V	Vgt max. V	Igt max. mA	1-99	100-999
40720	F	10	85	400	1.5	45	4.90	3.56
40780	G	10	85	400	2.5	20	6.15	4.48
40781	F	10	85	200	2.5	20	5.45	3.95
40782	F	10	85	400	2.5	20	6.70	4.88
2N5571	G	15	80	200	2.5	80	3.47	2.52
2N5572	G	15	80	400	2.5	80	4.65	3.38
2N5573	F	15	80	200	2.5	80	3.96	2.88
2N5574	F	15	80	400	2.5	80	5.15	3.74
40575	TO-66	15	70	200	2.5	80	2.48	1.80
40576	TO-66	15	70	400	2.5	80	3.29	2.38
40711	G	15	80	200	1.5	45	3.47	2.52
40712	G	15	80	400	1.5	45	4.65	3.38
40713	F	15	80	200	1.5	45	3.96	2.88
40714	F	15	80	400	1.5	45	5.15	3.74
40715	TO-66	15	70	200	1.5	45	2.48	1.80
40716	TO-66	15	70	400	1.5	45	3.27	2.38
40783	G	15	80	200	2.5	20	5.20	3.78
40784	G	15	80	400	2.5	20	7.00	5.10
40785	G	15	80	200	2.5	20	5.95	4.32
40786	G	15	80	400	2.5	20	7.70	5.60
40660	G	30	65	200	2.5	80	5.78	4.20
40661	G	30	65	400	2.5	80	8.22	5.98
40662	F	30	65	200	2.5	80	6.27	4.56
40663	F	30	65	400	2.5	80	8.71	6.34
40671	G	30	65	600	2.5	80	11.14	8.10
40672	F	30	65	600	2.5	80	10.37	8.58
40705	G	30	65	200	1.5	45	5.78	4.20
40706	G	30	65	400	1.5	45	8.22	5.98
40707	F	30	65	200	1.5	45	6.27	4.56
40708	F	30	65	400	1.5	45	8.71	6.34
40709	G	30	65	600	1.5	45	11.14	8.10
40710	F	30	65	600	1.5	45	10.37	8.58
2N5441	G	40	70	200	2.5	80	8.17	5.94
2N5442	G	40	70	400	2.5	80	11.47	8.34
2N5443	G	40	70	600	2.5	80	13.63	11.28
2N5444	F	40	70	200	2.5	80	8.66	6.30
2N5445	F	40	70	400	2.5	80	10.51	8.70
2N5446	F	40	70	600	2.5	80	14.21	11.76
40699	G	40	70	200	1.5	45	8.17	5.94
40700	G	40	70	400	1.5	45	11.47	8.34
40701	G	40	70	600	1.5	45	13.63	11.28
40702	F	40	65	200	1.5	45	8.66	6.30
40703	F	40	65	400	1.5	45	10.51	8.70
40704	F	40	65	600	1.5	45	14.21	11.76

INTEGRAL TRIGGERS

Type	Case	It rms A	It rms T°C	1-99	100-999
40432	TO-5 modified	6	75	2.97	2.16
40511	D	6	75	2.72	1.98
40512	D	6	75	3.14	2.28

NEWARK—CAN SUPPLY

ALL YOUR SEMI NEEDS

AT O.E.M. PRICES

INTERNATIONAL RECTIFIER

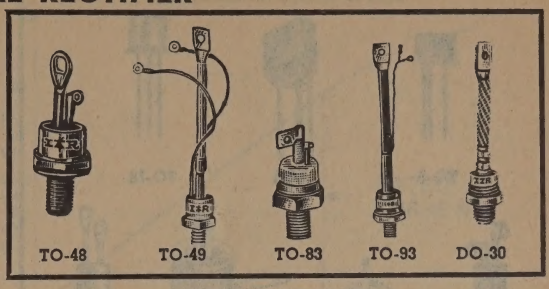
SILICON CONTROLLED RECTIFIERS

Type	Case	PRV V	It (RMS) A	Iqt mA	Vgt V	1-99	100-999
1R106F1	A-2	50	4.0	0.2	1.0	1.10	.73
1R106A1	A-2	100	4.0	0.2	1.0	1.18	.79
1R106B1	A-2	200	4.0	0.2	1.0	1.34	.89
1R106C1	A-2	300	4.0	0.2	1.0	1.70	1.15
2N1600	TO-64	50	4.7	8	1.0	5.10	4.10
2N1601	TO-64	100	4.7	8	1.0	5.70	4.25
2N1602I	TO-64	200	4.7	8	1.0	9.45	6.30
2N1603	TO-64	300	4.7	8	1.0	13.50	9.00
2N1604/	TO-64	400	4.7	8	1.0	16.80	10.80
2N1773*	TO-64	150	7.4	10	1.2	6.92	4.75
2N1774*/	TO-64	200	7.4	10	1.2	8.12	5.60
2N1775A*	TO-64	250	7.4	10	1.2	15.50	10.45
2N1776A*	TO-64	300	7.4	10	1.2	18.35	12.20
2N1777A*	TO-64	400	7.4	10	1.2	22.50	15.00
2N2619*	TO-64	600	7.4	10	1.2	21.30	14.20
2N685	TO-48	200	25	30	1.7	5.85	3.93
2N688	TO-48	400	25	30	1.7	8.25	5.45
2N689	TO-48	500	25	30	1.7	8.70	6.70
2N691	TO-48	700	25	30	1.7	12.80	10.60
2N692	TO-48	800	25	30	1.7	17.50	14.35
16RC20A/	TO-48	200	35	30	1.5	5.85	3.93
16RC40A/	TO-48	400	35	30	1.5	8.25	5.45
16RC50A/	TO-48	500	35	30	1.5	8.70	6.70
16RC80A/	TO-48	800	35	30	1.5	17.50	14.35
16RC100A	TO-48	1000	35	30	1.5	25.15	20.60
22RC10	TO-48	100	35	30	1.5	6.70	4.70
22RC20	TO-48	200	35	30	1.5	7.55	5.75
22RC30	TO-48	300	35	30	1.5	9.25	7.45
22RC40	TO-48	400	35	30	1.5	10.30	8.50
22RC50	TO-48	500	35	30	1.5	11.50	9.50
22RC60	TO-48	600	35	30	1.5	12.60	10.30
40RCS5	A-1	50	63	110	3.0	12.90	9.15
40RCS10	A-1	100	63	110	3.0	14.00	9.90
40RCS20	A-1	200	63	110	3.0	16.40	11.75
40RCS30	A-1	300	63	110	3.0	19.10	13.35
40RCS40	A-1	400	63	110	3.0	22.00	15.20
40RCS50	A-1	500	63	110	3.0	25.90	17.50
40RCS60	A-1	600	63	110	3.0	29.85	19.90
36RC10A**	TO-94	100	80	35	2.0	15.70	9.40
36RC20A**	TO-94	200	80	35	2.0	16.70	10.20
36RC30A**	TO-94	300	80	35	2.0	19.85	12.05
36RC40A**	TO-94	400	80	35	2.0	23.75	14.40
36RC50A**	TO-94	500	80	35	2.0	28.00	17.00
36RC60A**	TO-94	600	80	35	2.0	33.00	19.75
36RC80A**	TO-94	800	80	35	2.0	47.00	28.25
2N1792	TO-83	50	110	100	2.5	19.00	11.95
2N1793	TO-83	100	110	100	2.0	20.50	12.60
2N1794	TO-83	150	110	100	2.0	21.50	13.80

Continued next column

*tq—Typical Turn-off time:
5RC-A & 2N1770 series = 30 μsec
2N1770A series = 50 μsec

**36 are flexible lead devices TO-94. Replace with 37 for flag terminal devices TO-83.



SILICON CONTROLLED RECTIFIERS (Cont'd)

Type	Case	PRV V	It (RMS) A	Iqt mA	Vgt V	1-24	25-99
2N1795	TO-83	200	110	100	2.0	24.60	15.20
2N1796	TO-83	250	110	100	2.0	26.00	17.00
2N1797	TO-83	300	110	100	2.0	30.10	18.80
2N1798	TO-83	400	110	100	2.0	37.50	22.30
2N1799	TO-83	500	110	100	2.0	43.50	26.10
2N1800	TO-83	600	110	100	2.0	53.00	31.50
2N1801	TO-83	700	110	100	2.0	64.00	38.75
2N1802	TO-83	800	110	100	2.0	77.00	46.50
2N1803	TO-83	900	110	100	2.0	88.00	53.50
2N1804	TO-83	1000	110	100	2.0	102.00	72.00
151RA50	TO-93	500	235	35	1.2	95.00	57.00
151RA60	TO-93	600	235	35	1.2	115.00	69.00
151RA80	TO-93	800	235	35	1.2	165.00	99.00
151RA100	TO-93	1000	235	35	1.2	212.00	127.00
151RA110	TO-93	1100	235	35	1.2	238.00	143.00
151RA120	TO-93	1200	235	35	1.2	264.00	158.00
151RA130	TO-93	1300	235	35	1.2	286.00	172.00
250RA80	TO-118	800	400	40	1.2	271.00	203.00
300RA60	TO-118	600	470	40	1.2	249.00	211.00
300RA100	TO-118	1000	470	40	1.2	422.00	356.00
300RB80	TO-118	800	470	40	1.2	308.00	260.00
300RB100	TO-118	1000	470	40	1.2	400.00	338.00
350RA60	TO-118	600	550	40	1.2	300.00	254.00
350RA100	TO-118	1000	550	40	1.2	498.00	420.00

STANDARD FIRING CIRCUITS

Type	Connection	Voltage	No. of Scr's	1-9
CL1050	Single phase	120/240V	1 or 2	69.50
CL1066	3 phase, 3 wire	240/480V	3	130.00
CL1067	3 phase, 3 wire	240/480V	6	130.00

POWER LOGIC-TRIACS

100AC40	TO-94	400	100	200	1.5	112.50	72.00
100AC60	TO-94	600	100	200	1.5	164.00	115.00
100AC80	TO-94	800	100	200	1.5	230.00	140.00
100AC100	TO-94	1000	100	200	1.5	278.00	185.00
2N5257	TO-93	400	200	200	1.5	150.00	96.25
2N5258	TO-93	600	200	200	1.5	218.50	152.25
2N5259	TO-93	800	200	200	1.5	299.00	177.00
2N5260	TO-93	1000	200	200	1.5	359.00	213.00

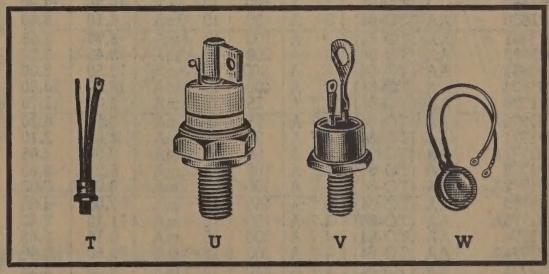
WESTINGHOUSE

THYRISTOR SILICON CONTROLLED RECTIFIERS LOW POWER

Type	Fig.	VFB Volts	Max. Irms	1-9	10-99
2N1846	V	200	16 Amp-125 Amp Surge	5.70	3.85
2N1847	V	250		6.20	4.15
2N1849	V	400		7.95	5.40
2N1850	V	500		9.45	6.30
2N684	V	150	25 Amp-150 Amp Surge	5.95	3.95
2N685	V	200		6.40	4.30
2N686	V	250		6.80	4.55
2N688	V	400		8.90	5.95
2N689	V	500		10.60	7.10
2N690	V	600		12.60	8.40
2N692	V	800		25.20	17.95

MEDIUM POWER

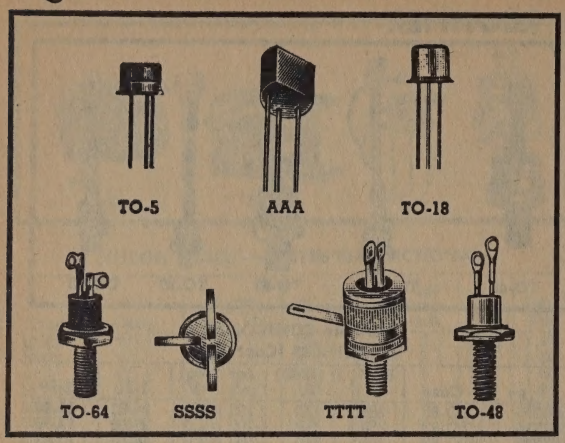
251B	T/U	100	63 Amp—1200 Amp Surge	16.50	10.00
251D	T/U	200		17.50	10.50
251F	T/U	300		21.00	12.75
251H	T/U	400		26.00	15.75
251K	T/U	500		31.00	18.50
250B	T/U	100	125 Amp—1600 Amp Surge	22.00	13.25
250D	T/U	200		26.00	15.75
250F	T/U	300		32.50	19.50
250K	T/U	500		44.00	26.50
250M	T/U	600		52.50	31.50



THYRISTOR SILICON CONTROLLED RECTIFIERS HIGH POWER

Type	Fig.	Vfb Volts	Max. Irms	1-24	25-99
263D	W	200	200 Amp—1600 Amp Surge	33.00	19.75
263F	W	300		40.00	24.00
263K	W	500		55.00	33.00
263M	W	600		64.00	38.00
263S	W	800		78.00	47.00
263Z	W	1000		92.00	55.25
263ZD	W	1200		115.00	69.00

Texas Instruments SCR's, Triacs & Triggers



UNIDIRECTIONAL THYRISTORS (SCR)

Type	Case	Io Avg.	Work. Volts	Iqt Max @25°C	Each 1-99	Each 100-999
*2N3001	R (TO-18)	0.25A	30	0.02mA	3.63	2.42
*2N3002	R (TO-18)	0.25A	60	0.02mA	3.90	2.60
*2N3003	R (TO-18)	0.25A	100	0.02mA	6.54	4.36
*2N3004	R (TO-18)	0.25A	200	0.02mA	9.08	6.05
*2N3005	R (TO-18)	0.25A	30	0.2 mA	3.30	2.20
*2N3006	R (TO-18)	0.25A	60	0.2 mA	3.63	2.42
*2N3007	R (TO-18)	0.25A	100	0.2 mA	5.99	3.96
*2N3008	R (TO-18)	0.25A	200	0.2 mA	8.25	5.50
T1145AO	I (TO-5)	0.56A	50	25 mA	1.65	1.10
T1145A1	I (TO-5)	0.56A	100	25 mA	1.80	1.20
T1145A2	I (TO-5)	0.56A	200	25 mA	2.10	1.40
T1145A3	I (TO-5)	0.56A	300	25 mA	3.30	2.20
T1145A4	I (TO-5)	0.56A	400	25 mA	5.25	3.50
*T1C44	AAA	0.6 A	30	0.2 mA	.77	.51
*T1C45	AAA	0.6 A	60	0.2 mA	.83	.55
*T1C46	AAA	0.6 A	100	0.2 mA	.96	.64
*T1C47	AAA	0.6 A	200	0.2 mA	1.09	.85
*2N3555	I (TO-5)	1 A	30	0.02mA	7.45	4.95
*2N3556	I (TO-5)	1 A	60	0.02mA	8.95	5.95
*2N3557	I (TO-5)	1 A	100	0.02mA	11.20	7.45
*2N3558	I (TO-5)	1 A	200	0.02mA	14.20	9.45
*2N3559	I (TO-5)	1 A	30	0.2 mA	5.75	3.83
*2N3560	I (TO-5)	1 A	60	0.2 mA	6.15	4.10
*2N3561	I (TO-5)	1 A	100	0.2 mA	8.60	5.75
*2N3562	I (TO-5)	1 A	200	0.2 mA	9.50	6.33
2N2322	I (TO-5)	1 A	25	75 mA	2.25	1.50
2N2323	I (TO-5)	1 A	50	0.35mA†	2.47	1.65
2N2324	I (TO-5)	1 A	100	0.35mA†	4.05	2.70
2N2325	I (TO-5)	1 A	150	0.35mA†	5.92	3.25
2N2326	I (TO-5)	1 A	200	0.35mA†	7.50	5.20
2N1595	I (TO-5)	1 A	50	10 mA	3.00	2.00
2N1596	I (TO-5)	1 A	100	10 mA	4.50	3.05
2N1597	I (TO-5)	1 A	200	10 mA	9.35	6.20
2N1598	I (TO-5)	1 A	300	10 mA	14.45	9.65
2N1599	I (TO-5)	1 A	400	10 mA	19.35	12.90
2N1600	AA (TO-64)	3 A	50	10 mA	5.10	3.40
2N1601	AA (TO-64)	3 A	100	10 mA	5.70	3.45
2N1602	AA (TO-64)	3 A	200	10 mA	9.45	6.30
2N1603	AA (TO-64)	3 A	300	10 mA	13.50	9.00
2N1604	AA (TO-64)	3 A	400	10 mA	16.80	10.80
2N1770	AA (TO-64)	4.7 A	25	15 mA	4.05	2.70
2N1770A	AA (TO-64)	4.7 A	25	15 mA	6.15	4.10
2N1771	AA (TO-64)	4.7 A	50	15 mA	4.65	3.10
2N1771A	AA (TO-64)	4.7 A	50	15 mA	7.00	4.65
2N1772	AA (TO-64)	4.7 A	100	15 mA	5.75	3.85
2N1772A	AA (TO-64)	4.7 A	100	15 mA	9.00	6.00
2N1773	AA (TO-64)	4.7 A	150	15 mA	7.00	4.65
2N1773A	AA (TO-64)	4.7 A	150	15 mA	11.10	7.40
2N1774	AA (TO-64)	4.7 A	200	15 mA	8.15	5.45
2N1774A	AA (TO-64)	4.7 A	200	15 mA	13.50	9.00
2N1775	AA (TO-64)	4.7 A	250	15 mA	9.35	6.25
2N1775A	AA (TO-64)	4.7 A	250	15 mA	15.15	10.50
2N1776	AA (TO-64)	4.7 A	300	15 mA	10.65	7.10
2N1776A	AA (TO-64)	4.7 A	300	15 mA	18.40	12.25
2N1777	AA (TO-64)	4.7 A	400	15 mA	12.45	8.30
2N1777A	AA (TO-64)	4.7 A	400	15 mA	23.65	15.75
2N1778	AA (TO-64)	4.7 A	500	15 mA	18.15	12.10
T140AO	AA (TO-64)	5 A	50	25 mA	1.70	1.18
T140A1	AA (TO-64)	5 A	100	25 mA	1.85	1.28
T140A2	AA (TO-64)	5 A	200	25 mA	2.05	1.52
T140A3	AA (TO-64)	5 A	300	25 mA	3.65	2.45

*Preferred Semiconductor. †@ —65°C.

Continued Next Column

UNIDIRECTIONAL THYRISTORS (Continued)

Type	Case	Io Avg.	Work. Volts	Iqt Max @25°C	Each 1-99	Each 100-999
T140A4	AA (TO-64)	5 A	400	25 mA	5.50	3.55
T1C220B	SSSS	6 A	200	50 mA	2.25	1.70
T1C220D	SSSS	6 A	400	50 mA	2.65	2.00
T1C220E	SSSS	6 A	500	50 mA	3.40	2.55
T1C221B	TTTT	6 A	200	50 mA	2.95	2.20
T1C221D	TTTT	6 A	400	50 mA	3.45	2.60
T1C221E	TTTT	6 A	500	50 mA	4.15	3.10
T1C222B	UUUU	6 A	200	50 mA	2.65	2.00
T1C222D	UUUU	6 A	400	50 mA	3.00	2.25
T1C222E	UUUU	6 A	500	50 mA	3.75	2.80
T1C230B	SSSS	10 A	200	50 mA	3.00	2.25
T1C230D	SSSS	10 A	400	50 mA	3.65	2.75
T1C230E	SSSS	10 A	500	50 mA	4.40	3.30
T1C231B	TTTT	10 A	200	50 mA	3.75	2.80
T1C231D	TTTT	10 A	400	50 mA	4.35	3.25
T1C231E	TTTT	10 A	500	50 mA	5.05	3.80
T1C232B	UUUU	10 A	200	50 mA	3.40	2.55
T1C232D	UUUU	10 A	400	50 mA	4.00	3.00
T1C232E	UUUU	10 A	500	50 mA	4.75	3.55
T1C240B	SSSS	15 A	200	50 mA	3.12	2.35
T1C240D	SSSS	15 A	400	50 mA	4.15	3.10
T1C240E	SSSS	15 A	500	50 mA	4.80	3.60
T1C241B	TTTT	15 A	200	50 mA	4.00	3.00
T1C241D	TTTT	15 A	400	50 mA	4.85	3.65
T1C240E	TTTT	15 A	500	50 mA	5.50	4.15
T1C242B	UUUU	15 A	200	50 mA	3.52	2.65
T1C242D	UUUU	15 A	400	50 mA	4.45	3.35
T1C242E	UUUU	15 A	500	50 mA	5.10	3.85
2N1842B	VV (TO-48)	16 A	25	75 mA	2.89	1.93
2N1843B	VV (TO-48)	16 A	50	75 mA	3.71	2.48
2N1844B	VV (TO-48)	16 A	100	75 mA	5.78	3.85
2N1845B	VV (TO-48)	16 A	150	75 mA	5.94	3.96
2N1846B	VV (TO-48)	16 A	200	75 mA	6.19	4.13
2N1847B	VV (TO-48)	16 A	250	75 mA	6.60	4.40
2N1848B	VV (TO-48)	16 A	300	75 mA	12.70	8.45
2N1849B	VV (TO-48)	16 A	400	75 mA	15.60	10.40
2N1850B	VV (TO-48)	16 A	500	0.35mA†	18.40	12.25
2N681	VV (TO-48)	16 A	25	40 mA	3.30	2.20
2N681A	VV (TO-48)	18 A	25	40 mA	3.58	2.42
2N682	VV (TO-48)	16 A	50	40 mA	4.13	2.75
2N682A	VV (TO-48)	18 A	50	40 mA	4.55	3.03
2N683	VV (TO-48)	16 A	100	40 mA	6.19	4.13
2N683A	VV (TO-48)	18 A	100	40 mA	6.80	4.55
2N684	VV (TO-48)	16 A	150	40 mA	6.35	4.24
2N684A	VV (TO-48)	18 A	150	40 mA	7.00	4.65
2N685	VV (TO-48)	16 A	200	40 mA	6.60	4.40
2N685A	VV (TO-48)	18 A	200	40 mA	7.25	4.84
2N686	VV (TO-48)	16 A	250	40 mA	7.01	4.68
2N686A	VV (TO-48)	18 A	250	40 mA	7.70	5.15
2N687	VV (TO-48)	16 A	300	40 mA	14.60	9.75
2N687A	VV (TO-48)	18 A	300	40 mA	16.00	10.70
2N688	VV (TO-48)	16 A	400	40 mA	17.10	11.40
2N688A	VV (TO-48)	18 A	400	40 mA	18.80	12.50
2N689	VV (TO-48)	16 A	500	40 mA	20.60	13.75
2N689A	VV (TO-48)	18 A	500	40 mA	22.60	15.10

t@—65°C

BIDIRECTIONAL THYRISTORS (TRIAC)

Type	Case	Io Avg.	Work Volts	Iqt Max @25°C	Each 1-99	Each 100-999
2N5273	VV (TO-48)	25 A	200	150 mA	7.50	5.00
2N5274	VV (TO-48)	25 A	400	150 mA	15.30	10.20
2N5275	VV (TO-48)	25 A	600	150 mA	24.00	16.00

THYRISTOR-TRIGGER DIODES (DIAC)

Type	Case	Avg. Pwr.	Ipk (10 ns)	V(BR)[1] V(BR)† V	V(BR)[2] V	△V†** V	Each 1-99	Each 100-999
*T142A	PP	100mW	1A	32±4	....	8	.30	.20
*T143A	PP	100mW	1A	32±4	4	8	.45	.30
T1C54	PP	100mW	1A	32±6	....	8	.24	.16
T1C55	PP	100mW	1A	32±8	....	8	.21	.14
T1C56	PP	100mW	1A	32±6	4	8	.40	.27
T1C57	PP	100mW	1A	32±8	4	8	.30	.20

*Preferred semiconductor **dv/dt=12 V/ms.

†Breakdown and breakback voltage apply unilaterally to T142A, T1C54 and T1C55; bilaterally to the others.

You can depend on Newark for every semiconductor need. Same day shipment from on-the-shelf stocks.

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RCA • International Rectifier

***included in price index only**

Applicable military specification non-applicable

BASIC INFORMATION

SOME OPTO ELECTRONICS DEFINITIONS

Dark Current — The maximum current through the collector terminal of a detector measured under dark conditions (H=O), with a stated collector voltage load resistance and ambient temperature (base open).

H-Radiation Flux Density (Irradiance) mW/cm²—The total incident radiation energy measured in power per unit area.

SREO—Collector Emitter Radiation Sensitivity (mA/mW/cm²)—The ratio of photo induced collector emitter current to the incident radiation energy measured at the plane of the lens of the photo device under stated conditions of radiation flex density, collector voltage, load resistance, and ambient temperature.

Coherence (phase, spatial, and polarization)—The term implies that there is no variation in phase, amplitude or polarization at the wavefront.

Emitter — A very general term for any device from which radiation is given off.

I_L, Light Current — The photo induced current flow under stated conditions of radiation flux density, voltage and load.

Light — Refers to radiation that is not necessarily visible. This radiation may be analyzed and controlled by optical techniques.

Injection Laser Diode — A semiconductor p-n junction which uses lasing to increase the light output and concentrate the light in a small area. The initial radiation which is amplified by lasing comes from spontaneous (non-coherent) emissions precisely like those of an emitter. The amplification is in excess of 1,000 times. The amplification occurs only in the junction area where carriers are able to recombine and between the faces of a Fabry-Perot cavity formed by two parallel sides of the semiconductor chip. Thus, the amplified radiation is concentrated into a small area. The radiation leaves the cavity through the partially transmitting side of the semiconductor chip.

Laser (Light Amplification by Stimulated Emission of Radiation) — A device for generating light by lasing.

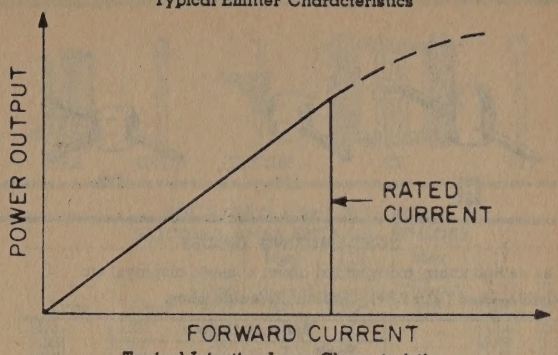
Lasing — The process of stimulating early recombination of carriers to emit radiation in the same direction as, and coherent with, some initial (stimulating) radiation. It represents amplification which preserves the direction, frequency, and phase of the amplified light.

Non-Coherent (or incoherent) — Refers to radiation without coherence . . . usually completely random in phase and direction.

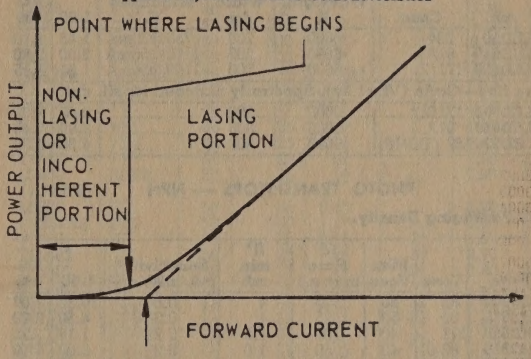
Radiation — A very general term to describe all electro-magnetic waves. It includes heat (14,000 to 40,000 A), visible light (4,000 to 7,000 A), infrared light, and x-rays (<30A).

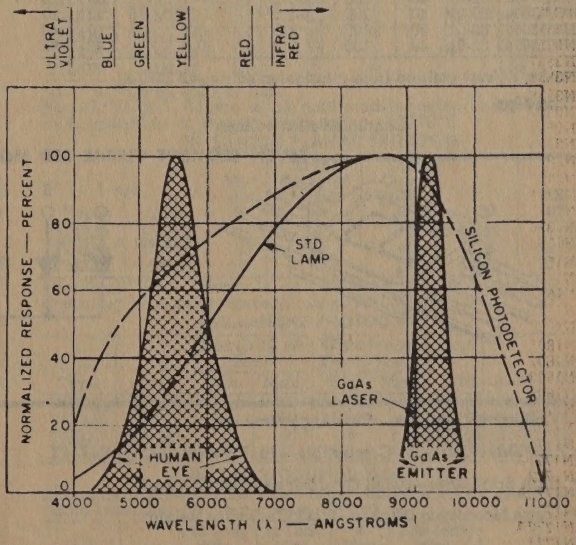
Spectrum — Band of wavelengths produced by the laser or emitter. Spectral width is usually defined between half-amplitude points.

Typical Emitter Characteristics



Typical Injection Laser Characteristics





RCA OPTO ELECTRONIC DEVICES

Lasers—Single Diode—Case OP-3

These edge emitting diodes will operate in a lasing mode when I_{FM} exceeds the threshold level. Designed for a duty factor of 0.1% (pulse duration = 0.2 μsec max.) the foreword voltage drop at maximum drive is typically 9 volts. Wavelength = 9050 ± 10 A.

Type	Pk Pwr Out (W) Min	Typ	@If (A)	Ith (A) typ	Source Size (Mil)	1-99
TA7606	1	2	10	4	3X.08	18.85
TA7609	10	13	30	9	9X.08	31.90

Infrared Emitters

These miniature units emit at 9,300A and offer a package which allows 0.1 inch mounting centers.

Type	Case	POUT @IFM=50mA MW	Peak Pwr @IFM=1.0A MW typ	1-99	100-999	1000 Up
40598A	OP-1	1.0	24	4.95	3.60	3.00
40736R	OP-10	1.0	24	4.95	3.60	3.00

NEWARK's your best first choice.

Motorola Opto-Electronic Devices

171
234 | 173 | 172 | 81A | 82
82-01 | 210-1 | 29-14

LIGHT-EMITTING DIODES

Use as indicators, modulators, alpha numeric displays, etc.

Visible—Red (Vf=1.6v). Gallium Arsenide phos.

Type	Case	Spectral Output: Peak Wavelgth. Å	Spectral Output: Width Δy	Spectral Output: Brightness fL	1-99	100-999
MLED50	234	6600	200	750@20mA	1.45	1.10
MLED610	81A	6600	200	1100@50mA	3.90	2.60
MLED600	171(2)	6600	200	1100@50mA	1.50	1.15
Infra Red—GaAs (Vf=1.2v). Spectrally matched for sil. det.						
MLED900	171(2)	9000	300	.....	2.00	1.50
MLED910	81A	9000	300	.....	3.60	2.40
MLED930	82 (TO-18)	9000	300	.....	4.90	3.30

PHOTO TRANSISTORS — NPN

Low Packaging Density.

Type	Case	Max Vceo	Id H=o max nA	Il* min mA	Sensitivity* mA/mW/cm²	1-99	100-999
MRD300	82	50	25	4	0.8	10.50	7.00
MRD310	82	50	25	1	0.2	4.50	3.00
MRD450	171	40	100	1.0	0.2	1.13	.75
MRD810	82-01	40	50	1.0	0.2	6.00	4.10
MRD3050	82-01	40	100	0.1	0.02	1.20	.80
MRD3051	82-01	40	100	0.2	0.04	1.35	.90
MRD3052	82-01	40	100	.1-.4**	.02-.03**	1.80	1.20
MRD3053	82-01	40	100	.2-1.0**	.05-.2**	1.80	1.20
MRD3054	82-01	40	100	.6-2.5**	.1-.5**	1.95	1.30
MRD3055	82-01	40	100	1.5	0.3	2.10	1.40
MRD3056	82-01	40	100	2.0	0.4	2.40	1.60

*H-5 mW/cm² emitted from a tungsten source @ 2870 K.

**Min-Max.

Continued next column

PHOTO TRANSISTORS (Cont'd)

High Packaging Density.

Type	Case	Max Vceo	Io H=o max nA	Il* min mA	Sensitivity mA/mW/cm²	1-99	100-999
MRD100	172	40	100	0.2	0.04	1.50	1.00
MRD150	173	40	100	0.2	0.04	1.20	.80
MRD200	81A	50	25	1.25	0.25	3.90	2.60
MRD210	81A	50	25	0.25	0.05	3.45	2.30
MRD250	81A	50	25	0.5	0.1	3.60	2.40
MRD600	81A	50	25	0.2	0.04	3.15	2.10

*H-5 mW/cm² emitted from a tungsten source @ 2870 K.
**Min-Max.

PIN SILICON PHOTO DIODES

For laser detection, light demodulation, etc., requiring high speed (switching time = 1 nsec typ) and high sensitivity.

Type	Case	Sensitivity @ H*=5mW/cm² μA/mW/cm²	Idark H=o max mA	Il H=5mW/cm² min μA	1-99	100-999
MRD500	209-1	1.2	2.0	6.0	10.90	7.25
MRD510	210-1	0.3	2.0	1.5	9.90	6.60

*H is radiation flux density emitted from a tungsten source at 2870 K.

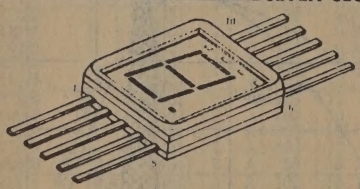
PHOTO DARLINGTON AMPLIFIERS

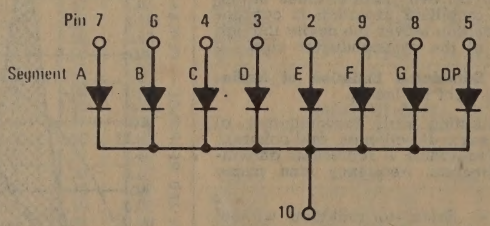
Designed for high sensitivity and low cost these cast epoxy units are Motorola's most economical detectors.

Type	Sensitivity mA/mW/cm²	Idark H=o max mA	Il* Typ mA	Switch time μsec max	1-99	100-999
2N5777	2	100	4	400	.60	.50
2N5778	2	100	4	400	.70	.55
2N5779	4	100	8	400	1.00	.70
2N5780	4	100	8	400	1.20	.80
MRD 14B	1	100	2	400	.55	.40

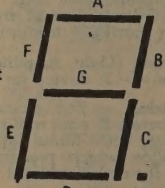
*H = 2mW/cm² emitted from a tungsten source @ 2870 K.

SEVEN SEGMENT VISIBLE RED MONOLITHIC READOUT MODULES





Segment Layout



- Visible Red Emission—6600 Angstroms (typ.).
- Low Drive Current—Compatible with Integrated Circuits.
- High Brightness—200 fL (typ. per segment @ 10 mA).
- Large Monolithic Display—0.125 Character Height.

For applications requiring visible numerical display with low drive power, very fast response time and high density mounting for multidigit readouts. Displays numerals 0 through 9 and the letters A,C,E,F,H,J,L,P and U. Figures are displayed on single plane and can be viewed a wide angle from perpindicular. Character height is .125" and width .08" on 9° slant. Case dimensions are .370" long, .290" wide and .10" high. Leads extend minimum of .250" from both sides of case.

MOR33..... 1-9.....12.00 10-99.....9.50

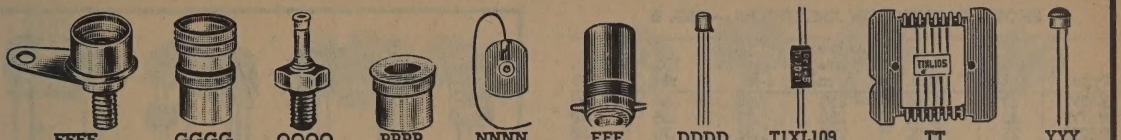
ELECTRICAL CHARACTERISTICS

(Per Segment @ Ta = 25°C unless noted otherwise.)

Characteristic		Typical Value
Reverse Leakage Current—Ir		100 nA
(Vr = 3.0 V, Rl = 1.0 Megohm)		3.0 V
Reverse Breakdown Voltage—BVr (min.)		1.6 V
(Ir = 100 μA)		2.0 V Max.
Forward Voltage—Vf		70 pF
(If = 10 mA)		120 pF
Total Capacitance—Ct	Segment	25 mA
(Vr = 0 V, f = 1.0 MHz)	Decimal Point	20 mA
Forward Current Continuous—If	Segment	400 mW
	Total	6.67 mW/°C
Total Device Dissipation @ Ta = 25°C—Pd		
Derate above 25°C		

For a complete listing of compatible RTL, DTL, and TTL Decoder/Drivers, refer to the Digital Integrated Circuit Section of your NEWARK Catalog.

Texas Instruments Opto-Electronic Devices



SOLID STATE LIGHT EMITTERS
GALLIUM ARSENIDE INFRARED SOURCES

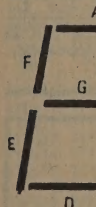
Type	Case	@ If: y Peak Typ. A	@ If: Pont Min. mW	@ If: Vf Max. V	@ If: If mA	1-24	25-99	100-999
T1XL03	FFFF	9200	15	2.2	2000	155.00	135.00	107.00
T1XL05	FFFF	9100	1	2.4	750	65.00	55.00	40.00
T1XL06	FFFF	9100	0.6	2.3	500	55.00	50.00	35.00
T1XL08	FFFF	9100	3	1.8	500	95.00	82.00	65.00
T1XL12	FFFF	9300	40	2	300	377.00	328.00	300.00
T1XL13	FFFF	9300	20	2	300	180.00	155.00	135.00
T1XL15	FFFF	9300	30	2	1000	195.00	175.00	155.00
T1XL17	GGGG	8500	10	2	200	310.00	260.00	235.00
T1XL18	GGGG	8200	5	2	200	385.00	325.00	290.00
T1XL19	OOOO	8500	10	2	200	385.00	325.00	290.00
T1XL20	OOOO	8200	5	2	200	385.00	325.00	290.00
T1XL21	PPPP	8500	10	2	200	385.00	325.00	290.00
T1XL22	PPPP	8200	5	2	200	385.00	325.00	290.00
T1XL14	FFFF	9300	60	2	1000	380.00	355.00	315.00
T1XL16	NNNN	9300	200	2	2000	300.00	260.00	235.00
						1-99		100-999
T1L01	EEEE	9000	0.05	1.3	50	13.00		9.50
T1L09	GGGG	9100	0.5	1.4	50	26.00		19.00
T1XL10	DDDD	9000	0.125	1.4	150	14.50		9.50

VISIBLE EMITTERS
GALLIUM ARSENIDE PHOSPHIDE LIGHT SOURCES

Type	Case	peak Type A	B Lum. Min. FL	Vf Max. V	If mA	1-99	100-999
T1L201	QQQQ	6700	300	2.5	50	2.85	1.90
T1L202	QQQQ	6700	100	3	50	1.90	1.27

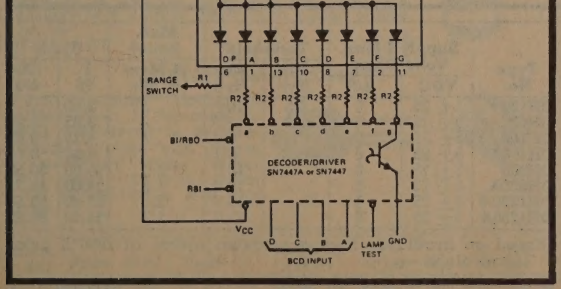
SOLID-STATE VISIBLE RED DISPLAY WITH DECIMAL

A low-power high-brightness semiconductor display made with all segments in a single plane. The emitting diodes are mounted on a ceramic substrate. The assembly is then cast with a clear, non-conductive plastic. Size: 0.740" x 0.40" x 0.125".



ABSOLUTE MAXIMUM RATING
Vreverse @ 25°C—segment—6V.
decimal point—3V
If @ 25°C (continuous)
each segment— 30 mA
total —240 mA
(derate to 70°C by 5.34 mA/°C)
Temperature range 0°C to 100°C.

ELECTRICAL CHARACTERISTICS @ 25°C
Brightness @ If = 20mA 350 fL Typ.
Wavelength (peak) 6550 A
Spectral Width 400 A
Irev (Vr = 6 V segments; Vr = 3 V D. Pt.) 100μA
Vf static segments — 3.4 V
decimal point — 1.7 V



Type T1XL302. 1-9.....18.75 10-99.....15.75

SOLID STATE LIGHT DETECTORS
SILICON PLANAR EPITAXIAL SENSORS

Type	Case	Max Diss MW	Max Dark Current NA	Min Light Current MA	Max Light Current MA	1-99	100-999
H11	ZZZ	250	500	.04*	.....	4.00	2.80
H35	ZZZ	250	500	.06*	.....	5.00	3.50
H38	ZZZ	250	10,000	0.1*	.....	4.00	2.80
T1L58	XXX	50	25	1†	.....	8.90	7.75
H60	ZZZ	250	500	0.1*	.2*	8.00	5.60
H61	ZZZ	250	500	0.2*	.3*	9.00	6.25
H62	ZZZ	250	500	0.3*	.4*	13.50	10.00
LSX900	AAAA	50	9	.006†	.....	8.85	5.90
T1L63	YYY	50	25	0.4†	.....	1.00	.67
T1L64	YYY	50	25	0.4†	1.6	1.16	.78
T1L65	YYY	50	25	10†	4	1.18	.79
T1L66	YYY	50	25	2.5†	10	1.26	.84
T1L67	YYY	50	25	6†	.....	1.50	1.00
LS400 (1N4378)	BBBB	50	25	1†	.....	7.80	5.20
LS600 (1N2175)	JJJJ	50	25	0.8*	.....	3.20	2.15
T1L601	JJJJ	50	500	1.1*	.....	6.00	4.00
T1L602	JJJJ	50	25	0.5†	3†	3.52	2.36
T1L603	JJJJ	50	25	2†	5†	3.70	2.48
		50	25	4†	8†	3.80	2.60
T1L604	JJJJ	50	25	7†	.....	4.10	2.75
T1L605	KKKK	50	25	0.5†	3†	3.70	2.48
T1L606	KKKK	50	25	2†	5†	3.97	2.66
T1L607	KKKK	50	25	4†	8†	4.15	2.77
T1L608	KKKK	50	25	7†	.....	4.36	2.92
T1L609	LLLL	50	25	0.5†	3†	3.52	2.36
T1L610	LLLL	50	25	2†	5†	3.70	2.48
T1L611	LLLL	50	25	4†	8†	3.88	2.60
T1L612	LLLL	50	25	7†	.....	4.10	2.75
T1L613	MMMM	50	25	0.5†	3†	3.70	2.48
T1L614	MMMM	50	25	2†	5†	3.97	2.66
T1L615	MMMM	50	25	4†	8†	4.13	2.77
T1L616	MMMM	50	25	7†	.....	4.36	2.92

*H=9 mW/cm2, =0.7 to 1μm.
†H=20mW/cm2. Source is an unfiltered tungsten linear-filament bulb operating at a color temperature of 2870°K.

PN SILICON PLANAR EPITAXIAL

Type	Case	Vbr Min V	Light Current* @5V μA	Tot. Cap. @30V pF	1-99	100-999
T1XL51	HHHH	75	90	110	39.75	31.90
T1XL52	HHHH	80	25	40	36.80	29.50
T1XL53	HHHH	100	10	24	34.60	27.70

*H=20 mW/cm². Source is an unfiltered tungsten-filament bulb operating at a color temperature of 2870°K.

AVALANCHE PHOTODIODES

Type	Case	Vbr @ 10 μA H=0: Min.	Vbr @ 10 μA H=0: Max.	Wavelength For 50% eff.: Min.	Wavelength For 50% eff.: Max.	1-24	25-99	100-999
T1XL55	CCCC	140	200	0.7	1	120.00	102.00	90.00
T1XL56	DDDD	140	200	0.7	1	98.00	83.60	66.00
T1XL57	DDDD	30	60	0.8	1.6	150.00	125.00	98.00
T1XL59	RRRR	140	200	0.7	1	225.00	195.00	150.00

OPTICALLY COUPLED ISOLATORS

Electrical separation between input emitting diode and output photo transistor is greater than 10^{12} ohms.

Type	Case	Ic (on) Min. mA	Ic (off) Max. nA	Vf Max. V	Vce (sat) Max. V	1-99	100-999
T1XL101	IIII	0.25	25	1.4	0.3	12.00	8.05
T1XL102	V	2.5	100	1.3	0.3	10.00	6.70
T1XL103	V	10	100	1.3	0.3	12.00	8.05

OPTICALLY COUPLED PULSE AMPLIFIERS

Type	Case	Output Y: Vout (1) Min.* V	Output Y: Vout (0) Max.** V	Vf @ 10mA Typ V	Max. Diss. mW	1-24	25-99	100-999
T1XL104	TT	....	.....	1.2	75	49.50	42.50	36.00
T1XL105	TT	5	0.5	1.2	75	49.50	42.50	36.00
T1XL106	TT	5	0.5	1.2	75	67.50	56.25	47.00

*Iin 10mA, NDC 7. **Iin 0.5m A,N DC 7.

Opto Electronic Devices

GENERAL ELECTRIC

PHOTO DARLINGTON AMPLIFIERS — FIG. B

Type	Vceo Vcbo	hfe Min.	Light Current Il. mA	1-99	100-999	1000-9999
2N5777	25	2.5K	250	.60	.50	.35
2N5778	40	2.5K	250	.70	.55	.40
2N5779	25	5.0K	250	1.00	.70	.50
2N5780	40	5.0K	250	1.20	.80	.55

PHOTO TRANSISTORS

These silicon transistors are cast in clear epoxy to give maximum performance at minimum cost. All units are rated to have a maximum dark current of 100 nA (V_{CE} = 30V, H = O, I_B = O), V_{CBO} = 5 V, $V_{CE(Sat)}$ = 0.2V. The light current rating is at 10 mW/cm² effective irradiation.

Type	Max at 25°C Vceo Vcbo	Il mA	t on µsec	Il* µA max	Case	1-99	100-999	1000 9999
LI4A502	45	100	7	7000	TO-98	6.00	4.00	3.60
LI4E1	50	100	6	300	TO-92	.72	.48	.40
LI4E2	50	100	15	700	TO-92	.59	.39	.33
LI4E3	50	100	20	1000	TO-92	1.08	.72	.60
LI4E4	50	100	—	—	TO-92	.56	.38	.31

*V_{CE}=30V, H=10mW/cm²

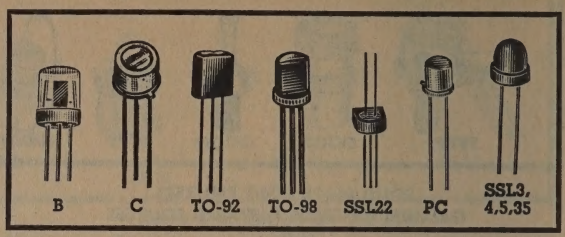
PHOTON COUPLERS (SOLID STATE RELAYS)

Type	Volts	Current mA	I_{DC} Transfer Ratio	Isolation Resistance @ 500 V
PC 4-73	1.0	100	125%	100X10⁹Ω
PC15-26	1.3	60	35%	100X10⁹Ω

LIGHT ACTIVATED SILICON CONTROLLED SWITCH—FIG. C

These PNPN deviecs can be fired with a cathode gate current of 10 µA or optically with 10 mW/cm² effective irradiance. Turn on time, 15 µsec. Size: 0.230X0.225"

Type	PRV V	I_{FWD} mA	1-99	100-999	1000-Up
LIV/LASCS	40	170	3.15	2.10	1.89



LIGHT ACTIVATED SCR's—FIG. C

Electrical firing characteristics are the same as the 2N1930 sereis SCR (see SCR, Triac section under GE). Electrical gating if used should be 0.8 v and 220 µA @ 25°C Tj max. Optical firing can be achieved with an effective irradiance at 25°C Tj, 6 VDC of 0.68 to 10.0 mW/cm² (L9, L911 0.68 to 4.2mW/cm²). The L8, L9 units come in a modified TO-5 while the L811, and L911 units are a TO-5 on a diamond base heat sink.

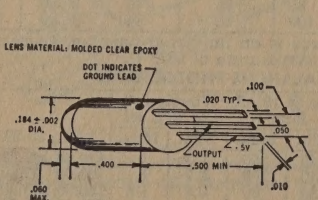
PRV	Type	1-99	100-999	Type	1-99	100-999
Max I_{DC}=0.44A @ 25°C						
25	L8U	4.50	3.00	L9U	4.95	3.30
50	L8F	4.90	3.25	L9F	5.40	3.60
100	L8A	7.00	4.65	L9A	7.65	5.10
150	L8G	9.45	6.30	L9G	10.45	6.95
200	L8B	11.85	7.90	L9B	13.05	8.70
Max I_{DC}=0.77A @ 25°C						
25	L811U	6.00	3.75	L911U	6.95	4.05
100	L811A	8.50	5.45	L911A	9.15	5.85
150	L811G	10.95	7.05	L911G	11.95	7.70
200	L811B	13.35	8.65	L911B	14.55	9.45

SOLID STATE LAMPS/LIGHT EMITTING DIODES*

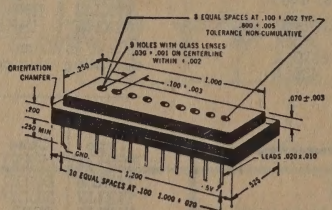
Type	Peak Emission A	Volts V	Current mA	Typ. Output	Freq. MHz
SSL-3	5400	1.35	100	100FL	0.001
SSL-4	9000	1.25	100	0.4MW	100
SSL-5A	9400	1.35	100	1.5MW	1
SSL-5B	9400	1.35	100	2.3MW	1
SSL-5C	9400	1.35	100	2.9MW	1
SSL-15	9400	1.30	20	0.5MW	1
SSL-315	9400	1.30	20	1.0MW	1
SSL-22	7000	2.10	10	0.15MW	1
SSL-34	9000	1.25	100	0.9MW	100
SSL-35	9400	1.35	100	5.5MW	1

Light Emitting material galium arsenide except type SSL-22 galium phosphide, type SSL-3 galium arsenide and phosphor.

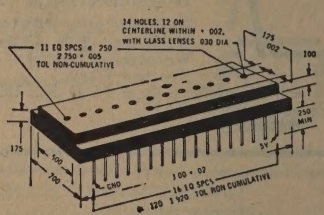
CENTRALAB



(OH100, OH200, OH106,A)



(OH900,A)



(OH1200,A)

OPTO-HYBRID READERS

- **High Photo Sensitivity**
- **Compatible Low Impedance DTL/TTL Output**
- **One Microsecond Response**
- **Sharp Light Detection Threshold**

DTL/TTL compatible digital output for punched card and tape data reading. Complete light sensor subsystems combine best qualities of a silicon photovoltaic detector with highly stable hybrid amplifier/digitizer microcircuitry in one package. Size and weight are one-tenth or less that of discrete layouts. Min. output at high (light) where I_{OH} = 0.2 mA, 4.5 VDC. Max. output low (dark) I_{OL} = —10 mA, 0.4 VDC. (Inverted output for negative logic also available). Propogation delay: 1.0 sec. Max. shape factor (defined as $F=1+(H_2-H_1)/Hth$): 1.10. Oper. temp., 0 to +75°C.

Type No.	Supply I Max. Volts/Chan. VDC	mA	Threshold* Min H_{TH}	Max H_{TH}	Max. Ratio† H Max/ H Min	Each 1-99	100-499
OH100	5±.25	6	2.5	10.0	....	3.50	.....
OH102	5±.25	6	1.0	3.0	....	3.85	3.20
OH106	5±.25	6	.....	0.2	....	4.25	3.65
OH106A	5±.25	6	.03	0.1	....	4.60	3.95
OH900	5±.25	6	.....	10.0	2.0	36.00	30.50
OH900A	5±.25	6	.....	10.0	1.2	54.00	45.75
OH1200	5±.25	6	.....	10.0	2.0	63.00	53.50
OH1200A	5±.25	6	.....	10.0	1.2	94.50	80.25

*Based on irradiance from a tungston source at 2800°K color temperature.

†H Max is the highest threshold among all channels in same array; H Min is lowest.

Thermalloy Heat Sinks and Coolers

A

B

C

D

E

F

G

H

Power semiconductor coolers. 6001-4 series: have all directional air flow slanted vanes, more effective than other convection coolers per unit volume. 6401,3,21,23 series: for use with power transistors, hi-power diodes, and SCR's. Large surface area has low thermal resistance. 6141, 6601, 6500 series: small size for compact designs. All black anodized finish, MIL-A8625 type II.

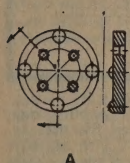
Stk.No.	Type	Fig.	Fits Case Type	Size,inches L x W x H			TR C/W	1-24	25-49	50-99
43F650	6001B-2	A	TO-3	1.81	1.81	.50	7.9	.81	.65	.61
43F651	6002B-2	A	TO-3	1.81	1.81	.75	7.2	.85	.68	.64
43F652	6003B-2	A	TO-3	1.81	1.81	1.00	6.5	.95	.76	.67
43F653	6004B-2	A	TO-3	1.81	1.81	1.25	6.0	1.07	.86	.76
43F654	6001B-11	A	TO-66	1.81	1.81	.50	7.2	.81	.68	.61
43F655	6002B-11	A	TO-66	1.81	1.81	.75	7.0	.85	.68	.64
43F656	6401B	B	Blank	1.50	4.75	1.25	2.3	1.02	.82	.68
43F560	6403B	B	Blank	3.00	4.75	1.25	1.5	1.50	1.20	1.00
43F657	6421B	C	Blank	3.00	4.75	2.63	1.0	2.16	1.82	1.65
43F561	6423B	C	Blank	5.50	4.75	2.63	0.9			
43F658	6421B-2	C	TO-3	3.00	4.75	2.63	1.0	2.34	1.87	1.56
43F659	6423B-2	C	TO-3	5.50	4.75	2.63	0.9	3.64	2.92	2.44
43F660	6141B	D	Blank	3.00	3.75	.50	3.7	1.31	1.05	.87
43F661	6141B-2	D	TO-3	3.00	3.75	.50	3.7	1.50	1.20	1.00
43F662	6169B	D	Blank	3.00	4.12	1.00	3.5	1.40	1.12	.94
43F562	6500B	D	Blank	3.00	4.50	1.03	2.5	1.27	1.05	.87
43F663	6500B-2	D	TO-3	3.00	4.50	1.03	2.5	1.50	1.20	1.00
43F664	6601B	D	Blank	1.50	2.00	.56	5.0	.75	.60	.50
43F628	2224B	E	TO-18	.50	.50	.235	75	.24	.19	.17
43F554	2225B	E	TO-5	.75	.75	.40	52	.25	.20	.18

Circuit board coolers. 2224-8: press on cooler. 2205,7,12,12-5: two piece screw in inserts, holds trans. flange, teflon lead insulation. 2211,15: single hole for leads, tapped holes in base for holding. 6103,4,66: two piece, heat transfer top & bottom. Mfrs. type suffix (A) hard anodize MIL-F-14072, 400 V insul. (B) black anodize MIL-A-8625 type II. (C) gold chromate MIL-C-5541

Stk.No.	Type	Fig.	Fits Case Type	Size,inches LxWxH			TR C/W	1-11	12-99	100-499
43F555	2226B	E	TO-5	.75	.75	.22	58	.24	.19	.17
43F629	2227B	E	TO-5	1.125	1.125	.40	27	.31	.25	.23
43F556	2228B	E	TO-5	.875	.875	.531	34	.31	.25	.23
43F630	2211B	F	TO-5	.63	.63	.31	50	.35	.28	.26
43F631	2211C	F	TO-5	.63	.63	.31	50	.25	.20	.18
43F632	2215A	F	TO-5	.75	.75	.38	35	1.25	1.00	.85
43F553	2215B	F	TO-5	.75	.75	.38	35	1.20	.95	.75
43F557	2218B	F	TO-18,46,	.55	.55	.31	40	1.20	.95	.75
43F633	2205B	G	TO-5	.81	.81	.34	39	1.25	1.00	.80
43F634	2207PR11	G	TO-5	.81	.81	.34	39	1.55	1.25	1.05
43F635	2207PR11A	G	TO-5	.81	.81	.34	39	1.60	1.30	1.10
43F634	2212B	G	TO-8	1.06	1.06	.38	30	1.95	1.55	1.25
43F637	2212B-5	G	TO-5	1.06	1.06	.38	30	1.85	1.45	1.15
43F665	6103B	H	TO-3	1.58	1.25	.50	7	.56	.45	.41

Stk.No.	Type	Fig.	Fits Case Type	Size, inches LxWxH			TR C/W	1-11	12-99	100-499
43F559	6104B	H	TO-3	1.5	1.3	.52	7	.56	.45	.41
43F558	6166B	H	TO-66	1.32	.87	.63	11	.51	.41	.38
43F666	6103B base	H	TO-3	1.58	1.25	.50	7	.30	.25	.22
43F667	6166B base	H	TO-66	1.32	.87	.63	11	.29	.23	.21

SEMICONDUCTOR MOUNTING AND LEAD CONVERSION PADS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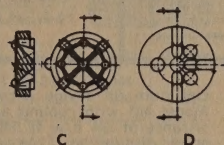
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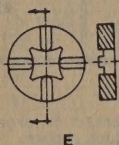
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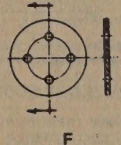
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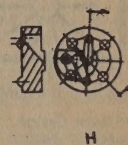

H

Mounting pads help prevent junction overheating while soldering. Achieve uniform height and spacing, easier cleanup and more room around leads of repair and replacement, and free air space for additional cooling. Conversion pads have added advantage of preventing solder bridges on circuit board. Nylon material per MIL-M-20693A. Packages of 100 only.

Stk. No.	Mtg.Pad Type	For Case	Fig.	No.of Leads	Size,Inches O.D.	Thick	100-499	500-999	1000 4999
43F610	7717-46	TO-18	A	3 or 4	.200	.060	5.50	4.00	3.00
43F611	7717-89	TO-18	A	3 or 4	.250	.080	5.50	4.00	3.00
43F612	7717-22	TO-5	A	3	.344	.075	5.50	4.00	3.00
43F613	7717-79	TO-5	A	3	.355	.038	5.50	4.00	3.00
43F614	7717-4	TO-5	A	3 or 4	.375	.075	5.50	4.00	3.00
43F615	7717-8	I/C	A	8-.200 circle	.375	.075	6.00	5.00	4.00
43F616	7717-3	TO-5	E	3 or 4	.344	.075	5.50	4.00	3.00
43F617	7717-94	TO-5	E	3 or 4	.350	.038	5.50	4.00	3.00
43F618	7717-16	TO-18	F	3 or r	.200	.020	5.50	4.00	3.00
43F619	7717-15	TO-5	F	3 or 4	.350	.020	5.50	4.00	3.00
43F573	7717-18	TO-18	G	3 or 4	.200	.100	5.50	4.00	3.00
43F572	7717-5	TO-5	G	3 or 4	.350	.125	5.50	4.00	3.00
43F576	7717-156	I/C		14	.45	.050	2.00	10.00	9.00

Stk. No.	Type 7717-	Converts From	To	Fig.	No. of Leads	Size, O.D.	Inch Thk.	100-499	500-999	1000 4999
43F620	7	TO-18	TO-5	A	3or4	.250	.125	5.00	4.00	3.00
43F575	107	.200	.350	B	8	.430	.130	12.00	10.00	9.00
43F621	19	.200	.400	B	8	.500	.275	12.00	10.00	9.00
43F622	21	.200	.400	B	10	.500	.275	12.00	10.00	9.00
43F623	133	TO-18	.150	C	4	.225	.087	5.00	4.00	3.00
43F624	93	TO-18	.150	C	3or4	.228	.055	5.00	4.00	3.00
43F625	121	TO-18	TO-5	C	3	.300	.100	5.00	4.00	3.00
43F574	44	TO-18	TO-5	C	3or4	.305	.125	5.00	4.00	3.00
43F626	26	TO-18	TO-5	D	3	.343	.120	5.00	4.00	3.00
43F627	2	.05in line	TO-5	H	3	.305	.125	5.00	4.00	3.00

HEAT TRANSFER COMPOUND

Model 250. Improves the transfer of heat energy across the metal-to-metal interfaces between the transistor or rectifier case and the heat sink. Conducts heat 4 times better than silicon grease. 2 oz. jar.

43F550. NET **1.95**

CIRCUIT BOARD COOLERS

Black anodized conduction coolers. Heat is removed by being transferred to external surfaces. Cooler also serves as convenient holder. Model 1101: has 10-32 stud. Model 1116: tapped for a 4-40 size screw.

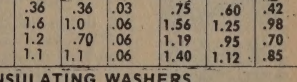
A

B

Stock No.	Type	Fig.	FitsCase Type	Size,inches LxWxH			°C/W*	1-24	25-99	100-399
43F551	1101B	B	TO-5	.5	.5	.88	10	.95	.75	.55
43F552	1116B	C	TO-5	.38	.38	.38	22	.50	.40	.35

BERYLLIUM OXIDE HEAT SINKS

High-purity beryllium oxide heat sinks conduct heat better than aluminum yet insulate better than porcelain and have low capacitance.


I J K L

Stk. No.	Type	Fig.	For Case	Size, Inches L	W	H	1-11	12-99	100-499
43F564	4005	I TO-5	700	.36	.36	.03	.75	.60	.42
43F563	4003	L TO-3	800	1.6	1.0	.06	1.56	1.25	.98
43F566	4066	L TO-66	800	1.2	.70	.06	1.19	.95	.70
43F565	4036	K TO-36	800	1.1	1.1	.06	1.40	1.12	.85

THERMAFILM INSULATING WASHERS

Homogeneous film will not chip, fracture, peel or break. Has dielectric strength of 7000 volts/mil with a temp. range of —260°C to +400°C. Sold in pkgs. of 100 only.

Stk. No.	Type	Fig	Fov Case	L	W	H	Price Per 100	500	1000
43F571	4305-1	I	TO-5	.39	.39	.002	6.00	3.50	2.00
43F567	4303-3	L	TO-3	1.6	1.1	.002	6.00	3.50	2.00
43F568	4366-1	L	TO-66	1.3	.76	.002	5.00	3.00	1.25
43F569	4302-10	J	10-32	.56	.56	.002	5.00	3.00	1.25
43F570	4302-25	J	1/4"	.81	.81	.002	5.00	3.00	1.25

DELTA DIVISION

Wakefield Semiconductor Cooling Units

200 Series

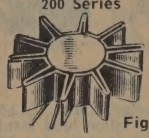


Fig. 1

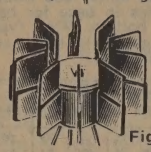


Fig. 2

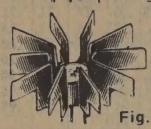
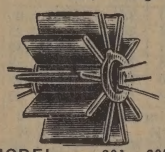
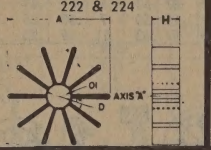


Fig. 3



MODEL 201, 205, 222 & 224



300 Series

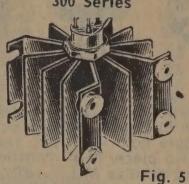
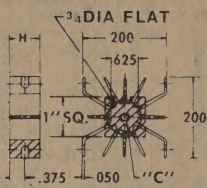


Fig. 5



400 Series

Fig. 6

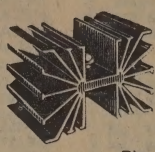


Fig. 6A

Fig. 7

500 Series

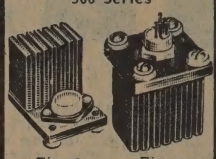


Fig. 8 Fig. 9

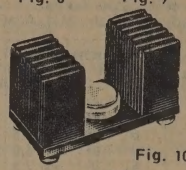
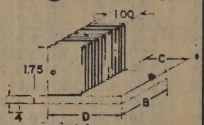


Fig. 10



MODEL 501

600 Series

Fig. 11

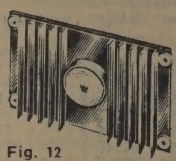
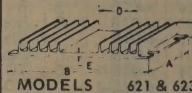
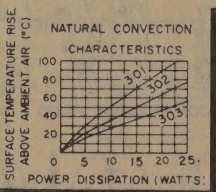


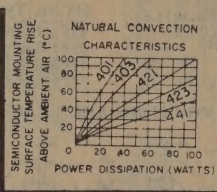
Fig. 12

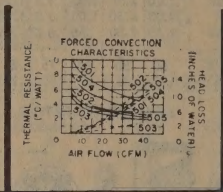


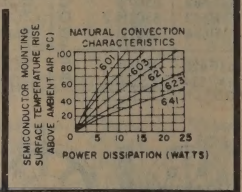
MODELS 621 & 623

CONVECTION CHARACTERISTICS









200 SERIES FEATHERWEIGHT COOLERS

Flexin design. Spring action provides maximum contact of large area to assure repeatable thermal performance. Black copper.

Stk. No.	Type	Fig.	Inches H	Inches D	Fits Case Dia.	Each 1-99	Each 100-499	Each 500-999	Each 1000-4999
58F527	201	1	.64	.19	.161/.195	.30	.15	.13	.123
58F388	202	1	.49	.20	.161/.195	.26	.13	.11	.109
58F528	203	2	.64	.38	.161/.195	.42	.21	.18	.176
58F387	204	1	.55	.20	.275/.335	.26	.13	.11	.109
58F529	205	1	.72	.19	.275/.335	.30	.15	.13	.123
58F530	207	2	.72	.38	.275/.335	.42	.21	.18	.176
58F531	209	3	1.26	.44	.275/.335	.46	.23	.20	.196
58F441	211	1	.82	.19	.444/.524	.42	.21	.18	.175
58F442	213	2	.82	.38	.444/.524	.46	.23	.20	.191
58F443	215	3	1.38	.44	.444/.524	.46	.23	.20	.191
58F499	222	4	.64	.38	.161/.195	.40	.20	.18	.172
58F498	224	4	.72	.44	.275/.335	.46	.23	.20	.191

58F532. 160 tool for Models 201, 2, 3, 4, 5, 7, 9 ..... 1.50
58F389. 161 Installation too for Models 211, 213, 215 ..... 1.50

300 SERIES RADIAL RECTIFIER COOLERS

Radial fin coolers for rectifier or stud mounting transistor applications. Adaptable to stack arrangements. Uses standard teflon insulating washers. Accommodates press-fitted and stud-mounted rectifiers and transistors up to 1 1/16" hex case. Semiconductor mounting surface and one mounting foot unanodized. Type no. suffix indicates mtg. accommodations; see following page for key.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-24	25-49	50-99	100-249
58F197	301L	5	.75	2.00	2.00	1.43	1.32	1.28	1.05
58F496	301M	5	.75	2.00	2.00	1.43	1.32	1.28	1.05
58F495	301N	5	.75	2.00	2.00	1.43	1.32	1.28	1.05
58F494	301R	5	.75	2.00	2.00	1.43	1.32	1.28	1.05
58F444	301RR	5	.75	2.00	2.00	1.54	1.43	1.37	1.10
58F533	301K	5	.75	2.00	2.00	1.10	1.00	.98	.78
58F492	302M	5	1.50	2.00	2.00	1.80	1.65	1.60	1.28
58F493	302N	5	1.50	2.00	2.00	1.80	1.65	1.60	1.28
58F491	302R	5	1.50	2.00	2.00	1.80	1.65	1.60	1.28
58F534	302K	5	1.50	2.00	2.00	1.46	1.36	1.30	1.04
58F489	302NN	5	1.50	1.00	2.00	1.92	1.77	1.72	1.40
58F488	302RR	5	1.50	2.00	2.00	1.90	1.78	1.70	1.36
58F487	303N	5	3.00	2.00	2.00	2.60	2.45	2.35	1.88
58F486	303R	5	3.00	2.00	2.00	2.60	2.45	2.35	1.80
58F535	303K	5	3.00	2.00	2.00	2.30	2.15	2.05	1.64
58F485	303NN	5	3.00	2.00	2.00	2.72	2.57	2.47	1.92
58F484	303RR	5	3.00	2.00	2.00	2.75	2.55	2.45	1.95

400 SERIES NATURAL CONVECTION COOLERS

Optimum fin design provides many semiconductor applications. Model 441 with cooling area of 400 sq. in. provides thermal resistance of .54- c/w @ 100 watts. Type 433 has 70-C rise at 100W power dissipation. Type no. suffix refers to mounting specs: see chart on following page.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-24	25-49	50-99	100-249
58F500	401A	6	1.50	4.81	1.25	1.30	1.06	.90	.76
58F501	401B	6	1.50	4.81	1.25	1.50	1.22	1.04	.87
58F449	401E	5	1.50	4.81	1.25	1.75	1.43	1.22	1.02
58F502	401K	6	1.50	4.81	1.25	1.30	1.06	.90	.76
58F503	403A	6	3.00	4.81	1.25	1.95	1.58	1.34	1.14
58F504	403B	6	3.00	4.81	1.25	2.15	1.75	1.48	1.25
58F451	403C	6	3.00	4.81	1.25	2.40	1.95	1.66	1.40
58F505	403K	6	3.00	4.81	1.25	1.95	1.58	1.34	1.14
58F506	421A	6	3.00	4.81	1.25	2.57	2.35	1.98	1.74
58F507	421B	6	3.00	4.81	2.63	2.73	2.50	2.10	1.86
58F453	421C	6	3.00	4.81	2.63	2.97	2.70	2.28	2.02
58F508	421K	6	3.00	4.81	2.63	2.57	2.35	1.98	1.74
58F509	423A	6	5.50	4.81	2.63	4.13	3.50	3.07	2.75
58F510	423B	6	5.50	4.81	2.63	4.45	3.78	3.18	2.85
58F511	423K	6	5.50	4.81	2.63	4.13	3.50	3.07	2.75
58F331	433H	6A	5.50	4.37	2.63	6.50	5.50	4.85	4.33
58F332	433J	6A	5.50	4.37	3.00	6.50	5.50	4.85	4.33
58F333	433W	6A	5.50	4.37	3.00	6.50	5.50	4.85	4.33
58F334	433K	6A	5.50	4.37	3.00	5.90	5.05	4.25	3.80
58F461	441J	7	5.50	4.75	3.00	7.10	6.25	5.60	4.95
58F462	441W	7	5.50	4.75	4.50	7.10	6.25	5.60	4.95
58F521	441K	7	5.50	4.75	4.50	6.50	5.70	5.10	4.50

500 SERIES COPPERCOOL

For maximum performance under medium air pressure conditions. Semiconductors of any mounting style may be used. Type number suffix refers to mounting specifications: see chart on following page.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-4	5-9	10-24
58F512	501A	8	1.75	1.75	2.25	7.33	6.80	6.27
58F513	501B	8	1.75	1.75	2.25	7.33	6.80	6.27
58F514	501K	8	1.75	1.75	2.25	6.45	5.95	5.45
58F523	504K	9	1.75	1.75	1.75	5.80	5.35	4.90
58F524	505K	9	1.75	1.75	2.00	8.20	7.60	6.95
58F515	502A	10	1.75	3.50	1.75	10.88	9.95	9.17
58F516	502B	10	1.75	3.50	1.75	10.88	9.95	9.17
58F517	502K	10	1.75	3.50	1.75	10.00	9.10	8.35
58F463	503A	10	1.75	3.50	3.50	18.58	17.15	15.82
58F464	503B	10	1.75	3.50	3.50	18.58	17.15	15.82
58F522	503K	10	1.75	3.50	3.50	17.70	16.30	15.00

Wakefield Semiconductor Cooling Units

DELTA DIVISION

Mounting Dimensions and Specifications for Series 600, Series 680, GN and WN Extrusions, and Series MN.

•Type Number Suffix Denotes Mounting •Double Suffix Denotes 2 Mountings

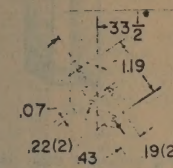


Fig. A—TO-3

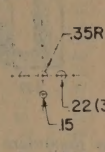


Fig. B—TO-6 & 36

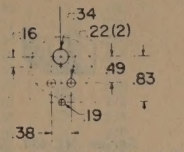
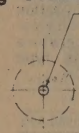
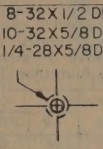


Fig. C—SP-33 and MT-1





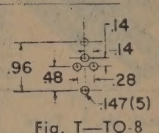


Fig. T—TO-8

600 SERIES CIRCUIT BOARD COOLERS

Externally mounted applications. Models 601 and 603 especially designed to accommodate the TO-8. Models 621, 623 and 641 accept all standard transistor case styles and case sizes up to 1¼". Shpg. wt., 16 oz.

Stk. No.	Type	Fig.	Inches H	W	D	1-24	25-49	50-99	100-249
58F536	601K	11	1.25	2.24	.56	.85	.69	.59	.50
58F466	603T	11	2.00	2.24	.56	1.43	1.16	.99	.83
58F537	603K	11	2.00	2.24	.56	.94	.77	.65	.55
58F482	621A	12	1.50	4.81	.46	1.04	.85	.72	.61
58F481	621B	12	1.50	4.81	.46	1.46	1.19	1.01	.85
58F538	621K	12	1.50	4.81	.46	1.04	.85	.72	.61
58F460	623A	12	3.00	4.81	.46	1.56	1.27	1.08	.92
58F479	623B	12	3.00	4.81	.46	2.03	1.67	1.40	1.18
58F539	623K	12	3.00	4.81	.46	1.56	1.27	1.08	.92
58F467	641A	11	3.00	4.12	1.00	1.95	1.59	1.35	1.14
58F468	641B	11	3.00	4.12	1.00	2.40	1.95	1.66	1.40
58F540	641K	11	3.00	4.12	1.00	1.95	1.59	1.35	1.14

SERIES 680 CIRCUIT BOARD COOLERS

Provides optimum natural convection cooling per unit volume occupied above the circuit board. Mounting in any position is possible since it permits free air flow in any direction. All have 1.81" sq. base with 1.50" bwtn. mtg. holes. 1.3 to 1.9 oz.

Stk. No.	Type	Hght. (in.)	1-49	50-99	100-499	500-999
58F401	680-.52A	.50	.98	.93	.80	.69
58F400	680-.5B					
58F399	680-.5K					
58F398	680-.75A	.75	1.00	.95	.82	.70
58F397	680-.75B					
58F396	680-.75K					
58F395	680-1.0A	1.00	1.09	1.03	.88	.77
58F394	680-1.0B					
58F393	680-1.0K					
58F392	680-1.25A	1.25	1.14	1.07	.91	.79
58F391	680-1.25B					
58F390	680-1.25K					

EXTRUSION 3-FT LENGTHS ±¼"

Stk. No.	Type	For Cooler Type	W.	Dpth.	1-4	5-9	10-24
80W252	300	NC-301-303	2.00	2.00	5.45	4.80	4.35
80W253	400	NC-401-403	4.81	1.25	6.25	5.45	4.95
80W254	420	NC-421-423	4.81	2.63	11.35	9.85	8.85
80W255	440	NC-441	4.75	4.50	21.15	18.30	16.40
80W256	600	NC-601-603	2.24	.56	2.20	1.95	1.80
80W257	620	NC-621-623	4.81	.46	4.10	3.60	3.25
80W258	640	NC-641	4.12	1.00	5.45	4.80	4.35

101

103

TEFLON INSULATORS

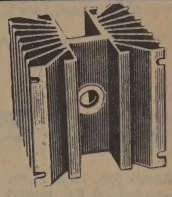
Insular heat sinks from chassis, eliminating mica insulators between sink and semiconductor. ⅛ to 3½ oz.

Stk. No.	Type	For Type	Reqd.	Pkgs. of 100 1-9/C	10-49/C	50-99/C
58F519	101	501	3			
		502, 503, 504, 505	4	1.78	1.58	1.38
58F518	103	301	2			
		401	3			
		302, 303, 403, 421, 431	4			
		423, 433, 621, 623, 641	4	6.03	5.36	4.69
58F469	105	441, 1244, 1245, 1541	4	38.99	34.66	30.33
58F412	107	Same as 103	2	24.08	21.40	18.73

NYLON INSULATOR FASTENER

Stk. No.	Type	For Type	Pkgs. of 100 1-9/C	10-49/C	50-99/C	100 249/C
58F158	100	140, 141, 142 2 Rgd.	1.66	1.48	1.30	1.11
58F159	102N	Same as 103	2.43	2.16	1.89	1.62
58F160	104	Same as 103	2.34	2.08	1.82	1.56
58F161	106	Same as 105	3.42	3.04	2.66	2.28

SERIES 400 EXTRUSIONS



Hex Mounting: 1157 accepts 1 1/16" rectifiers, 1251 accepts 1¼" rectifiers, 1244 accepts 1 1/16" rectifiers, 1245 accepts 1¼" rectifiers 1541 accepts 1¾" rectifiers. ¼-20 tapped mountings. 1.8 to 5.8 lbs.

Stk. No.	Type	In. H.	W.	D	1-4	5-9	10-24	25-49
58F418	465-H	5.00	4.00	4.00	7.00	6.25	5.50	5.00
58F419	465-J	5.00	4.00	4.00	7.00	6.25	5.50	5.00
58F420	465-K	5.00	5.00	4.00	6.60	5.85	5.25	4.65
58F421	476-W	6.00	5.00	5.00	8.35	7.50	6.60	5.90
58F422	476-K	6.00	5.00	5.00	7.20	6.45	5.70	5.15
58F423	486-Z	6.00	6.25	6.25	14.50	13.00	11.50	10.30
58F425	486-K	6.00	6.25	6.25	13.40	12.00	10.60	9.50
58F428	489-K	9.00	6.25	6.25	18.90	16.90	14.90	13.40

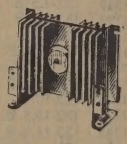
SERIES 490 KING SIZE HEAT SINKS

Designed to mount and cool multicell 240/650 amp rectifiers as large as 3½"x3½" square plate types.

Stk. No.	Type	Dimensions (in.)	1-4	5-9	10-24	25-49
58F409	490-3.5K	3.5x9.25x6.75	10.70	9.65	8.50	7.65
58F408	490-6K	6.0x9.25x6.75	17.00	15.20	13.40	12.10
58F407	490-12K	12.0x9.25x6.75	30.00	28.20	25.00	25.00
58F403	109	1.5x7.5x 1.5	Fiberglass Mtg. bkt. 1.10 ea.			

VERTICAL MTG. BRACKETS

Meet vibration of Mil 202B. 402 & 403 use #111, 421 use #113. Two brackets required per sink. To insulate use teflon insulator #103. Shpg. wt., 10 oz.



Stk. No.	Type	1-99	100-499
58F525	111	.24	.17
58F526	113	.18	.13

TYPE 120 THERMAL COMPOUND

Zinc oxide crystals in a silicon grease will increase thermal conductivity between sem conductor & heat sink.

Stk. No.	Type	Quan.	1-4	5-9	10-24
58F470	120-2	2 oz.	1.62	1.40	1.30
58F372	120-5	5 oz. tube	13.00	11.00	10.50
58F471	120-8	8 oz.	4.05	3.50	3.35
58F402	120-80	5 lb.	22.50	19.50	19.00

THERMALLY CONDUCTIVE ADHESIVE

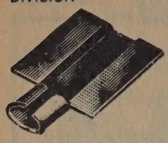
Type 152. High conductivity adhesive used: As general adhesive, for bonding semi-conductors to chassis heat sinks, fabricating heat sinks or thermal linds, for permanent bonding of all materials with highly thermal conductive interface. Porous and nonporous surfaces. Excellent dielectric strength. Bond shear strength, 1" overlap psi, 30 immersion in water unaffected. Temp. range —70°F to +300°F.

Stk. No.	Type	Size	1-9	10-24	25-49	50-99
58F345	152-1-A	1 oz.	2.25	2.00	1.85	1.75
58F386	152-K-A	7½ oz.	4.75	4.40	4.00	3.75

DELTA DIVISION

Wakefield Semiconductor Cooling Units, Ovens

HEAT-SINK FOR TO-92 TRANSISTOR

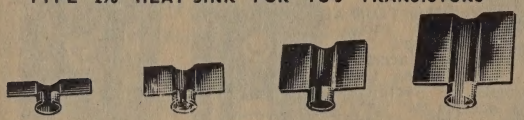


Type 292. Heat-Sink accomodates most TO-92 plastic transistors for heat dissipation. Finish: black immersion. Natural convection characteristics show that for power dissipation of .20 watts: collector lead temperature rise above ambient is 18°C. Made of type 6061-T6 Aluminum Package prices below

Stock No.	Type	Size	100 per package				
			1-9	10-49	50-99	100-499	500-999
58F162	292CP*	.60	.04	.02	.01	.01	.09
58F373	292AB**	.60	.16	.08	.06	.05	.045

(*) copper, plain
(**) Aluminum, black ebonal "C" finish

TYPE 296 HEAT SINK FOR TO-5 TRANSISTORS



Model 296. Heat Sink snaps onto TO-5 transistors, uses minimum amount of PC board layout space. Material: 6061T6 aluminum. Use type 120 thermal joint compound Package prices below.

Stock No. Black	Type	Dim "A"	EACH				
			1-9	10-49	50-99	100-499	500-999
58F163	296-1AP +	¼"	.02	.01	.01	.01	.006
58F164	296-2AP +	½"	.04	.02	.01	.01	.009
58F165	296-3AP +	¾"	.04	.02	.01	.01	.010
58F166	296-4AP +	1"	.04	.02	.02	.01	.010

+Plain finish *black finish

SERIES PP-PRESS-PAK HEAT SINKS & CLAMPS

Alum. alloy 6063-T5. T slots accept standard Hex head machine bolts for mtg, stacking & bussing. Use with Model 130 clamps & springs. Finishes: BA (black acrylic), G.I. (Gold Iridite) per QQ-416A, Type II, Class II.

Stock No.	Type	Temp. Rise Per Watt Per Pair*	HT IN†	Net		
				1-4	5-9	10-24
58F1316	131-4.5-B	88	1¼	4.75	3.45	3.20
58F1317	131F-4.5-B	105	1¼	5.05	3.65	3.40
58F1318	132-4.5-B	88	2¼	5.90	4.25	3.95
58F1319	132F-4.5-B	105	3¼	6.30	4.55	4.25
58F1320	133-4.5-B	66	3⅛	12.65	9.15	8.50
58F1321	133-7.5-B	76	3⅛	18.00	13.00	12.10
58F1322	131-10-B	66	2¼	8.65	6.25	5.80
58F1323	131-15.5-B	76	2¼	17.55	12.75	11.80
58F1324	132-10-B	46	2¼	11.85	8.55	8.00
58F1325	132-15.5-B	54	2¼	17.55	12.75	11.80
58F1326	133-10-B	38	2¼	23.95	17.35	16.15
58F1327	133-15.5-B	44	2¼	37.95	27.45	25.55
58F1335	133-16.0-B		3¾	37.00	26.75	24.90
58F1336	133-24.5-B		3¾	58.30	42.15	39.25

SERIES 130 CLAMP & SPRING ASSEMBLIES

Fit all Press-Pak SCR sizes up to 2.25" Dia. Affords clamping force centering accuracy of less than 10% of Junction dia. with PP series heat sinks above.

CLAMP-STUD ASSEMBLY

Cross bar is CRS, 3.8" Long x1/16" w x ½" thick. Stainless steel studs spaced 2.75". Ass. is Delta coated for 5 KV AC breakdown min.

Stock No.	Type	Clearance in Min.-Max.*	Net		
			1-9	10-24	25-49
58F1300	130-A	.95-1.60	4.44	3.69	3.08
58F1301	130-B	1.26-1.91	4.44	3.69	3.08
58F1302	130-C	1.57-2.22	4.44	3.69	3.08
58F1303	130-D	1.88-2.53	4.90	4.05	3.44
58F1304	130-E	2.19-2.84	4.90	4.05	3.44
58F1305	130-F	2.50-3.15	4.90	4.05	3.44

***Cross bar to swivel pad; max shown is for 2 leaf spring subtract .11 for each leaf.**

SERIES 630 HEAT SINKS FOR TO-3 AND TO-66

631

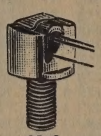
632

633

Series NC-630. Provides maximum cooling per unit cost. Hole pattern suf. —3 for TO-3 and —66 is TO-66. Material type 1100-H14 aluminum with natural finish.

Stock No.	Type	Size	Net			
			1-99	100-499	500-999	1000-4999
58F167	631-3P	1"	.18	.15	.11	.10
58F168	631-66P	1"	.18	.15	.11	.10
58F169	632-3P	2"	.22	.17	.12	.12
58F170	632-66P	2"	.22	.17	.12	.12
58F171	633-3P	3"	.25	.20	.15	.13
58F172	633-66P	3"	.25	.20	.15	.13

THERMAL RETAINERS FOR TO-5 CASES



254S

254S1

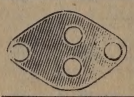
254T

254P
254D

The TO-5 case style including the Kovar header type is best heat sinked at the bottom face of the flange. All five types intended as thermal links from transistor case to a cooler or chassis member acting as the heat sink. Type 254-S1 has built-in electrical insulation. Material: Type 254-S1; 6061-T6 aluminum with gold irridite finish.

Stock No.	Types	Weight Oz.	EACH			
			1-9	10-99	100-249	250-499
58F381	254-S	.25	.30	.15	.14	.124
58F382	254-S1	.25	.38	.19	.18	.152
58F383	254-T	.20	.34	.17	.16	.139
58F384	254-P	.45	.25	.13	.12	.102
58F385	254-D	.20	.32	.16	.15	.132

SERIES 170 INSULATING WAFERS



For TO-3 transistors. Features thermally conductive dielectric coating providing excellent thermal path between the case and heat sink. Shipped on a carrier holding 40 wafers.

Stk.No.	Type	Finish Description	Case	1-9	10-99	100-499	500-999
58F176	170 DC	Delta coat 151H	TO-3	.18	.09	.08	.08
58F1337	171 DC	Delta Coat 151H	TO-3	.18	.09	.08	.08
58F1338	172 DC	Delta Coat 151H	TO-66	.18	.09	.08	.08
58F177	170 HC	Hard Coat	TO-3	.23	.12	.10	.09
58F1339	171 HC	Hard Coat	TO-3	.23	.12	.10	.09
58F1340	172 HC	Hard Coat	TO-66	.23	.12	.10	.09

TYPE 690 CIRCUIT BOARD HEAT SINKS

Designed to give most power dissipation per unit cost, 10-20 watts is obtainable. Made of 1100 Alloy aluminum. Available mtg. patterns are for TO-3, TO-66 Jedec packages. Avail. plain (suffix "P1") and black Anodized (suffix "BA").

Stk. No.	Type	Fits Case	Size Inches wxH	Net			
				1-9	10-49	50-99	100-249
58F1310	690-3P	T0-3	1.81 x 1.31	.31	.23	.21	.16
58F1311	690-66P	T0-66	1.81 x 1.31	.31	.23	.21	.16
58F1312	690-3B	T0-3	1.81 x 1.31	.37	.28	.26	.19
58F1313	690-66B	T0-66	1.81 x 1.31	.37	.28	.26	.19

TYPE 695 CIRCUIT BOARD HEAT SINKS

Designed to accept semiconductors with threaded studs up to 10-32. Of 1100 -414 alum. with up to 5 watts heat dissipation for low power stud devices. For Jedec DO-4 case. Avail. Plain (Suffix "P1") or black anodized (Suffix "BA").

Stk. No.	Type	Size Inches wxH	EACH			
			1-9	10-99	100-499	500-999
58F1314	695P	1.33 x .484	.18	.09	.09	.08
58F1315	695B	1.33 x .484	.26	.13	.12	.10

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WAKEFIELD

SERIES 260 CUP CLIP

Stock No.	Type	Base	Pkgs.of10 1-9	10-19	20-49	50-99	100-499
58F178	260P5	Plain	.26	.13	.12	.11	.080
58F179	*260P18	Plain	.26	.13	.12	.11	.080
58F180	*260P18B	Plain	1.04	.57	.49	.48	.350
58F181	*2602TH18	Tap 2-56	.66	.33	.29	.28	.205
58F182	*2602TL18E	Tap 2-56	.76	.38	.33	.32	.235
58F183	*2602TH18B	Tap 2-56	1.62	.81	.70	.68	.500
58F184	2604T5	Tap 4-40	.58	.29	.25	.25	.178
58F185	2604T5E	Tap 4-40	.76	.38	.33	.32	.235
58F187	*2604SH18E	Stud 4-40	.88	.44	.38	.37	.270
58F188	2606SH5B	Stud 6-32	1.54	.77	.66	.65	.470
58F189	26010H5B	Stud 10-32	1.54	.77	.66	.65	.470

260-10SH5B Stud Mtg. for TO-5

260-4SH18E Stud Mtg. for TO-18

260-4T5 Tapped Base

260-P18 Plain Base

Beryllium copper cup clips with brass bases for TO-5 case style transistors except (*) for TO-18. "E" suffix are epoxy insulated. "B" suffix are beryllium oxide insulated for applications requiring low stray capacity. No suffix are non-insulated and are soldered together with 63/37 tin lead alloy. Max. temperature is 300°F.

SERIES 256 BRASS CLIPS

Stock No.	Type	Hgt. x Length	Pkgs.of1000 1-2	3-5	6-9	10-24	25-49
58F173	256-ST	.20" x .16"	15.00	14.20	13.10	11.20	9.75
58F174	256-DT	.20" x .31"	16.40	15.60	14.30	12.30	10.65
58F175	256-D	.20" x .31"	14.00	13.30	12.20	10.50	9.10
	256-DM*	.19" x .24"	17.00	16.10	14.90	12.70	11.00

Type 256-ST

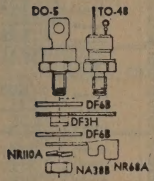
Type 256-DT

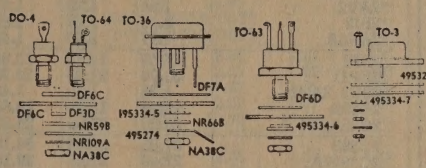
256-D+DM

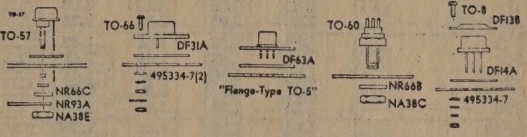
Clips as electrostatic shields and /or thermal retainers. For one or two plastic transistors. .20" dia. Dual clip maintains 2 transistors at the same temperature. Material: ½ hard brass. *256-DM is beryllium copper.

RCA

MOUNTING HARDWARE FOR INDUSTRIAL SEMICONDUCTOR DEVICES







Stock No.	Pkg. Outline	Part No.	Description	No. Parts in Pkg	Per Pkg.
58F311	DO-4 & TO-64	NA38C	Nut	25	.38
58F318		NR109A	Lock Washer	25	.27
58F303		DF6C	Insulator-Mica	50	.68
58F300		DF3D	Insulator-Teflon*	25	.81
58F313		NR59B	Connector	25	.59
58F310	DO-5 & TO-48	NA38B	Nut	25	.52
58F319		NR110A	Lock Washer	25	.30
58F316		NR68A	Connector	25	1.44
58F301		DF3H	Insulator-Teflon*	25	.89
58F302		DF6B	Insulator-Mica	50	.85
58F320	TO-1 & TO-18	SA2100	Heat Sink Clip	1	.12
58F321	TO-3	495320	Insulator-Mica	100	2.40
58F325		495334-7	Washer-Nylon	100	1.65
58F309	TO-5 Flange	DF63A	Insulator-Mica	100	1.70
59F241		495334-8	Bushing-Nylon	100	2.51
58F306	TO-8	DF13B	Mounting-Clamp	.25	1.09
58F307		DF14A	Insulator-Mica	100	1.96
58F325		495334-7	Washer-Nylon	100	1.95
58F238	TO-5	NR150A	Air Radiator	1	.18
58F239	TO-5	NR166B	Heat Spreader	1	.10
58F240	Mod.	NR184A	Solder Preform	1	.04
58F242	TO-3 Mod.	DF147A	Insulator-Mica	25	.50
58F325		495334-7	Bushing-Nylon	100	1.65

Stock No.	Pkg. Outline	Part No.	Description	No. Parts in Pkg.	Per Pkg.
58F244	TO-3 Cable Leads	NR248A	Heat Sink	1	.93
58F311	TO-36	NA38C	Nut	25	.38
58F314		NR66B	Washer	25	.27
58F322		NR48A	Lock Washer	25	.54
58F323		495334-5	Bushing-Delrin5	25	1.72
58F305		DF7A	Insulator-Mica	25	.92
58F311	TO-60	AN38C	Nut	25	.38
58F314		NR66B	Washer	25	.27
58F304	TO-63	DF6D	Washer-Mica	100	1.62
58F324		495334-6	Bushing-Teflin5	100	11.15
58F308	TO-66	DF31A	Washer-Mica	100	1.77
58F325		495334-7	Bushing-Nylon	100	1.65
58F245	TO-3Plastic wFormed Leads	NR193B	Clamp	50	1.95
58F321		495320	Insulator-Mica	100	2.40
58F325		495334-7	Bushing-Nylon	100	1.65
58F328	TO-66 Plastic w Formed or Non-Formed Leads	DF103A	Mica Washer	100	1.19
58F329		NR231A	Washer	100	1.34
58F325		DF137A	Bushing-Nylon	100	.65

*DuPont Registered Trademark.

KURZ-KASCH

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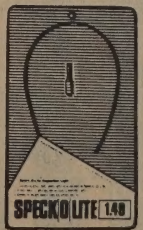
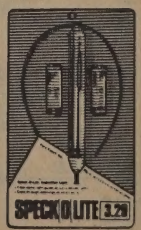
The amazing Speck-O-Lite takes advantage of a new breakthrough in the science of optics: the fiber optic light guide. The Speck-O-Lite can effectively bend light around corners, take light into tiny crevices, and slide light through narrow slits that completely frustrate conventional lighting device. Use the shock-proof Speck-O-Lite to illuminate impossible-to-reach parts in a sophisticated assembly; read code markings on small parts without removing them from the recesses of an enclosure; light enclosed components from the inside if you have an opening as small as ⅛" thick.

Stock No.	Type	NET
35F1440	SL-11 (Complete Unit)	3.29
35F1441	SLA-10 (Adapter)	1.49
35F1442	RBA-8 (Replacement Blub)	.49



SLA-10



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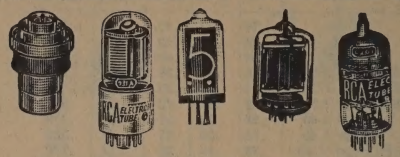
AMPEREX



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Tube Type	EACH 1-5	* MAY BE ASSORTED 6-24	25-49	50-99	NOT ASST. 100-Up
0A2	1.45	1.38	1.31	1.23	.....
0A2WA	3.42	3.24	3.07	2.90	.....
0A3	1.74	1.65	1.57	1.48	.....
0A3A/0A3	1.74	1.65	1.57	1.48	.....
0A4G	2.30	2.19	2.07	1.96	.....
0A5	2.30	2.19	2.07	1.96	.....
0B2	1.59	1.51	1.43	1.35	.....
0B2WA	2.68	2.58	2.41	2.28	.....
0B3	2.35	2.23	2.12	2.00	.....
0B3A/0B3	2.80	2.66	2.52	2.38	.....
0C2	1.75	1.66	1.58	1.49	.....
0C3	1.66	1.58	1.49	1.41	.....
0C3A	1.66	1.58	1.49	1.41	.....
0C3W	6.65	6.32	5.98	5.65	.....
0D3	1.64	1.56	1.48	1.39	.....
0D3A	1.64	1.56	1.48	1.39	.....
0D3W	7.20	6.63	6.48	.....	.....
*0Z4	2.31	2.08	2.08	1.73	1.54
*0Z4A	2.31	2.08	2.08	1.73	1.54
VG1A/2	26.25	24.94	23.62	.....	.....
VG1A/3	26.25	24.95	23.62	.....	.....
VG14/4	26.25	24.94	23.62	.....	.....
*1A3	3.99	3.59	3.59	2.99	2.66
*1A5GT	2.40	2.16	2.16	1.80	1.60
*1AD2	2.31	2.08	2.08	1.73	1.54
1AD4	3.48	3.31	3.13	.....	.....
1AH4	8.40	7.98	7.56	.....	.....
1AK4	8.00	7.60	7.20	6.80	.....
*1AY2	2.13	1.92	1.92	1.60	1.42
*1B3GT	Use 1G3GT/1B3GT				
1B85	17.12	14.44	11.76	9.14	.....
*1BC2	1.95	1.76	1.76	1.46	1.30
1C21	4.85	4.61	4.37	4.12	.....
*1DG3	2.46	2.21	2.21	1.85	1.64
1DP1	21.50	.....	.....	.....	.....
1D21/SN4	10.65	10.12	9.59	.....	.....
1EP1	31.50	29.93	28.35	.....	.....
1EP11	32.90	31.26	29.61	.....	.....
*1G3GT/1B3GT	2.37	2.13	2.13	1.78	1.58
*1J3	Use 1K3/1J3				
*1K3/1J3	2.37	2.13	2.13	1.78	1.58
1L4	1.67	1.59	1.50	1.42	.....
*1L6	7.53	6.78	6.78	5.65	5.02
*1N5GT	2.94	2.65	2.65	2.21	1.96
1P21	56.70	53.87	51.03	.....	.....
1P22	18.65	17.72	16.79	.....	.....
1P28	22.50	21.38	20.25	.....	.....
1P28A	28.70	27.27	25.83	.....	.....
1P29	9.00	8.55	8.10	.....	.....
1P37	7.20	6.84	6.48	.....	.....
1P39	3.59	3.75	3.56	3.36	.....
1P40	5.90	5.61	5.31	5.02	.....
1P41	6.50	6.18	5.85	5.53	.....
1P42	17.15	.....	.....	.....	.....
*1R5	3.12	2.81	2.81	2.34	2.08
*1R1K23	Use 1S2A/DY87				
*1S2A/DY87	1.27	1.15	1.02	.....	.92
*1S4	2.05	1.84	1.64	.....	1.48
*1S5	1.70	1.53	1.36	.....	1.22
*1T4	1.92	1.73	1.54	.....	1.39
*1U4	1.92	1.73	1.54	.....	1.39
*1U5	1.70	1.53	1.36	.....	1.22
*1V2	1.27	1.15	1.36	.....	1.22
*1X2A	Use 1X2B/1X2A				
*1X2B/1X2A	2.05	1.84	1.64	.....	1.48
1Z2	11.05	10.50	9.95	.....	9.39
2-01C	22.00	20.99	19.80	.....	.....
2-25A	41.00	38.95	36.90	.....	.....
2-50A	48.00	45.60	43.20	.....	.....
*2A3	4.95	4.45	3.96	.....	3.56

Tube Type	EACH 1-5	* MAY BE ASSORTED 6-24	25-49	50-99	NOT ASST. 100-Up
2-450A	200.00	.....	.....	.....	.....
2AC15	17.00	.....	.....	.....	.....
*2AF4B/2DZ4	2.05	1.84	1.64	.....	1.48
*2AH2	Use 2BU2/2AH2				
2AP1A	21.85	20.76	19.67	.....	18.57
*2AS2A	1.95	1.75	1.56	.....	1.40
2AS15A	11.00	10.00	9.00	.....	8.00
*2AV2	1.55	1.39	1.24	.....	1.12
*2BJ2	2.10	1.89	1.68	.....	1.51
*2BN4A	1.77	1.60	1.42	.....	1.28
2BP1	15.50	14.73	13.95	.....	13.18
2BP11	33.00	31.35	29.70	.....	.....
2BU2/2AH2	1.95	1.75	1.46	.....	1.40
2C39A	20.75	19.71	18.68	.....	.....
2C39A/V1	28.00	26.60	25.20	.....	.....
2C39B	37.95	36.05	34.16	.....	.....
2C39WA	22.40	21.28	20.16	.....	.....
2C39WA RCA	28.00	26.60	25.20	.....	.....
2C40A	37.10	35.25	33.39	.....	.....
2C43	27.35	25.98	24.62	.....	.....
2C51	4.05	3.85	3.65	.....	.....
2C53	9.50	9.00	8.55	.....	.....
*2CN3A	2.05	1.84	1.84	.....	1.48
*2CW4	2.45	2.20	1.96	.....	1.76
*2CY5	2.42	2.18	1.94	.....	1.75
2D21	1.49	1.42	1.34	.....	.....
2D21W	Use 5727				
*2DS4	2.45	2.20	1.96	.....	1.76
*2DV4	3.22	2.90	2.58	.....	2.32
*2DZ4	Use 2AF4B/2DZ4				
2E24	8.00	7.60	6.20	.....	.....
2E26	4.65	4.42	4.19	.....	3.95
2E31	8.00	7.60	7.20	.....	.....
2E32	8.00	7.60	7.20	.....	.....
*2EG4	2.94	2.65	2.65	2.21	1.96
*2EN5	1.92	1.73	1.73	1.44	1.28
*2ER5	2.22	2.00	2.00	1.67	1.48
2F21	300.00	.....	.....	.....	.....
*2FH5	2.22	2.00	2.00	1.67	1.48
*2FQ5	Use 2GK5/2FQ5A				
*2FS5	2.42	2.18	1.94	1.75	.....
*2GK5/2FQ5A	2.52	2.27	2.27	1.89	1.68
*2GU5	2.70	2.43	2.43	2.03	1.80
*2HA5	2.31	2.08	2.08	1.73	1.54
*2HQ5	2.31	2.08	2.08	1.73	1.54
2J55	400.00	.....	.....	.....	.....
2K25	43.00	40.85	38.70	.....	.....
2K26	68.00	64.60	.....	.....	.....
2K28	90.00	.....	.....	.....	.....
2K48	190.00	.....	.....	.....	.....
2SM15	12.00	11.00	10.00	9.00	.....
2X2A	4.60	4.37	4.14	3.91	.....
C31/AL-NE	15.50	.....	.....	.....	.....
C3J/5632	13.65	12.97	12.29	.....	.....
C3J/A/5684	14.05	13.36	12.65	.....	.....
C3J/AL	15.50	.....	.....	.....	.....
C3J/L	15.05	14.30	13.55	.....	.....
3-400Z/8163	36.00	34.20	32.40	.....	.....
3-500Z	34.00	32.30	.....	.....	.....
3-1000Z/8164	88.00	83.60	.....	.....	.....
*3A2	3.30	2.97	2.97	2.48	2.20
*3A3A/3B2	Use 3A3B				
*3A3B	2.04	1.84	1.84	1.53	1.36
*3A3C	2.43	2.19	2.08	.....	.....
3A4	2.16	2.04	1.94	1.84	.....
3A5	2.31	2.19	2.08	.....	.....
3ACP1A	45.60	43.32	41.04	.....	.....
3ADP1	66.30	63.00	.....	.....	.....
*3AF4A	2.46	2.21	2.21	1.85	1.64
*3AL5	1.62	1.46	1.46	1.22	1.08

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
3AP1A	43.55	41.37	39.20	.....	.....
3AQP1	34.35	32.63	30.92	29.20	.....
3ASP1	53.10	50.45	47.79	.....	.....
*3AT2	2.22	2.00	2.00	1.67	1.48
*3AU6	1.77	1.59	1.59	1.33	1.18
*3AV6	1.77	1.59	1.59	1.33	1.18
*3AW2A	2.43	2.19	2.19	1.82	1.62
*3AW3	Use 3A3B				
3AYP1	70.00	.....	.....	.....	.....
*3B2	Use 3A3B				
*3B2/3A3	Use 3A3B				
3B4	3.37	3.20	3.04	2.86	.....
3B4WA	6.33	6.01	5.70	5.38	.....
3B24W	10.55	10.02	9.50	.....	.....
3B24WB	10.95	10.40	9.87	.....	.....
3B25	8.85	8.41	8.41	7.97	7.52
3B28	9.55	9.07	.....	.....	.....
*3BA6	1.41	1.27	1.27	1.06	.94
*3BC5/3CE5	1.77	1.59	1.59	1.33	1.18
3BGP1	66.10	62.80	.....	.....	.....
*3BL2A	2.70	2.43	2.43	2.03	1.80
*3BM2	2.15	1.94	1.94	1.62	1.44
3BMP1	58.50	55.58	.....	.....	.....
*3BN2	2.40	2.16	2.16	1.80	1.60
*3BN4A	2.04	1.84	1.84	1.53	1.36
*3BN6	2.85	2.57	2.57	2.14	1.90
3BP1A	33.90	32.21	30.51	28.82	.....
3BP1A SYL	41.05	39.00	36.95	.....	.....
*3BS2A	Use 3BW2/3BS2A/3BT2				
*3BT2	Use 3BW2/3BS2A/3BT2				
*3BU8/3GS8	2.94	2.65	2.65	2.21	1.96
*3BW2/3BS2A/3BT2	2.52	2.27	2.27	1.89	1.68
*3BY6	1.80	1.62	1.62	1.35	1.20
*3BZ6	2.22	2.00	2.00	1.67	1.48
3C23	11.98	11.38	10.78	10.18	.....
3C33	35.00	.....	.....	.....	.....
*3CA3	2.22	2.00	2.00	1.67	1.48
*3CB6/3CF6	1.77	1.59	1.59	1.33	1.18
*3CE5	Use 3BC5/3CE5				
*3CF6	Use 3CB6/3CF6				
*3CN3B	2.46	2.21	2.21	1.85	1.64
3CPN10A5/7815	25.50	.....	.....	.....	.....
3CPN10A5	25.50	.....	.....	.....	.....
*3CS6	2.22	2.00	2.00	1.66	1.48
*3CU3A	2.94	2.65	2.65	2.21	1.96
3CW5000A1/8240	290.00	.....	.....	.....	.....
3CW5000A3/8242	270.00	.....	.....	.....	.....
3CW5000F1/8243	260.00	.....	.....	.....	.....
*3CX3	2.10	1.89	1.89	1.58	1.40
3CX100A5/7289	26.00	.....	.....	.....	.....
3CX2500A3/8161	206.00	.....	.....	.....	.....
3CX2500F3/8251	211.00	.....	.....	.....	.....
3CX3000A1	241.00	.....	.....	.....	.....
3CX3000F1	245.00	.....	.....	.....	.....
*3CY5	2.34	2.11	2.11	1.76	1.56
*3CZ3	2.61	2.35	2.35	1.96	1.74
3D22A	45.25	42.99	40.73	.....	.....
*3DB3/3CY3	2.70	2.43	2.43	2.03	1.80
*3DF3	2.52	2.27	2.27	1.89	1.68
*3DG4	3.54	3.19	3.19	2.66	2.36
*3DJ3	2.55	2.30	2.30	1.91	1.70
*3DK6	2.13	1.92	1.92	1.60	1.42
*3DT6A	1.95	1.76	1.76	1.46	1.30
*3DZ4	Use 3AF4A/3DZ4				
3E29	23.20	22.04	20.88	.....	.....
*3EH7/XF183	1.53	1.38	1.38	1.15	1.02
*3EJ7/XF184	1.53	1.38	1.38	1.15	1.02
*3ER5	2.67	2.40	2.40	2.00	1.78
*3FH5	1.95	1.76	1.76	1.46	1.30
*3FS5	2.58	2.32	2.32	1.94	1.72
3FP7A	45.90	43.61	.....	.....	.....
*3GK5	2.52	2.27	2.27	1.89	1.68
3GP1A	50.00	.....	.....	.....	.....
*3GS8	Use 3BU8/3GS8				
*3HM5/3HA5	2.31	2.08	2.08	1.73	1.54
*3HQ5	3.39	3.05	3.05	2.54	2.26
*3JC6A	3.03	2.73	2.73	2.27	2.02
3JP1	42.70	40.57	.....	.....	.....
3JP7	27.65	26.27	24.89	.....	.....
*3KT6	2.28	2.05	2.05	1.71	1.52
3KP1	46.75	.....	.....	.....	.....
3MP1	29.90	28.41	26.91	.....	.....
*3Q4	2.01	1.81	1.81	1.51	1.34
*3Q5GT	3.51	3.16	3.16	2.63	2.34
3RP1	27.05	.....	.....	.....	.....
3RP1A	34.45	32.73	31.00	.....	.....
3RP7A	35.00	33.25	31.50	.....	.....
*3S4	2.04	1.84	1.84	1.53	1.34
3SP1	51.90	49.31	.....	.....	.....
*3V4	2.67	2.40	2.40	2.00	1.78

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
3W5000A1/8240	Use 3CX50000A1				
3W5000A3/8242	Use 3CX50000A3				
3W5000F1/8241	Use 3CX5000F1				
3W5000F1/8243	Use 3CX5000F3				
3WP1	41.00	.....	.....	.....	.....
3WP2	41.00	.....	.....	.....	.....
3WP11	41.65	39.57	37.49	.....	.....
3X2500A3/8161	Use 3CX2500A3				
3X2500F3/8251	Use 3CX2500F3				
3X3000A1/8238	Use 3CX3000A1				
3X3000A1/8239	Use 3CX3000F1				
3X3000F1/8239	245.00	.....	.....	.....	.....
4-65A/8165	32.50	.....	.....	.....	.....
4-125A/4D21	44.00	41.80	39.60	.....	.....
4-250A/5D22	48.00	45.60	43.20	.....	.....
4-400A/8438	51.80	49.21	46.62	.....	.....
4-1000A/8166	135.00	.....	.....	.....	.....
*4AU6	2.31	2.08	2.08	1.73	1.54
*4AV6	1.77	1.59	1.59	1.33	1.18
4B24/3C	13.25	.....	.....	.....	.....
4B32	15.00	.....	.....	.....	.....
*4BC8	2.40	2.16	2.16	1.80	1.60
*4BL8/XCF80	1.44	1.30	1.30	1.08	.96
*4BN6	2.43	2.19	2.19	1.82	1.62
*4BQ7A	2.94	2.65	2.65	2.21	1.96
*4BS8	2.12	1.91	1.70	1.53	.....
*4BU8/4GS8	2.67	2.40	2.40	2.00	1.78
*4BZ6	2.22	2.00	2.00	1.67	1.48
*4BZ7	2.94	2.65	2.65	2.21	1.96
*4CB6	1.71	1.54	1.54	1.28	1.14
*4CS6	2.31	1.08	2.08	1.73	1.54
4CX250B/7203	35.60	33.82	32.04	.....	.....
4CX250F/7204	38.00	36.10	34.20	.....	.....
4CX250K/8245	70.00	66.50	.....	.....	.....
4CX250R/7580W	44.50	42.28	40.05	.....	.....
4CX300A/8167	60.00	57.00	.....	.....	.....
4CX350A/8321	48.50	46.08	43.65	.....	.....
4CX350F/8322	51.50	48.93	.....	.....	.....
4CX1000A/8168	200.00	190.00	.....	.....	.....
4CX1000K/8352	225.00	.....	.....	.....	.....
4CX1500B/8660	205.00	.....	.....	.....	.....
4CX3000A/8169	420.00	.....	.....	.....	.....
4CX10000D/8171	575.00	546.25	.....	.....	.....
4CX5000A/8170	495.00	.....	.....	.....	.....
4CX15000A/8281	695.00	.....	.....	.....	.....
4D21A	47.00	46.55	44.10	.....	.....
*4DE6	1.77	1.59	1.59	1.33	1.18
*4DK6	2.04	1.81	1.87	1.53	1.36
*4DT6A	2.31	2.08	2.08	1.73	1.54
4E27A/5-125B	50.00	47.50	45.00	.....	.....
*4EH7/LF183	2.13	1.92	1.92	1.60	1.42
*4EJ7/DF184	2.13	1.92	1.92	1.60	1.42
*4ES8/XCC189	3.30	2.97	2.97	2.48	2.20
*4EW6	1.74	1.57	1.57	1.31	1.16
*4GK5	2.34	2.11	2.11	1.76	1.56
*4GM6	1.32	1.19	1.19	.99	.88
*4GS8	Reference Only Use 4BU8/4CS8				
*4GX7	2.76	2.48	2.48	2.07	1.84
*4HA5/PC900	1.41	1.27	1.27	1.06	.94
*4HA7	2.55	2.30	2.30	1.91	1.70
*4HC7	2.55	2.30	2.30	1.91	1.70
*4HM6	1.86	1.67	1.67	1.40	1.24
*4HQ5	2.76	2.48	2.48	2.07	1.84
*4HS8	2.22	2.00	2.00	1.67	1.48
*4JC6A	3.03	2.73	1.73	2.27	2.02
*4JD6	2.76	2.48	2.48	2.07	1.84
*4JH6	2.04	1.84	1.84	1.53	1.36
*4KE8	3.63	3.27	3.27	2.72	2.42
4KM70LA	6615.00	.....	.....	.....	.....
4KM100LA	9030.00	.....	.....	.....	.....
4KM150LA	11550.00	.....	.....	.....	.....
*4KN8/4RHR8	4.44	4.00	4.00	3.33	2.96
*4KT6	2.49	2.24	2.24	1.87	1.66
*4LJ8	2.64	2.38	2.38	1.98	1.76
4PR60B/8252	115.00	109.25	.....	.....	.....
4PR65A/8187	50.00	47.50	45.00	.....	.....
*4RHH2	Use 4BQ7A				
4W300B/8249	71.00	67.45	.....	.....	.....
4W20000A//8173	2480.00	.....	.....	.....	.....
4X150A/7034	23.15	21.99	20.84	.....	.....
4X500A	127.50	121.13	.....	.....	.....
4X1500/7035	29.00	27.55	26.10	.....	.....
5A6	7.30	6.94	6.57	.....	.....
5ABP1	51.40	48.83	.....	.....	.....
5ABP1AM	53.00	.....	.....	.....	.....
5ADP1	51.05	48.50	45.94	.....	.....
5ADP1AM	53.00	.....	.....	.....	.....
5ADP2	51.40	48.83	.....	.....	.....
5ADP7	51.40	48.83	.....	.....	.....
5ADP7A	53.80	51.11	.....	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5ADP11	51.40	.....	.....	.....	.....
5ADP31	51.05	48.50	45.95	.....	.....
5AHP7AM	49.50	47.03	.....	.....	.....
5AHP7A	49.50	47.03	44.55	.....	.....
*5AM8	2.94	2.65	2.65	2.21	1.96
5AMP1A	62.00	.....	.....	.....	.....
*5AN8	3.12	2.81	2.81	2.34	2.08
5AQP1A	61.00	.....	.....	.....	.....
5AQP2A	61.00	.....	.....	.....	.....
*5AQ5	2.22	2.00	2.00	1.67	1.48
5AQP7A	61.00	.....	.....	.....	.....
*5AR4/GZ34	2.55	2.30	2.30	1.91	1.70
*5AS4A	2.07	1.86	1.86	1.55	1.38
*5AS8	2.64	2.38	2.38	1.98	1.76
*5AT8	2.67	2.40	2.40	2.00	1.78
*5AU4	Use 5V3A/5AU4				
5AUP24	150.00	.....	.....	.....	.....
*5AV8	2.43	2.19	2.19	1.82	1.62
*5AZ4	3.18	2.86	2.86	2.39	2.12
5AZP4	135.00	.....	.....	.....	.....
*5B8	3.30	2.97	2.97	2.48	2.20
*5BC3A	2.04	1.84	1.84	1.53	1.36
*5BE8	1.86	1.67	1.67	1.40	1.24
*5BK7A	2.49	2.24	2.24	1.87	1.66
5BP1A	43.05	40.90	38.75	.....	.....
*5BQ7A	2.58	2.32	2.32	1.94	1.72
*5BR8/5FV8	2.94	2.65	2.65	2.21	1.96
*5BT8	1.86	1.67	1.67	1.40	1.24
*5BW8	2.58	2.32	2.32	1.94	1.72
5CBP2	72.50	.....	.....	.....	.....
*5CG8	2.40	2.16	2.16	1.80	1.60
*5CL8A	2.94	2.65	2.65	2.21	1.96
5CP1A	52.40	.....	.....	.....	.....
5CP7A	52.40	.....	.....	.....	.....
5CP11B	54.80	.....	.....	.....	.....
*5CQ8	2.46	2.21	2.21	1.85	1.64
*5CZ5	2.67	2.40	2.40	2.00	1.78
*5DJ4	2.13	1.92	1.92	1.60	1.42
5DP1	105.00	.....	.....	.....	.....
*5EA8	3.39	3.05	3.05	2.54	2.26
*5ES8/YCC189	3.30	2.97	2.97	2.48	2.20
*5EU8	2.40	2.16	2.16	1.80	1.60
*5EW6	2.40	2.16	2.16	1.80	1.60
*5FG7	2.67	2.48	2.48	2.07	1.84
5FP4A	36.05	34.25	32.45	.....	.....
5FP7A	40.95	38.90	36.86	.....	.....
*5FV8	Use 5BR8/5FV8				
*5GH8A	2.94	2.65	2.65	2.21	1.96
*5GJ7	1.77	1.59	1.59	1.33	1.18
*5GM6	1.95	1.76	1.76	1.46	1.30
*5GS7	2.19	1.97	1.97	1.64	1.46
*5GX6	1.47	1.32	1.32	1.10	.98
*5GX7	2.67	2.48	2.48	2.07	2.07
*5HA7	2.55	2.30	2.30	1.91	1.70
*5HB7	2.04	1.84	1.84	1.53	1.36
*5HG8/LCF86	2.22	2.00	2.00	1.67	1.48
*5HZ6	1.95	1.76	1.76	1.46	1.30
*5J6	2.22	2.00	2.00	1.67	1.48
*5JK8	2.31	2.08	2.08	1.73	1.54
*5JL8	2.31	2.08	2.08	1.73	1.54
*5KD8	1.50	1.35	1.35	1.13	1.00
*5KE8	3.63	3.27	3.27	2.72	2.42
*5KZ8	2.13	1.92	1.92	1.60	1.42
*5LJ8	2.64	2.38	2.38	1.98	1.76
5LP1A	55.00	.....	.....	.....	.....
5MHH3 Use 5J6	.....	2.00	2.00	1.67	1.48
5R4GYA	2.28	2.17	2.05	1.94	.....
5R4GYB	2.40	2.28	2.16	2.04	.....
5R4WGB	15.00	14.73	13.95	.....	.....
*5T8	2.67	2.40	2.40	2.00	1.78
*5U4G	1.65	1.49	1.49	1.24	1.10
*5U4GB	1.83	1.65	1.65	1.37	1.22
*5U8	2.82	2.54	2.54	2.12	1.88
*5U9/LCF201	1.77	1.59	1.59	1.33	1.18
5UP1	35.25	33.90	31.54	.....	.....
5UP7	28.00	26.60	25.20	.....	.....
5UP31	23.10	.....	.....	.....	.....
*5V3A/5AU4	2.28	2.05	2.05	1.71	1.52
*5V4GA	2.58	2.32	2.32	1.84	1.72
*5V6GT	2.22	2.00	2.00	1.67	1.48
5WP11	59.00	46.55	44.10	.....	.....
*5X8	2.49	2.24	2.24	1.87	1.66
*5Y3GT	1.33	1.18	1.06	.....	.....
5Y3WGTA	4.05	3.85	3.64	.....	.....
*5Y4GA	1.47	1.32	1.32	1.10	.98
*5Y4GT	2.04	1.84	1.84	1.53	1.36
*5Z3	2.67	2.40	2.40	2.00	1.78
*5Z4	Use 5Y3GT				
5ZP16	110.00	104.00	.....	.....	.....
C6H-1	29.10	27.65	26.19	.....	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
C6J/5C21	28.10	26.70	.....	.....	.....
C6J	28.10	.....	.....	.....	.....
C6J/K	29.10	.....	.....	.....	.....
C6J/K/NE	34.50	32.78	31.05	.....	.....
C6J/KP	30.25	28.79	27.23	.....	.....
C6JA/5685	28.30	26.89	25.47	.....	.....
*6A7	4.00	4.32	4.32	3.60	3.20
*6A8	4.26	3.83	3.83	3.20	2.84
*6AB4	2.16	1.94	1.94	1.62	1.44
*6AC7	3.45	3.11	3.11	2.59	2.30
6AC7W	5.84	5.55	5.26	.....	.....
*6AC10	2.55	2.30	2.30	1.91	1.70
6AD4	3.40	3.23	3.06	2.89	.....
*6AD10	4.89	4.40	4.40	3.67	3.26
*6AF3	2.43	2.19	2.19	1.82	1.62
*6AF4A	2.94	2.65	2.65	2.21	1.96
*6AF6G	3.78	3.40	3.40	2.84	2.52
*6AF9	2.13	1.92	1.92	1.60	1.42
*6AF11	3.12	2.81	2.81	2.34	2.08
*6AG5	2.58	2.32	2.32	1.94	1.72
*6AG7	4.62	4.16	4.16	3.47	3.08
6AG7Y	3.11	2.95	2.80	.....	.....
*6AG9	3.69	3.32	3.32	2.77	2.46
*6AG11	3.42	3.08	3.08	2.57	2.28
*6AH4GT	1.95	1.76	1.76	1.46	1.30
*6AH6	3.48	3.13	3.13	2.61	2.32
6AH6WA	8.20	7.79	7.38	.....	.....
*6AH9	2.85	2.57	2.57	2.14	1.90
6AJ5	3.20	3.04	2.88	2.72	.....
*6AJ8/ECH81	2.80	2.66	2.52	.....	.....
*6AK5/EF95	2.85	2.57	2.57	2.14	1.90
6AK5WB	6.15	5.84	5.54	5.23	.....
6AK6	1.40	1.33	1.26	1.19	.....
*6AK8/EABC80	1.98	1.78	1.78	1.49	1.32
*6AK10	3.03	2.73	2.73	2.28	2.02
*6AL3/EY88	1.56	1.40	1.40	1.17	1.04
*6AL5	1.77	1.59	1.59	1.33	1.18
*6AL7GT	4.17	3.75	3.75	3.13	2.78
*6AL11	3.42	3.08	3.08	2.57	2.28
*6AM4	4.32	3.89	3.89	3.24	2.88
*6AM6/EF91	4.23	3.81	3.53	.....	.....
*6AM8A	2.76	2.48	2.48	2.07	1.84
*6AN4	3.69	3.32	3.32	2.77	2.46
6AN5	4.56	4.33	4.10	.....	.....
6AN5WA	11.25	10.69	10.13	.....	.....
*6AN8A	3.12	2.81	2.81	2.34	2.08
*6AQ5A	2.04	1.84	1.84	1.53	1.36
*6AQ6	1.95	1.76	1.76	1.46	1.30
*6AQ7GT	2.82	2.54	2.54	2.12	1.88
*6AQ8/ECC85	1.80	1.62	1.62	1.35	1.20
*6AR5	1.47	1.32	1.32	1.10	.90
6AR6	6.25	5.94	.....	.....	.....
*6AR8	3.54	3.19	3.19	2.66	2.36
*6AR11	3.21	2.89	2.89	2.41	2.14
*6AS5	2.40	2.16	2.16	1.80	1.60
6AS6	3.90	3.71	3.51	3.32	.....
6AS7G	5.25	4.99	4.73	4.46	.....
6AS7GA	5.25	4.99	4.73	4.46	.....
*6AS8	3.21	2.89	2.89	2.41	2.14
*6AS11	3.51	3.16	3.16	2.63	2.34
*6AT6	1.44	1.30	1.30	1.08	.96
*6AT8A	3.12	2.81	2.81	2.34	2.08
*6AU4GTA	2.91	2.62	2.62	2.18	1.94
*6AU5GT	3.12	2.81	2.81	2.34	2.08
*6AU6A	1.77	1.59	1.59	1.33	1.18
6AU6WB/6136	3.22	3.06	2.90	2.74	.....
*6AU8A	3.39	3.05	3.05	2.54	2.26
*6AV5GA	3.12	2.81	2.81	2.34	2.08
*6AV6	1.62	1.46	1.46	1.22	1.08
*6AV11	2.64	2.38	2.38	1.98	1.76
*6AW8A	2.67	2.40	2.40	2.00	1.78
*6AX3	2.04	1.84	1.84	1.53	1.36
*6AX4GTB	2.22	2.00	2.00	1.67	1.48
*6AX5GT	2.31	2.08	2.08	1.73	1.54
*6AX8	2.10	1.89	1.89	1.50	1.40
*6AY3B	2.22	2.00	2.00	1.67	1.48
*6AY11	3.42	3.08	3.08	2.57	2.28
*6AZ8	3.30	2.97	2.97	2.48	2.20
*6B8	4.11	3.70	3.70	3.08	2.74
*6B10	2.67	2.40	2.40	2.00	1.78
*6BA3	1.83	1.65	1.65	1.37	1.22
*6BA6/EF93	1.95	1.76	1.76	1.46	1.30
*6BA7	3.51	3.16	3.16	2.63	2.34
*6BA8A	3.12	2.81	2.81	2.34	2.08
*6BA11	2.94	2.65	2.65	2.21	1.96
*6BC4	3.30	2.97	2.97	2.48	2.20
*6BC5/6CE5	1.95	1.76	1.76	1.46	1.30
*6BC7	2.16	1.94	1.94	1.62	1.44
*6BC8/6BZ8	2.94	2.65	2.65	2.21	1.96
*6BD6	1.41	1.27	1.27	1.06	.94

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*6BD11	3.51	3.15	3.16	2.63	2.34
*6BE3/6BZ3	2.67	2.40	2.40	2.00	1.78
*6BE6	2.04	1.84	1.84	1.53	1.36
*6BF5	2.01	1.81	1.81	1.51	1.34
*6BF6	1.71	1.54	1.54	1.28	1.14
6BF7W	4.90	4.66	4.41	.....	.....
*6BF11	3.03	2.73	2.73	2.27	2.02
*6BG6G	4.29	3.86	3.86	3.22	2.86
*6BG6GA	3.22	2.90	2.58	2.32	.....
*6BH3A	1.68	1.51	1.51	1.26	1.12
*6BH6	2.40	2.16	2.16	1.80	1.60
*6BH8	2.76	2.48	2.48	2.07	1.84
*6BH11	2.82	2.54	2.54	2.12	1.88
*6BJ3	1.95	1.76	1.76	1.46	1.30
*6BJ6	2.43	2.19	2.19	1.82	1.62
*6BJ7	1.77	1.59	1.59	1.33	1.18
*6BJ8	2.67	2.40	2.40	1.33	1.18
*6BK4C/6EL4A	4.62	4.16	4.16	3.47	3.08
*6BK4B	Use 6BK4C/6EL4A				
*6BK5	2.10	1.89	1.89	1.58	1.40
*6BK7B	2.94	2.65	2.65	2.21	1.96
6BL6	90.00	.....	.....	.....	.....
*6BL7GTA	3.63	3.27	3.27	2.72	2.42
*6BL8/ECF80	1.62	1.46	1.46	1.22	1.08
6BM6	90.00	.....	.....	.....	.....
6BM6A	90.00	.....	.....	.....	.....
*6BM8/ECL82	1.74	1.57	1.57	1.31	1.16
*6BN4A	2.40	2.16	2.16	1.80	1.60
*6BN6/6KS6	2.70	2.43	2.43	2.03	1.80
*6BN8	2.58	2.32	2.32	1.94	1.72
*6BN11	3.21	2.89	2.89	2.41	2.14
*6BQ5/EL84	2.34	2.11	2.11	1.76	1.56
*6BQ5MP/EL84MP	6.60	6.09	5.50	5.08	.....
*6BQ6GA/6CU6	2.45	2.20	1.96	1.76	.....
*6BQ6GTB/6CU6	3.24	2.92	2.92	2.43	2.16
6BQ7A/6BZ7/6BS8	3.00	2.70	2.70	2.25	2.00
*6BR3/6RK19	2.73	2.46	2.46	2.05	1.82
*6BR8/6FV8A	3.12	2.81	2.81	2.34	2.08
*6BS3A	2.22	2.00	2.00	1.67	1.48
*6BS8	Use 6BQ7A/6BZ7/6BS8				
*6BU8	3.03	2.73	2.73	2.27	2.02
*6BV8	1.98	1.78	1.78	1.49	1.32
*6BV11	2.97	2.68	2.68	2.23	1.98
*6BW3	Use 6CG3/6CE3/6CD3/6BW3				
*6BW4	1.65	1.49	1.49	1.24	1.10
*6BW8	2.82	2.54	2.54	2.12	1.88
*6BW11	3.21	2.89	2.89	2.41	2.14
*6BX7GT	3.54	3.19	3.19	2.66	2.35
*6BY5GA	2.88	2.59	2.59	2.16	1.92
*6BY6	2.04	1.84	1.84	1.53	1.36
*6BY8	1.62	1.46	1.46	1.22	1.08
*6BZ3	Use 6BE3/6BZ7/6BS8				
*6BZ6	1.86	1.67	1.67	1.40	1.24
*6BZ7	Use 6BQ7A/6BZ7/6BS8				
*6BZ8	Use 6BC8/6BZ8				
*6C4	2.20	2.00	2.00	1.67	1.48
6CW	1.55	1.47	1.40	.....	.....
6C4WA	3.15	2.99	2.84	2.68	.....
*6C5	3.21	2.89	2.89	2.41	2.14
*6C6	4.71	4.24	4.24	3.53	3.14
*6C9	3.30	2.97	2.97	2.48	2.20
*6C10	2.22	2.00	2.00	1.68	1.48
6C21	121.00	.....	.....	.....	.....
*6CA4	2.25	2.04	2.03	1.69	1.50
*6CA5	1.80	1.62	1.62	1.35	1.20
*6CA7/EL34	3.21	2.89	2.89	2.41	2.14
*6CA7MP/EL34MP	7.93	7.32	6.71	6.10	.....
*6CB5A	5.94	5.35	5.35	4.46	3.96
*6CB6A/6CF6	1.95	1.76	1.76	1.46	1.30
*6CD6GA	3.99	3.59	3.59	2.99	2.66
*6CE3	Use 6CG3/6CE3/6CD3/6BW3				
*6CE5	Use 6BC5/6CE5				
*6CF6	Use 6CB6A/6CF6				
*6CG3/6CE3/6CD3/6BW3	2.34	2.11	2.11	1.76	1.56
*6GG7	Use 6FQ7/6CG7				
*6CG8A	2.58	2.32	2.32	1.94	1.72
*6CH3	Use 6CJ3/6CH3				
*6CH6	3.36	3.02	3.02	2.52	2.24
*6CJ3/6CH3	2.22	2.00	2.00	1.67	1.48
*6CK3	2.22	2.00	2.00	1.67	1.48
*6CK4	2.13	1.92	1.92	1.60	1.42
*6CL3	2.22	2.00	2.00	1.67	1.48
*6CL6	2.85	2.57	2.57	2.14	1.90
*6CL8A	2.76	2.48	2.49	2.07	1.84
*6CM3	2.94	2.65	2.65	2.21	1.96
*6CM6	2.31	2.08	2.08	1.73	1.54
*6CM7	2.49	2.24	2.24	1.87	1.66
*6CM8	2.43	2.19	2.19	1.82	1.62
*6CN7	2.67	2.40	2.40	2.00	1.78
*6CQ4	Use 6DE4/6CQ4				

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*6CQ8	2.76	2.48	2.48	2.07	1.84
*6CR6	1.77	1.59	1.59	1.33	1.18
*6CS6	2.46	2.21	2.21	1.85	1.64
*6CS7	2.25	2.03	2.03	1.69	1.50
*6CU5	2.40	2.16	2.16	1.80	1.60
*6CU6	Use 6BQ6GTB/6CU6				
*6CU6/6BQ6GTB	Use 6BQ6GTB/6CU6				
*6CU8	2.76	2.48	2.48	2.07	1.84
*6CW4	3.39	3.05	3.05	2.54	2.26
*6CW5/EL86	1.65	1.49	1.49	1.24	1.10
*6CX8	3.12	2.81	2.81	2.34	2.08
*6CY5	2.91	2.62	2.62	2.18	1.94
*6CY7	1.83	1.65	1.65	1.37	1.22
*6CZ5	2.85	2.57	2.57	2.14	1.90
6D4	3.20	3.04	2.88	2.72	.....
*6D10	2.79	2.51	2.51	2.09	1.86
*6DA4	Use 6DM4A/6DA4				
*6DB5	3.00	2.70	2.70	2.25	2.00
*6DA6/EF89	2.52	2.27	2.10	.....	.....
*6DC8/EBF89	1.83	1.68	1.68	1.37	1.22
*6DC6	2.31	2.08	2.08	1.73	1.54
*6DE4/6CQ4	2.49	2.24	2.24	1.87	1.66
*6DE6	1.95	1.76	1.76	1.46	1.30
*6DE7	2.67	2.40	2.40	2.00	1.78
*6DG6GT	2.31	2.08	2.08	1.73	1.54
6DJ8/ECC88	1.90	1.81	1.71	1.62	.....
6D18/ECC88 10M	3.45	3.28	3.11	2.93	.....
*6DK6	2.13	1.92	1.92	1.60	1.42
*6DL4/EC88	4.77	4.29	4.29	3.58	3.18
*6DL5/EL95	1.77	1.59	1.59	1.33	1.18
*6DM4A/6DA4	2.22	2.00	2.00	1.67	1.48
*6DN3	2.46	2.21	2.21	1.85	1.64
*6DN6	4.20	3.78	3.78	3.15	2.80
*6DN7	2.76	2.48	2.48	2.07	1.84
*6DQ5	4.89	4.40	4.40	3.67	3.26
*6DQ6B	Use 6GW6/6DQ6B				
*6DR7	3.03	2.73	2.73	2.27	2.02
*6DS4	3.39	3.05	3.05	2.54	2.26
*6DS5	2.19	1.97	1.97	1.64	1.46
*6DT5	2.13	1.92	1.92	1.60	1.42
*6DT6A	1.95	1.76	1.76	1.46	1.30
*6DT8	2.25	2.03	2.03	1.69	1.50
*6DV4	3.89	3.48	3.48	2.90	2.58
*6DW4B	2.22	2.00	2.00	1.67	1.48
*6DX8/ECL84	1.74	1.57	1.57	1.31	1.16
*6DZ4	2.94	2.65	2.65	2.21	1.96
*6E5	3.39	3.05	3.05	2.54	2.26
*6EA5	Use 6CY5				
*6EA7	USE 6EM7/6EA7				
*6EA8	2.34	2.11	2.11	1.76	1.56
*6EB8	3.39	3.05	3.05	2.54	2.26
*6EH4A	4.92	4.43	4.43	3.69	3.28
*6EH5	2.13	1.92	1.92	1.60	1.42
*6EH7/EF183	2.31	2.08	2.08	1.73	1.54
*6EH8	2.10	1.89	1.89	1.58	1.40
*6EJ4A	5.61	5.05	5.05	4.21	3.74
*6EJ7/EF184	2.13	1.92	1.78	.....	.....
*6EL4	Use 6BK4C/6EL4A				
*6EM5	2.67	2.40	2.40	2.00	1.78
*6EM7/6EA7	3.42	3.08	3.08	2.57	2.28
*6EN4	5.07	4.56	4.56	3.80	3.38
*6EQ7	1.77	1.59	1.59	1.33	1.18
*6ER5	2.52	2.27	2.27	1.89	1.68
*6ES5	1.71	1.54	1.54	1.28	1.14
*6ES8/ECC189	3.27	2.94	2.94	2.45	2.18
*6ET7	2.40	2.16	2.16	1.80	1.60
*6EU7	2.37	2.13	2.13	1.78	1.50
*6EU8	2.22	2.00	2.00	1.67	1.48
*6EV5	2.55	2.30	2.30	1.91	1.70
*6EV7	1.95	1.76	1.76	1.46	1.30
*6EW6	2.13	1.92	1.92	1.60	1.42
*6EW7	3.90	3.51	3.51	2.93	2.60
*6EZ5	3.03	2.73	2.73	2.27	2.02
*6EZ8	2.13	1.92	1.92	1.60	1.42
6F4	14.40	13.68	12.96	12.24	.....
*6F5	3.51	3.16	3.16	2.63	2.34
*6F6	3.69	3.32	3.32	2.77	2.46
*6F6GT	3.48	3.13	3.13	2.61	2.32
*6F8G	5.07	4.56	4.56	3.80	3.38
*6FA7	1.77	1.59	1.59	1.33	1.18
*6FD7	3.42	3.08	3.08	2.57	2.28
*6FE5	2.04	1.84	1.84	1.53	1.36
*6FG6/EM84	2.01	1.81	1.81	1.51	1.34
*6FG7	2.76	2.48	2.48	2.07	1.84
*6FH5	3.00	2.70	2.70	2.25	2.00
*6FH8	2.64	2.38	2.38	1.98	1.76
*6FJ7	2.49	2.24	2.24	1.87	1.66
*6FM7	2.76	2.48	2.48	2.07	1.84
*6FM8	2.37	2.13	2.13	1.78	1.58
*6FQ5A	Use 6GK5/6FQ5A				

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*6FQ7/6CG7	1.77	1.59	1.59	1.33	1.18
*6FS5	2.46	2.21	2.21	1.85	1.64
*6FV6	2.67	2.40	2.40	2.00	1.78
*6FV8A	Use 6BR8A/6FV8				
*6FW5	2.79	2.51	2.51	2.09	1.86
*6FY5/EC97	1.65	1.49	1.49	1.24	1.10
*6FY7	2.10	1.89	1.89	1.58	1.40
*6G11	3.60	3.24	3.24	2.70	2.40
*6GB3A	Use 6BQ6GTB/6CU6				
*6GB5/EL500	2.28	2.05	2.05	1.71	1.52
*6GB6	Use 6GW6/6DQ6B				
*6GC5	3.39	3.05	3.05	2.54	2.26
*6GE5	3.42	3.08	3.08	2.57	2.28
*6GF5	2.28	2.05	2.05	1.71	1.52
*6GF7A	3.21	2.89	2.89	2.41	2.14
*6GH8A	1.92	1.73	1.73	1.44	1.28
*6GJ5A	3.69	3.32	3.32	2.77	2.46
*6GJ7/ECF801	1.86	1.67	1.67	1.40	1.24
*6GK5/6FQ5A	2.76	2.48	2.48	2.07	1.84
*6GK6	2.22	2.00	2.00	1.67	1.48
*6GK17	Use 6AU4GTA				
*6GL7	3.48	3.13	3.13	2.61	2.32
*6GM5	1.83	1.65	1.65	1.37	1.22
*6GM6	2.31	2.08	2.08	1.73	1.54
*6GM8/ECC86	2.61	2.35	2.18	.....	.....
*6GN8	3.39	3.05	3.05	2.54	2.26
*6GQ7	2.25	2.02	2.02	1.69	1.50
*6GS7	2.25	2.03	2.03	1.69	1.50
*6GT5A	3.81	3.43	3.43	2.86	2.54
*6GU5	2.46	2.21	2.21	1.85	1.64
*6GU7	2.49	2.24	2.24	1.87	1.66
*6GV5	2.49	2.24	2.24	1.87	1.66
*6GV8/ECL85	2.76	2.48	2.48	2.07	1.84
*6GW6/6DQ6B	3.21	2.89	2.89	2.41	2.14
*6GW8/ECL86	1.83	1.65	1.65	1.37	1.22
*6GX6	2.10	1.89	1.89	1.58	1.40
*6GX7	2.76	2.48	2.48	2.07	1.84
*6GY5	2.76	2.48	2.48	2.07	1.84
*6GY6	1.92	1.73	1.73	1.44	1.28
*6GY8	3.09	2.78	2.78	2.32	2.06
*6H6	3.48	3.13	3.13	2.61	2.32
6H6WGT	14.15	13.44	12.74	12.03	.....
*6HA5	Use 6HM5/6HA5				
*6HA6	Use 6HB6/6HA6				
*6HB5	2.76	2.48	2.48	2.07	1.84
*6HB6/6HA6	2.67	2.40	2.40	2.00	1.78
*6HB7	2.58	2.32	2.32	1.94	1.72
*6HE5	2.79	2.51	2.51	2.09	1.86
*6HF5	5.22	4.70	4.70	3.92	3.48
*6HF8	3.54	3.19	3.19	2.66	2.36
*6HG5	2.04	1.84	1.84	1.53	1.36
*6HG8/ECF86	2.22	2.00	2.00	1.67	1.48
*6HJ8	1.86	1.67	1.67	1.40	1.24
*6HK5	2.34	2.11	2.11	1.76	1.56
*6HL8	1.83	1.65	1.65	1.37	1.22
*6HM5/6HA5	2.31	2.08	2.08	1.73	1.54
*6HM6	1.77	1.59	1.59	1.33	1.18
*6HQ5	4.65	4.19	4.19	3.49	3.10
*6HR5	1.53	1.39	1.38	1.15	1.02
*6HR6	2.22	2.00	2.00	1.66	1.48
*6HS5	4.65	4.19	4.19	3.49	3.10
*6HS6	2.22	2.00	2.00	1.66	1.48
*6HS8	2.85	2.57	2.57	2.14	1.90
*6HU6/EM87	2.91	2.62	2.62	2.18	1.94
*6HU8/ELL80	3.24	2.92	2.92	2.43	2.16
*6HZ6	1.92	1.73	1.73	1.44	1.28
6J4	4.51	4.28	4.06	3.83	.....
6J4WA	5.84	5.55	5.26	4.96	.....
*6J5	2.76	2.48	2.48	2.07	1.84
*6J5GT	2.46	2.21	2.21	1.85	1.64
*6J6A	2.67	2.40	2.40	2.00	1.78
6J6WA	5.51	5.23	4.96	4.68	.....
*6J7	3.81	3.43	3.43	2.86	2.54
*6J10	Use 6Z10/6J10				
*6J11	3.45	3.11	3.11	2.59	2.30
*6JB6A	3.81	3.43	3.43	2.86	2.54
*6JC6A	2.67	2.40	2.40	2.00	1.78
*6JC8	2.01	1.81	1.81	1.51	1.34
*6JD6	2.75	2.48	2.48	2.07	1.84
*6JE6A	Use 6LQ6/6JE6C				
*6JE8	2.22	2.00	2.00	1.67	1.48
*6JF6	4.35	3.92	3.92	3.26	2.90
*6JG6A	3.90	3.51	3.51	2.93	2.60
*6JH6	2.16	1.94	1.94	1.62	1.44
*6JH8	3.30	2.97	2.97	2.48	2.20
*6JK6	2.31	2.08	2.08	1.73	1.54
*6JK8	2.43	2.19	2.19	1.82	1.62
*6JM6A	3.42	3.08	3.08	2.57	2.28
*6JN6	3.21	2.89	2.89	2.41	2.14
*6JN8	2.19	1.97	1.97	1.64	1.46

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*6JQ6	2.31	2.08	2.08	1.73	1.54
*6JR6	3.81	3.43	3.43	2.86	2.54
*6JS6C	4.50	4.05	4.05	3.38	3.00
*6JT6A	3.51	3.16	3.16	2.63	2.34
*6JT8	2.67	2.40	2.40	2.00	1.78
*6JU6	4.17	3.75	3.75	3.13	2.78
*6JU8A	2.64	2.38	2.38	1.98	1.76
*6JV8	2.64	2.38	2.38	1.98	1.76
*6JW8/ECF802	1.86	1.67	1.67	1.40	1.24
*6JZ6	2.79	2.51	2.51	2.09	1.86
*6JZ8	2.13	1.92	1.92	1.60	1.42
*6K*GT	2.40	2.16	2.16	1.80	1.60
*6K7	3.54	3.19	3.19	2.66	2.36
*6K8	4.62	4.16	4.16	3.47	3.08
*6K11/6Q11	2.28	2.05	2.05	1.71	1.52
*6KA8	2.94	2.65	2.65	2.21	1.96
*6KD6	5.31	4.78	4.78	3.98	3.54
*6KD8	Use 6KU8A/6KD6				
*6KE8	3.63	3.27	3.27	2.72	2.42
*6KL8	1.77	1.59	1.59	1.33	1.18
*6KM6	5.31	4.78	4.78	3.98	3.54
*6KM8	1.72	1.55	1.38	1.24	.....
*6KN6	4.32	3.89	3.89	3.24	2.88
*6KN8/6RHH8	4.44	4.00	4.00	3.33	2.96
*6KR8	2.55	2.30	2.30	1.91	1.70
*6KS6	Use 6BN6/6KS6				
*6KT6	2.94	2.65	2.65	2.21	1.96
*6KT8	3.24	2.92	2.92	2.43	2.16
*6KU8	2.88	2.59	2.59	2.16	1.92
*6KV6A	4.38	3.94	3.94	3.29	2.92
*6KV8	3.51	3.16	3.16	2.63	2.34
*6KY8A	4.62	4.16	4.16	3.47	3.08
*6KZ8	2.43	2.19	2.19	1.82	1.62
*6L6	6.12	5.51	5.51	4.49	4.08
*6L6GC	3.54	3.19	3.19	2.66	2.36
6L6WGB	5.05	4.80	4.55	4.29	.....
*6L7	4.17	3.75	3.75	3.13	2.78
*6LB6	5.31	4.78	4.78	3.98	3.54
*6LB8	2.82	2.54	2.54	2.12	1.88
*6LC8	2.85	2.57	2.57	2.14	1.90
*6LE8	3.72	3.35	3.35	2.79	2.48
*6LF6	5.07	4.56	4.56	3.80	3.38
*6LF8	3.06	2.75	2.75	2.30	2.04
*6LH6A	Use 6LJ6A/6LH6A				
*6LJ6/6LH6	4.98	4.48	4.48	3.74	3.32
*6LJ8	2.64	2.38	2.38	1.98	1.76
*6LM8	2.94	2.65	2.65	2.21	1.96
*6LN8/LCF80	1.44	1.30	1.30	1.08	.96
*6LQ6/6JE6C	5.19	4.67	4.67	3.89	3.46
*6LQ8	3.33	3.00	3.00	2.50	2.22
*6LR6	4.89	4.40	4.40	3.67	3.26
*6LR8	2.85	2.57	2.57	2.14	1.90
*6LT8	2.40	2.16	2.16	1.80	1.60
*6LU8	2.85	2.57	2.57	2.14	1.90
*6LX8/LCF802	1.56	1.40	1.40	1.17	1.04
*6LY8	2.34	2.11	2.11	1.76	1.56
*6M11	3.48	3.13	3.13	2.61	2.32
*6MB8	2.19	1.97	1.97	1.64	1.46
*6MD8	3.11	2.89	2.89	2.41	2.14
*6ME8	3.39	3.05	3.05	2.54	2.26
*6MF8	2.85	2.57	2.57	2.14	1.90
*6MG8	1.47	1.32	1.32	1.10	.98
*6MHH3	Use 6J6A				
*6MJ8	2.75	2.51	2.51	2.09	1.86
*6MK8	2.58	2.32	2.32	1.94	1.72
*6MN8	2.85	2.57	2.57	2.14	1.90
*6MQ8	2.28	2.05	2.05	1.71	1.52
*6MU8	3.12	2.81	2.81	2.34	2.08
*6N7	3.03	2.73	2.73	2.27	2.02
*6N7GT	3.54	3.19	3.19	2.66	2.36
6Q5G	10.50	.....	.....	.....	.....
*6Q7	3.45	3.19	3.19	2.66	2.36
*6Q11/6K11	Use 6K11/6Q11				
*6RHH2	Use 6BC8/6RK19				
*6RK19	Use 6BR3/6RK19				
*6RP22	5.97	5.38	5.38	4.48	3.98
*6S4A	2.22	2.00	2.00	1.67	1.48
*6SA7	3.54	3.19	3.19	2.66	2.36
*6SA7GT	2.64	2.38	2.38	1.98	1.76
*6SB7Y	3.57	3.21	3.21	2.68	2.38
*6SC7	3.21	2.89	2.89	2.41	2.14
*6SF5	3.00	2.70	2.70	2.25	2.00
*6SF7	3.78	3.40	3.40	2.84	2.52
*6SG7	3.36	3.02	3.02	2.52	2.24
*6SH7	3.69	3.32	3.32	2.77	2.46
*6SJ7	3.21	2.89	2.89	2.41	2.14
*6SJ7GT	2.34	2.11	2.11	1.76	1.56
*6SK7	3.00	2.70	2.70	2.25	2.00
6SJ7WGT	3.25	3.09	2.93	.....	.....
*6SJ7Y	2.82	2.68	2.54	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6SK7GT	3.30	2.97	2.97	2.48	2.20
6SL7WGT	3.15	2.99	.....	.....	.....
*6SL7GT	2.94	2.65	2.65	2.21	1.96
*6SN7GTB	2.40	2.16	2.16	1.80	1.60
*6SQ7	2.97	2.67	2.67	2.23	1.98
6SN7WGT	2.35	2.23	2.11	.....	.....
6SN7WGTA	4.90	4.66	4.41	.....	.....
*6SR7	2.94	2.65	2.65	2.21	1.96
6SU7GTY	5.40	5.13	4.86	4.59	.....
*6T4	3.09	2.78	2.78	2.32	2.06
*6T8A	2.82	2.54	2.54	2.12	1.88
*6T9	2.64	2.38	2.38	1.98	1.76
*6T10	3.33	3.00	3.00	2.50	2.22
*6U5	4.44	4.00	4.00	3.33	2.96
*6U8A/6KD8	2.34	2.11	2.11	1.76	1.56
*6U9/ECF201	1.74	1.57	1.57	1.31	1.16
*6U10	2.43	2.19	2.19	1.82	1.62
*6V3A	2.73	2.46	2.46	2.05	1.82
*6V4/EZ80	.75	.67	.60	.....	.....
*6V6	4.08	3.67	3.67	3.06	2.72
*6V6GTA	2.67	2.40	2.40	2.00	1.78
6V6GTY	1.45	1.38	1.31	.....	.....
*6W4GT	1.98	1.78	1.78	1.49	1.32
*6W6GT	2.76	2.48	2.48	2.07	1.84
*6X4	2.04	1.84	1.84	1.53	1.36
6X4W	2.35	2.23	2.12	.....	.....
6X4WA	2.85	2.71	2.57	.....	.....
*6X5GT	2.13	2.92	1.92	1.60	1.42
6X5WGT	1.70	1.62	1.53	.....	.....
*6X8A	2.67	2.40	2.40	2.00	1.78
*6X9/ECF200	1.74	1.57	1.57	1.31	1.16
*6YGA/6Y6G	2.97	2.67	2.67	2.23	1.98
*6Y6GT	1.77	1.59	1.59	1.33	1.18
*6Y9/EFL200	1.77	1.59	1.59	1.33	1.18
*6Z4	Use 84/6Z4				
*6Z10/6J10	3.72	3.35	3.35	2.79	2.48
7AK7	8.15	7.74	7.34	.....	.....
*7AU7	1.86	1.67	1.67	1.40	1.24
*7C5	2.01	1.81	1.81	1.51	1.34
*7C7	2.04	1.84	1.84	1.53	1.36
7D21	1070.00	.....	.....	.....	.....
*7EY6	2.22	2.00	2.00	1.67	1.48
*7F7	4.50	4.05	4.05	3.38	3.00
*7F8	4.95	4.46	4.46	3.71	3.30
*7GS7	2.82	2.54	2.54	2.12	1.88
*7HG8/PCF86	1.65	1.49	1.49	1.24	1.10
7MP7	71.30	67.74	.....	.....	.....
7NP4	1140.00	.....	.....	.....	.....
*7N7	4.26	3.83	3.83	3.20	2.84
7TP4	73.15	69.49	.....	.....	.....
7UP7	60.85	57.81	.....	.....	.....
7VP1	30.80	.....	.....	.....	.....
B8.700.67	.75	.....	.....	.....	.....
B8.700.86	.50	.....	.....	.....	.....
*8A8	Use 9A8/PCF80				
*8AC10	3.03	2.73	2.73	2.27	2.02
*8AR11	3.21	2.89	2.89	2.41	2.14
*8AU8	2.31	2.08	2.08	1.73	1.54
*8AW8A	3.21	2.89	2.89	2.41	2.14
*8B8	3.27	2.94	2.94	2.45	2.18
*8B10	2.64	2.38	2.38	1.98	1.76
*8BA8A	2.07	1.86	1.86	1.55	1.38
*8BA11	3.30	2.97	2.97	2.48	2.20
*8BH8	2.01	1.81	1.81	1.51	1.34
*8BM11	2.82	2.54	2.54	2.12	1.88
*8BN8	2.22	2.00	2.00	1.68	1.48
*8BN11	2.61	2.35	2.35	1.96	1.74
*8BQ5	2.25	2.03	2.03	1.69	1.50
*8BQ11	2.58	2.32	2.32	1.94	1.72
*8BU11	3.00	2.70	2.70	2.25	2.00
*8CG7	Use 8FQ7/8CG7				
*8CM7	1.62	1.46	1.46	1.22	1.08
*8CN7	1.83	1.65	1.65	1.37	1.22
*8CS7	2.40	2.16	2.16	1.80	1.60
*8CW5/XL86	1.53	1.38	1.38	1.15	1.02
*8CX8	2.64	2.38	2.38	1.98	1.76
*8EB8	Use 8GN8/8EB8				
*8EM5	2.46	2.21	2.21	1.85	1.64
*8ET7	2.49	2.24	2.24	2.87	1.66
*8FQ7/8CG7	1.77	1.59	1.59	1.33	1.18
*8GJ7/PCF801	1.74	1.57	1.57	1.31	1.16
*8GN8/8EB8	2.49	2.24	2.24	1.87	1.66
*8GU7	1.92	1.73	1.73	1.44	1.28
*8JU8A	2.01	1.81	1.81	1.51	1.34
*8JV8	2.58	2.32	2.32	1.94	1.72
8HP4	52.50	49.88	57.25	.....	.....
*8KA8	2.79	2.51	2.51	2.09	1.86
8KP4	50.35	47.83	.....	.....	.....
*8LC8	2.85	2.57	2.57	2.14	1.90
*8LT8	2.40	2.16	2.16	1.80	1.60

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
8NP4	59.50	56.53	53.55	.....	.....
8QP4	63.00	59.85	.....	.....	.....
8YP4	33.75	.....	.....	.....	.....
*9A8/PCF80	1.59	1.43	1.43	1.19	1.06
*9AH9	2.85	2.57	2.57	2.14	1.90
*9AU7	1.77	1.59	1.59	1.33	1.10
*9BJ11	3.21	2.89	2.89	2.41	2.14
*9BR7	1.89	1.70	1.70	1.42	1.26
9C25	2775.00	.....	.....	.....	.....
*9GH8A	2.46	2.21	2.21	1.85	1.64
*9GV8/XCL85	2.04	1.84	1.84	1.53	1.36
*9KC6	2.61	2.35	2.35	1.96	1.74
*9KX6	2.49	2.24	2.24	1.87	1.66
*9KZ8	1.77	1.59	1.59	1.33	1.18
*9LA6	2.52	2.27	2.27	1.89	1.68
*9RLA1	Use 10DE7				
*9U8A	1.86	1.67	1.67	1.40	1.24
*10AL11	2.73	2.46	2.46	2.05	1.82
*10BQ5	1.65	1.49	1.49	1.24	1.10
*10C8	3.63	3.27	3.27	2.72	2.42
*10CW5/LL86	1.53	1.38	1.38	1.15	1.02
*10DE7	2.94	2.65	2.65	2.21	1.96
*10DR7	2.67	2.40	2.40	2.00	1.78
*10DX8/LCL84	1.65	1.49	1.49	1.24	1.10
*10EG7	2.94	2.65	2.65	2.21	1.96
*10EM7	2.45	2.20	1.96	1.76	.....
*10EW7	3.18	2.86	2.86	2.39	2.12
*10GF7A	3.27	2.94	2.94	2.45	2.18
*10GK6	2.70	2.43	2.43	2.03	1.80
*10GN8	2.94	2.65	2.65	2.21	1.96
*10HF8	3.21	2.89	2.89	2.41	2.14
*10JA8/10LZ8	2.49	2.24	2.24	1.87	1.66
*10JT8	2.82	2.54	1.54	2.12	1.88
*10JY8	2.19	1.97	1.97	1.64	1.46
*10KR8	2.55	2.30	2.30	1.91	1.70
*10KU8	2.91	2.62	2.62	2.18	1.94
*10LB8	2.82	2.54	2.54	2.12	1.88
*10LE8	3.45	3.19	3.19	2.66	2.36
*10LW8	3.18	2.86	2.86	2.39	2.12
*10LZ8	Use 10JA8/10LZ8				
10SP4	99.35	94.38	.....	.....	.....
*10T10	3.21	2.89	2.89	2.41	2.14
*10Z10	3.30	2.97	2.97	2.48	2.20
*11AF9	3.69	3.32	3.32	2.77	2.46
*11AR11	3.21	2.89	2.89	2.41	2.14
*11BM8	3.51	3.16	3.16	2.63	2.34
*11BQ11	3.21	2.89	2.89	2.41	2.14
*11BT11	3.90	3.51	3.51	2.93	2.60
*11CA11	4.50	4.05	4.05	3.38	3.00
*11CY7	2.79	2.51	2.51	2.09	1.86
*11FY7	2.22	2.00	2.00	1.67	1.48
*11HM7	3.51	3.16	3.16	2.63	2.34
*11JE8	2.31	2.08	2.08	1.73	1.54
*11KV8	2.90	3.51	3.51	2.93	2.60
*11LQ8	3.54	3.19	3.19	2.66	2.36
*11LT8	2.40	2.16	2.16	1.80	1.60
*11Y9/LFL200	2.22	2.00	2.00	1.66	1.48
12A6	3.73	3.54	3.36	3.17	.....
*12AB5	2.31	2.08	2.08	1.73	1.54
*12AC6	1.26	1.13	1.13	.95	.84
*12AC10A	3.03	2.73	2.73	2.27	2.02
*12AD6	2.10	1.89	1.89	1.58	1.40
*12AE6A	1.86	1.67	1.67	1.40	1.24
*12AE10	3.48	3.13	3.13	2.61	2.32
*12AF3/12BR3/12RK19	2.55	2.30	2.30	1.91	1.70
*12AF6	1.89	1.70	1.70	1.42	1.26
*12AL5	1.65	1.49	1.49	1.24	1.10
*12AL8	3.69	3.32	3.32	2.77	2.46
*12AL11	3.39	3.05	3.05	2.54	2.26
*12AQ5	2.10	1.89	1.89	1.58	1.40
*12AT6	1.65	1.49	1.49	1.24	1.10
12AT7/ECC81 10M	2.85	2.71	2.57	2.42	.....
*12AT7/ECC81	2.13	1.92	1.92	1.60	1.42
*12AT7WA	2.86	2.72	2.52	2.43	.....
12AT7WB	3.03	2.88	2.73	2.58	.....
*12AU6	1.77	1.70	1.42	1.28	.....
12AU7/ECC82 10M	2.45	2.33	2.21	2.09	.....
*12AU7/ECC82	2.02	1.86	1.71	.....	.....
*12AV5GA	3.27	2.94	2.94	2.45	2.18
*12AV6	1.41	1.27	1.27	1.06	.94
*12AV7	2.76	2.48	2.48	2.07	1.84
*12AW6	2.13	1.92	1.92	1.60	1.42
*12AX3	1.80	1.62	1.62	1.35	1.20
*12AX4CTB	2.01	1.81	1.81	1.51	1.34
12AX7/ECC83 10M	2.85	2.71	2.57	2.42	.....
*12AX7/ECC83	1.82	1.68	1.54	.....	.....
12AX7WA	6.20	5.89	.....	.....	.....
*12AY3A	1.74	1.57	1.57	1.31	1.16
*12AY7	3.87	3.48	3.48	2.90	2.58
*12AZ7A	2.40	2.16	2.16	1.80	1.60

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*12B4A	2.40	2.16	2.16	1.80	1.60
*12BA6	1.71	1.54	1.54	1.28	1.14
*12BA7	3.54	3.19	3.19	2.66	2.36
*12BD6	1.41	1.27	1.27	1.06	.94
*12BE3	2.07	1.86	1.86	1.55	1.38
*12BE6	1.83	1.65	1.65	1.37	1.22
*12BF6	1.41	1.27	1.27	1.06	.94
*12BF11	3.48	3.13	3.13	2.61	2.32
*12BH7A	2.31	2.08	2.08	1.73	1.54
*12BK5	2.25	2.03	2.03	1.69	1.50
*12BL6	2.22	2.00	2.00	1.66	1.48
*12BN6	2.19	1.97	1.97	1.64	1.46
*12BQ6GA/12CU6	Use 12BQ6CTB/12CU6				
*12BQ6GTB/12CU6	2.67	2.40	2.40	2.00	1.78
*12BR3	Use 12AF3/12BR3/12RK19				
*12BR7	1.83	1.65	1.65	1.37	1.22
*12BS3A/12DW4A	2.22	2.00	2.00	1.67	1.48
*12BT3	2.07	1.86	1.86	1.55	1.38
*12BV7	Use 12BY7A/12BV7/12DQ7				
*12BV11	2.88	2.59	2.59	2.16	1.92
*12BW4	2.01	1.81	1.81	1.51	1.34
*12BY7A/12BV7/12DQ7	2.13	1.92	1.92	1.60	1.42
*12BZ6	1.44	1.30	1.30	1.08	.96
*12BZ7	2.49	2.24	2.24	1.87	1.66
*12C5	Use 12CU5/12C5				
*12CA5	2.37	2.13	2.13	1.78	1.58
*12CL3	2.10	1.89	1.89	1.58	1.40
*12CN5	1.95	1.76	1.76	1.46	1.30
*12CR6	1.77	1.59	1.59	1.33	1.18
*12CT3	1.95	1.76	1.76	1.46	1.30
*12CU5/12C5	2.58	2.32	2.32	1.94	1.72
*12CU6	Use 12BQ6GTB/12CU6				
*12CU6/12BQ6GTB	Use 12BQ6GTB/12CU6				
*12CX6	1.65	1.49	1.49	1.24	1.10
*12D4	1.83	1.65	1.65	1.37	1.22
*12DB5	1.56	1.40	1.40	1.17	1.04
*12DK6	1.38	1.24	1.24	1.04	.92
*12DQ6B/12GW6	Use 12GW6/12DQ6B				
*12DQ7	Use 12BY7A/12BV7/12DQ7				
*12DS7	3.24	2.92	2.92	2.43	2.16
*12DT5	1.86	1.67	1.67	1.40	1.24
*12DT8	2.40	2.16	2.16	1.80	1.60
*12DW4A	Use 12BS3A/12DW4A				
*12DW7	1.83	1.65	1.65	1.37	1.22
*12DY8	4.77	4.29	4.29	3.58	3.18
*12DZ6	2.16	1.95	1.95	1.62	1.44
*12ED5	1.62	1.46	1.46	1.22	1.08
*12EK6	2.13	1.92	1.92	1.60	1.42
*12EQ7	1.65	1.49	1.49	1.24	1.10
*12F8	1.95	1.76	1.76	1.46	1.30
*12FK6	1.53	1.38	1.38	1.15	1.02
*12FM6	1.56	1.40	1.40	1.17	1.04
*12FQ7	1.47	1.32	1.32	1.10	.98
*12FQ8	3.12	2.81	2.81	2.34	2.08
*12FV7	2.04	1.84	1.84	1.53	1.36
*12FX5	1.95	1.76	1.76	1.46	1.30
*12GB3	Use 12BQ6GTB/12CU6				
*12GB6	Use 12GW6/12DQ6B				
*12GB7	Use 12GW6/12DQ6B				
*12GC6	2.61	2.35	2.35	1.96	1.74
*12GE5	3.12	2.81	2.81	2.34	2.08
*12GJ5A	2.94	2.65	2.65	2.21	1.96
*12GN7A	3.39	3.05	3.05	2.54	2.26
*12GT5	3.21	2.89	2.89	2.41	2.14
*12GW6/12DQ6B	3.21	2.89	2.89	2.41	2.14
*12H6	2.67	2.40	2.40	2.00	1.78
*12HG7	3.39	3.05	3.05	2.54	2.26
*12HE7	4.08	3.67	3.67	3.06	2.72
*12HL7	2.94	2.65	2.65	2.16	1.92
*12J5GT	2.88	2.59	2.59	2.21	1.96
*12J8	2.61	2.35	2.35	1.96	1.74
*12JB6A	3.72	3.35	3.35	2.79	2.48
*12JN6	2.34	2.11	2.11	1.76	1.56
*12JN8	2.22	2.00	2.00	1.67	1.48
*12JQ6	2.67	2.40	2.40	2.00	1.78
*12JT6A	2.97	2.67	2.67	2.23	1.98
*12K5	2.07	1.86	1.86	1.55	1.38
*12KL8	1.47	1.32	1.32	1.10	.98
*12L6GT	2.13	1.92	1.92	1.60	1.42
*12MD8	2.91	2.62	2.62	2.18	1.94
*12R5	2.01	1.81	1.81	1.51	1.34
*12RK19	Use 12AF3/12BR3/12RK19				
*12SA7	3.54	3.19	3.19	2.66	2.36
*12SC7	3.12	2.81	2.81	2.34	2.08
*12SF5	2.31	2.08	2.08	1.73	1.54
*12SF7	3.72	3.35	3.35	2.79	2.48
*12SG7	2.82	2.54	2.54	2.12	1.88
*12SH7	3.24	2.92	2.92	2.43	2.16
*12SJ7	2.58	2.32	2.32	1.94	1.72
*12SK7	3.18	2.86	2.86	2.39	2.12

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*12SK7GT	2.67	2.40	2.40	2.00	1.78
*12SL7GT	2.97	2.67	2.67	2.23	1.98
*12SN7GTA	2.58	2.32	2.32	1.94	1.72
*12SQ7	2.97	2.67	2.67	2.23	1.98
12SY7	3.18	3.02	2.86	2.70	.....
*12T10	2.79	2.51	2.51	2.09	1.86
*12V6GT	2.67	2.40	2.40	2.00	1.78
*12W6GT	2.94	2.65	2.65	2.21	1.96
*12X4	1.35	1.22	1.22	1.01	.90
X-13	365.00	.....	.....	.....	.....
*13CW4	3.03	2.73	2.73	2.27	2.02
*13DE7	2.85	2.57	2.57	2.14	1.90
*13DR7	3.42	3.08	3.08	2.57	2.28
*13EM7/15EA7	3.87	3.48	3.48	2.90	2.58
*13FD7	3.18	2.86	2.86	2.39	2.12
*13FM7/15FM7	2.40	2.16	2.16	1.89	1.60
*13GB5/XL500	2.22	2.00	2.00	1.67	1.48
*13GF7A	3.12	2.81	2.81	2.34	2.08
*13T10	Use 13Z10/13J10				
*13JZ8	3.03	2.73	2.73	2.27	2.02
*13V10	3.54	3.19	3.19	2.66	2.36
*13Z10/13J10	3.72	3.35	3.35	2.79	2.48
*14BL11	4.38	3.94	3.94	3.29	2.92
*14BR11	3.48	3.13	3.13	2.61	2.32
*14GT8	2.07	1.86	1.86	1.55	1.38
*14JG8	1.86	1.67	1.67	1.40	1.24
*15AF11	2.85	2.57	2.57	2.14	1.90
*15BD11A	3.30	2.97	2.97	2.48	2.20
*15CW5/PJ84	1.47	1.32	1.32	1.10	.98
*15DQ8/PCL84	2.04	1.84	1.84	1.53	1.36
*15EA7	Use 13EM7/15EA7				
*15FM7	Use 13FM7/15FM7				
*15FY7	2.34	2.11	2.11	1.76	1.56
*15KY8A	3.81	3.43	3.43	2.86	2.54
*15LE8	4.59	4.13	4.13	3.44	3.06
*15ME8	2.85	2.57	2.57	2.14	1.90
*16A8/PCL82	2.04	1.84	1.84	1.53	1.36
*16AK9	4.08	3.67	3.67	3.06	2.72
*16AQ3/XY88	1.62	1.46	1.46	1.22	1.08
*16BQ11	3.21	2.89	2.89	2.41	2.14
*16BX11	3.72	3.35	3.35	2.79	2.48
*16GK6	1.83	1.65	1.65	1.37	1.22
*16GY5	2.91	2.62	2.62	2.18	1.94
*17AB10/17X10	3.30	2.97	2.97	2.48	2.20
*17X3	1.56	1.40	1.40	1.17	1.04
*17AX4GTA	2.22	2.00	2.00	1.67	1.48
*17AY3A	2.22	2.00	2.00	1.67	1.48
*17BB14	6.27	5.64	5.64	4.70	4.18
*17BE3/17BZ3	2.22	2.00	2.00	1.67	1.48
*17BF11	3.54	3.19	3.19	2.66	2.36
*17BH3	1.71	1.54	1.54	1.28	1.14
*17BQ6GTB	3.12	2.81	2.81	2.34	2.08
*17BR3/17RK19	2.01	1.81	1.81	1.51	1.34
*17BS3A/17DW4A	2.22	2.00	2.00	1.67	1.48
*17BW3	1.92	1.73	1.74	1.44	1.28
*17BZ3	Use 17BE3/17BZ3				
*17C5	Use 17CU5/17C5				
*17C9	3.57	3.22	2.86	2.57	.....
*17CK3	2.13	1.92	1.92	1.60	1.42
*17CT3	1.77	1.59	1.59	1.33	1.18
*17CU5/17C5	1.86	1.67	1.67	1.40	1.24
*17D4	2.43	2.19	2.19	1.82	1.62
*17DE4	2.19	1.97	1.97	1.64	1.46
*17DM4A	2.43	2.19	2.19	1.82	1.62
*17DQ6B	USE 17GW6/17DQ6B				
*17DW4A	USE 17BS3A/17DW4A				
17DWP4	60.00	57.00	54.00	.....	.....
*17EW8/HCC85	1.65	1.49	1.49	1.24	1.10
*17GB3	USE 17BQ6GTB				
*17GE5	2.61	2.35	2.35	1.96	1.74
*17GJ5A	3.63	3.27	3.27	2.72	2.42
*17GT5A	3.33	3.00	3.00	2.50	2.22
*17GV5	2.52	2.27	2.27	1.89	1.68
*17GW6/17DQ6B	3.33	3.00	3.00	2.50	2.22
*17H3	1.62	1.46	1.30	1.17	.....
*17HB25	4.92	4.43	4.43	3.69	3.28
*17JB6A	3.51	3.16	3.16	2.63	2.34
*17JF6	4.11	3.70	3.70	3.08	2.74
*17JG6A	3.78	3.40	3.40	2.83	2.52
*17JM6A	3.54	3.19	3.19	2.66	2.36
*17JN6	3.21	2.89	2.89	2.41	2.14
*17JT6A	3.36	3.02	3.02	2.52	2.24
*17JZ8	2.13	1.92	1.92	1.60	1.42
*17KV6A	5.16	4.64	4.64	3.87	3.44
*17LD8	USE 51KY8A				
*17X10	USE 17AB10/17X10				
*17Z3/PY81	2.64	2.38	2.38	1.98	1.76
*18AJ10	3.54	3.19	3.19	2.66	2.36
*18FW6A	1.47	1.32	1.32	1.10	.98
*18FX6A	1.77	1.59	1.59	1.33	1.18

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*18FY6A	1.77	1.59	1.59	1.33	1.18
*18GB5/LL500	3.09	2.78	2.78	2.32	2.06
*18GD6A	1.77	1.59	1.59	1.33	1.18
*18GV8/PCL85	2.79	2.51	2.51	2.09	1.86
*19AU4GTA	2.61	2.35	2.35	1.96	1.74
*19BG6GA	3.99	3.59	3.59	2.99	2.66
*19CG3	2.16	1.94	1.94	1.62	1.44
*19CL8A	USE 19JN8/19CL8A				
*19EA8	2.67	2.40	2.40	2.00	1.78
*19EZ8	2.70	2.43	2.43	2.03	1.80
*19FX5	2.13	1.92	1.92	1.60	1.42
*19GQ7	2.28	2.05	2.05	1.71	1.52
*19HR6	1.47	1.32	1.32	1.10	.98
*19HS6	1.44	1.30	1.30	1.08	.96
*19HV8	2.82	2.54	2.54	2.12	1.88
*19J6	2.22	2.00	2.00	1.67	1.48
*19JN8/19CL8A	1.92	1.73	1.73	1.44	1.28
*19KG8	1.86	1.67	1.67	1.40	1.24
*19MR9	USE 18GD6A				
*19T8	2.94	2.65	2.65	2.21	1.96
*19X8	2.46	2.21	2.21	1.85	1.64
*20AQ3/LY88	1.95	1.76	1.76	1.46	1.30
*20EZ7	2.04	1.84	1.84	1.53	1.36
*20LF6	5.10	4.59	4.59	3.83	3.40
KY21A	33.70	32.02	30.33	.....	.....
RX21A	32.40	30.78	.....	.....	.....
*21GY5	2.79	2.51	2.51	2.09	1.86
*21HB5A	2.85	2.57	2.57	2.14	1.90
*21JS6A	USE 23JS6A				
*21JV6	2.79	2.51	2.51	2.09	1.86
*21JZ6	2.91	2.62	2.62	2.18	1.94
*21KA6	2.67	2.40	2.40	2.00	1.78
*21KQ6	7.65	6.89	6.89	5.74	5.10
*21LG6A	5.37	4.83	4.83	4.03	3.58
*21LR8	2.85	2.57	2.57	2.14	1.90
*21LU8	2.85	2.57	2.57	2.14	1.90
*22BH3A	1.86	1.67	1.67	1.40	1.24
*22BW3	2.49	2.24	2.24	1.87	1.66
*22DE4	2.52	2.27	2.27	1.89	1.68
*22JF6	4.35	3.92	3.92	3.26	2.90
*22JG6A	4.05	3.65	3.65	3.04	2.70
*22JR6	4.08	3.67	3.67	3.06	2.72
*22JU6	4.08	3.67	3.67	3.06	2.72
*22KM6	4.92	4.43	4.43	3.69	3.28
*22KV6A	4.38	3.94	3.94	3.29	2.92
*23JS6A	8.01	7.21	7.21	6.01	5.34
*23Z9	2.82	2.54	2.54	2.12	1.88
*24BF11	3.12	2.81	2.81	2.34	2.08
*24JE6A	USE 24LQ6/24JE6C				
*24JZ8	2.70	2.43	2.43	2.03	1.80
*24LQ6/24JE6C	5.19	4.67	4.67	3.89	3.46
*25AV5GA	3.39	3.05	3.05	2.54	2.26
*25AX4GT	1.83	1.65	1.65	1.37	1.22
*25BK5	2.04	1.84	1.84	1.53	1.36
*25BQ6GTB/25CU6	2.64	2.38	2.38	1.98	1.76
*25C5	2.22	2.00	2.00	1.67	1.48
*25CA5	2.16	1.94	1.94	1.62	1.44
*25CD6GB	3.84	3.46	3.46	2.88	2.56
*25CG3	2.04	1.84	1.84	1.53	1.36
*25CT3	1.77	1.59	1.59	1.33	1.18
*25CU6/25GQ6GA	USE 25BQ6GA/25CU6				
*25CU6	USE 25BQ6GTB/25CU6				
*25DN6	3.96	3.56	3.56	2.97	2.64
*25E5/PL36	3.99	2.59	3.59	2.99	2.66
*25EC6	3.69	3.32	3.32	2.77	2.46
*25EH5	2.22	2.00	2.00	1.67	1.48
*25F5A	1.92	1.73	1.54	1.39	.....
*25JZ8	2.90	2.61	2.32	2.09	.....
*25L6GT/25W6GT	1.85	1.66	1.48	1.33	.....
25T	43.00	40.85	38.70	.....	.....
*25W4GT	Use 25L6GT/25W6GT				
*25Z6GT	1.92	1.73	1.54	1.39	.....
26A6	3.85	3.66	3.47	.....	.....
26A7GT	8.04	7.64	7.24	6.83	.....
26C6	3.27	3.11	2.94	.....	.....
26D6	3.27	3.11	2.94	.....	.....
*26HU5	6.03	5.43	4.82	4.34	.....
*26LX6	4.75	4.27	3.80	3.42	.....
*27GB5/PL500	1.85	1.66	1.48	1.33	.....
*29KQ6/PL521	5.88	5.29	4.70	4.23	.....
*3AE3/PY88	1.62	1.46	1.30	1.17	.....
*30JZ6	3.07	2.77	2.46	2.21	.....
*30KD6	4.05	3.64	3.24	2.92	.....
*31AL10	3.17	2.86	2.54	2.29	.....
*31JS6C	3.65	3.28	2.92	2.63	.....
*31LQ6	4.25	3.82	3.40	3.06	.....
*31LR8	5.02	4.52	4.02	3.62	.....
*32ET5A	1.20	1.08	.96	.86	.....
*32HQ7	3.85	3.46	3.08	2.77	.....
*33GT7	3.47	3.13	2.78	2.50	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
*33GY7A	3.22	2.90	2.58	2.32	.....
*33JR6	3.10	2.79	2.48	2.23	.....
*33JV6	2.91	2.62	2.62	2.18	1.94
*34CE3	1.95	1.75	1.56	1.40	.....
*34GD5A	1.47	1.33	1.18	1.06	.....
*34R3	3.50	3.15	2.80	2.52	.....
*35B5	1.60	1.44	1.28	1.15	.....
*35C5	1.60	1.44	1.28	1.15	.....
*35EH5	1.70	1.53	1.36	1.22	.....
*35LR6	4.07	3.65	3.26	2.93	.....
*35L6GT	1.92	1.73	1.54	1.39	.....
35T	47.00	44.65	42.30	.....	.....
*35W4	.97	.88	.78	.70	.....
*35Y4	2.25	2.02	1.80	1.62	.....
*35Z4GT	1.27	1.15	1.02	.92	.....
*35Z5GT	1.70	1.53	1.36	1.22	.....
*36AM3B	1.27	1.15	1.02	.92	.....
*36KD6/40KD6	4.42	3.98	3.54	3.19	.....
*38HE7	3.62	3.26	2.90	2.61	.....
*38HK7	3.55	3.19	2.84	2.56	.....
*40KD6	4.35	3.91	3.48	3.13	.....
*40KG6A/PL509	5.02	4.52	4.02	3.62	.....
*42	2.42	2.18	1.94	1.75	.....
*42EC4A/PY500	2.45	2.20	1.96	1.76	.....
*42KN6	3.60	3.24	2.88	2.59	.....
*43	3.60	3.24	2.88	2.59	.....
*50A1	3.40	3.06	2.72	2.45	.....
*50A5	2.92	2.63	2.34	2.11	.....
*50B5	1.77	1.59	1.59	1.33	1.18
*50BM8/UCL82	2.61	2.35	2.35	1.96	1.74
*50C5	1.83	1.65	1.65	1.37	1.22
*50DC4	1.44	1.30	1.30	1.08	.96
*50EH5	2.13	1.92	1.92	1.60	1.42
*50FE5	2.67	2.40	2.40	2.00	1.78
*50FK5	1.32	1.19	1.19	.99	.88
*50GY7A	5.94	5.35	5.35	4.46	3.96
*50HC6	2.13	1.92	1.92	1.60	1.42
*50HK6	1.29	1.16	1.16	.97	.86
*50JY6	4.20	3.78	3.78	3.15	2.80
*50L6GT	2.67	2.40	2.40	2.00	1.78
*50Y6GT	2.61	2.35	2.35	1.96	1.74
53AVP	100.00				
*53HK7	5.01	4.51	4.51	3.76	3.34
53UVP	375.00	.....	.....	.....	.....
54AVP	225.00	.....	.....	.....	.....
54UVP	1350.00	.....	.....	.....	.....
E55L/8233	Use 8233				
VX55	42.85	.....	.....	.....	.....
56CVP	400.00	.....	.....	.....	.....
57AVP	695.00	.....	.....	.....	.....
V-58	424.00	.....	.....	.....	.....
58AVP	585.00	.....	.....	.....	.....
58UVP	2550.00	.....	.....	.....	.....
60AVP	1550.00	.....	.....	.....	.....
*60FX5	1.77	1.59	1.59	1.33	1.18
KT66	5.20	4.80	4.40	.....	.....
KT-66-MP	10.95	10.11	9.27	8.43	.....
Z70W/7709	3.30	3.30	3.30	2.31	.....
Z7OU/7710	1.95	1.95	1.95	1.37	.....
Z71U/7711	2.85	2.85	2.85	2.00	.....
CEM75K	43.85	.....	.....	.....	.....
CEM75N	38.25	.....	.....	.....	.....
CEM75P	38.25	.....	.....	.....	.....
75TH	43.00	40.85	38.70	.....	.....
75TL	43.00	40.85	38.70	.....	.....
*80	2.88	2.59	2.59	2.16	1.92
FG-81A	43.25	41.09	38.93	.....	.....
83	2.31	2.19	2.08	1.96	.....
85A1/OE3	7.25	6.89	6.25	.....	.....
85A2/OG3	2.30	2.19	2.07	1.95	.....
KT88	8.52	7.86	7.21	6.55	.....
KT88-MP	17.94	16.56	15.18	13.80	.....
90C1	2.42	2.30	2.18	.....	.....
90NB3	32.00	30.40	.....	.....	.....
90NB4	32.00	30.40	.....	.....	.....
FG-97	92.75	88.11	83.47	79.02	.....
FG-98A	108.00	102.60	97.20	.....	.....
100LB	58.00	.....	.....	.....	.....
100TH	26.00	.....	.....	.....	.....
100TL	26.00	.....	.....	.....	.....
102A	174.00	.....	.....	.....	.....
105	59.00	56.05	.....	.....	.....
AX105/FG105	59.00	56.05	.....	.....	.....
116	16.50	15.75	15.30	.....	.....
*117L7/M7GT	8.85	7.97	7.97	6.64	5.90
*117N7GT	7.71	6.94	6.94	5.78	5.14
*117Z3	2.70	2.43	2.43	2.03	1.80
142	42.50	.....	.....	.....	.....
150AVP	95.00	.....	.....	.....	.....
150C1P	5.00	5.23	4.95	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
150CVP	135.00	.....	.....	.....	.....
150UVP	295.00	.....	.....	.....	.....
162	2.60	2.25	.....	.....	.....
170P	53.00	.....	.....	.....	.....
172	190.00	.....	.....	.....	.....
175A	60.00	57.00	.....	.....	.....
177A	Use 177WA				
177WA	52.25	.....	.....	.....	.....
VA203B	175.00	.....	.....	.....	.....
PL210	Use P1285				
VA-218	201.00	.....	.....	.....	.....
VA-218B	189.00	.....	.....	.....	.....
VA220A	206.00	.....	.....	.....	.....
SK-220 C-F	186.00	.....	.....	.....	.....
VA-220B, C. D.E, F. G	195.00	.....	.....	.....	.....
VA-221B,C,D,E,G,K	201.00	.....	.....	.....	.....
SK221C,D,E,G,I,K	170.00	.....	.....	.....	.....
VA-222A,B,C,D,E,F,G	201.00	.....	.....	.....	.....
250R	42.00	.....	.....	.....	.....
250TH	45.00	42.75	40.50	.....	.....
250TL	45.00	42.75	40.50	.....	.....
254W	46.00	.....	.....	.....	.....
VA259A-B-C-E (With Tuner	266.00	.....	.....	.....	.....
AX260	270.00	.....	.....	.....	.....
CR273/8008	60.00	57.00	.....	.....	.....
CR274/872A	60.00	57.00	.....	.....	.....
CR275/866A/3B28	13.10	.....	.....	.....	.....
290	470.00	.....	.....	.....	.....
298A	6000.00	.....	.....	.....	.....
300PC	225.00	.....	.....	.....	.....
304TH	83.00	78.85	.....	.....	.....
304TL	83.00	78.85	.....	.....	.....
SA309	20.40	.....	.....	.....	.....
310PC	215.00	.....	.....	.....	.....
342A	1850.00	.....	.....	.....	.....
342AA	1980.00	.....	.....	.....	.....
356/5771	700.00	.....	.....	.....	.....
357B	470.00	.....	.....	.....	.....
393A	14.00	13.30	12.60	.....	.....
407A	5.90	5.61	5.31	5.01	.....
408A	4.95	4.70	4.45	4.21	.....
414GE	390.00	.....	.....	.....	.....
414	325.00	.....	.....	.....	.....
450TH	103.00	97.85	.....	.....	.....
450TL	103.00	.....	.....	.....	.....
QKH456/7040	815.00	.....	.....	.....	.....
481B	12.10	.....	.....	.....	.....
501RA	375.00	.....	.....	.....	.....
502A	Use 2050A				
Z502S	21.00	19.95	18.90	.....	.....
512AX	4.75	4.51	4.28	.....	.....
526AX	8.00	7.60	7.20	.....	.....
QKK531	75.00	.....	.....	.....	.....
QKK532	75.00	.....	.....	.....	.....
533AX	4.80	4.56	4.32	.....	.....
534AX	4.80	4.56	4.32	.....	.....
QKK-549	70.00	.....	.....	.....	.....
Z550M/8453	14.50	.....	.....	.....	.....
572B/TI606	18.00	.....	.....	.....	.....
575A	20.90	19.86	18.81	.....	.....
579B	20.90	19.86	18.81	.....	.....
587	18.55	17.62	16.70	.....	.....
592/3-200A3	63.00	59.85	.....	.....	.....
604	15.00	14.25	.....	.....	.....
604	11.80	11.21	10.62	.....	.....
604/7014	15.00	14.25	.....	.....	.....
604L	16.40	15.58	.....	.....	.....
606/7016	21.40	.....	.....	.....	.....
606L	26.20	24.89	.....	.....	.....
610/7723	12.50	11.88	.....	.....	.....
615	10.05	9.95	9.05	8.54	.....
615-7018	10.05	9.55	9.05	8.54	.....
616	13.25	12.59	.....	.....	.....
617	15.00	.....	.....	.....	.....
KU624	85.50	.....	.....	.....	.....
627	28.88	.....	.....	.....	.....
629	19.80	18.81	17.82	.....	.....
619	10.00	.....	.....	.....	.....
623	15.20	14.44	13.68	12.92	.....
632B	34.65	32.92	31.19	.....	.....
632C	35.50	33.73	31.95	.....	.....
635/7019	14.25	13.54	12.83	.....	.....
635-L/7020	13.00	12.35	11.70	.....	.....
635P/6930	16.50	15.68	.....	.....	.....
649/5834	12.40	11.78	.....	.....	.....
660	17.50	16.63	.....	.....	.....
660L/7786	18.85	17.91	.....	.....	.....
664L	34.50	32.78	31.05	29.33	.....
672A	41.40	39.33	37.26	.....	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
673	22.75	21.61	20.48	19.34	.....
676	68.00	.....	.....	.....	.....
677	68.00	.....	.....	.....	.....
678	50.20	47.69	44.55	.....	.....
710-6011	13.15	12.49	11.84	.....	.....
710L/7518	15.05	14.30	.....	.....	.....
714	10.00	9.40	9.00	.....	.....
714/7021	10.00	9.50	9.00	.....	.....
716	12.50	11.88	11.25	.....	.....
716/6855	12.50	11.88	11.25	.....	.....
732	153.50	.....	.....	.....	.....
734/5544	22.50	21.38	20.25	.....	.....
734L	24.10	.....	.....	.....	.....
740/6856	24.25	23.04	21.83	.....	.....
740L/7022	25.00	23.75	22.50	.....	.....
740P/6857	25.00	23.75	22.50	.....	.....
750TL	248.00	.....	.....	.....	.....
760	28.10	26.70	25.29	.....	.....
760/6858	28.10	26.70	25.29	.....	.....
760L	29.40	27.93	.....	.....	.....
760P	29.80	28.31	26.82	.....	.....
760/6859	29.80	28.31	26.82	.....	.....
770L	49.80	47.31	.....	.....	.....
770P	54.35	51.63	.....	.....	.....
803	9.00	.....	.....	.....	.....
Z803U/6779	5.75	5.37	5.18	.....	.....
805	31.25	.....	.....	.....	.....
Z805U/7714	7.50	7.50	7.50	5.45	.....
807	5.50	5.23	4.95	.....	.....
809	17.35	.....	.....	.....	.....
810	40.05	38.05	36.05	.....	.....
811A	9.00	8.55	8.10	.....	.....
812A	7.50	7.13	6.75	.....	.....
813	25.85	24.56	21.38	.....	.....
815	37.75	33.88	32.18	.....	.....
816	4.65	4.41	4.19	.....	.....
827R	705.00	.....	.....	.....	.....
828	37.00	35.15	33.30	.....	.....
829B	20.80	19.76	18.72	.....	.....
830B	15.55	.....	.....	.....	.....
832A	17.70	16.82	15.93	.....	.....
833A	73.15	69.49	.....	.....	.....
836	14.70	13.97	13.23	.....	.....
837	16.65	15.82	14.99	.....	.....
840/8754	8.00	.....	.....	.....	.....
845	35.20	33.44	31.68	.....	.....
848	8.75	.....	.....	.....	.....
849	231.00	.....	.....	.....	.....
857B	225.00	.....	.....	.....	.....
857B	235.00	.....	.....	.....	.....
857B	288.00	.....	.....	.....	.....
857B/23029	239.00	.....	.....	.....	.....
866A	4.30	4.09	3.87	3.66	.....
866AX	11.00	10.45	.....	.....	.....
868	7.20	.....	.....	.....	.....
869B	140.00	.....	.....	.....	.....
869B	138.00	.....	.....	.....	.....
869B	145.00	.....	.....	.....	.....
869BL	138.00	.....	.....	.....	.....
872A	12.10	11.49	10.89	.....	.....
872AX	22.50	21.38	.....	.....	.....
880	610.00	.....	.....	.....	.....
884	2.90	2.76	2.61	2.47	.....
889RA/8667	370.00	351.50	.....	.....	.....
VA-890A	8,820.00	.....	.....	.....	.....
891	275.00	.....	.....	.....	.....
891R	453.00	.....	.....	.....	.....
892	329.00	.....	.....	.....	.....
892GE	345.00	327.75	.....	.....	.....
892R	443.00	.....	.....	.....	.....
900	9.00	.....	.....	.....	.....
902A	22.40	21.28	20.16	.....	.....
QKK910	380.00	.....	.....	.....	.....
917	10.10	9.60	9.09	8.59	.....
918	7.20	6.84	6.48	.....	.....
918/5560	17.75	.....	.....	.....	.....
919	10.80	10.26	9.72	.....	.....
920	11.15	10.59	10.04	.....	.....
921	6.15	5.84	5.54	.....	.....
922	3.90	3.71	3.51	.....	.....
923	5.80	5.51	5.22	.....	.....
925	6.35	6.03	5.72	.....	.....
926	6.05	5.75	5.45	.....	.....
927	7.60	7.22	6.84	.....	.....
929	3.90	3.71	3.51	.....	.....
930	5.90	5.61	5.31	.....	.....
931A	12.50	11.88	11.25	.....	.....
931VA	13.10	12.45	11.79	.....	.....
934	7.40	7.03	6.66	.....	.....
935	14.70	13.97	13.23	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
950	8.00	.....	.....	.....	.....
955	7.05	6.70	6.35	.....	.....
959	13.85	13.16	12.47	.....	.....
QKK965	380.00	.....	.....	.....	.....
991	2.10	2.00	1.89	.....	.....
1000T	172.00	.....	.....	.....	.....
XP1000	100.00	.....	.....	.....	.....
ZZ1000/8228	Use 8228/ZZ1000				
ZM1000	5.70	.....	.....	.....	.....
ZM1001	7.35	.....	.....	.....	.....
XP1002	310.00	.....	.....	.....	.....
XP1004	400.00	.....	.....	.....	.....
1005	1.35	1.28	1.22	.....	.....
1007	1.45	1.38	1.31	.....	.....
1009A	161.00	.....	.....	.....	.....
XP1010	145.00	.....	.....	.....	.....
XP1011	145.00	.....	.....	.....	.....
ZM1020	9.50	.....	.....	.....	.....
ZM1021	9.50	.....	.....	.....	.....
1022A	121.70	.....	.....	.....	.....
ZM1022	9.50	.....	.....	.....	.....
ZM1023	9.50	.....	.....	.....	.....
ZM1024	10.45	.....	.....	.....	.....
ZM1025	10.45	.....	.....	.....	.....
XP1030	165.00	.....	.....	.....	.....
ZM1030	9.95	.....	.....	.....	.....
XP1031	205.00	.....	.....	.....	.....
ZM1031	9.95	.....	.....	.....	.....
XP1032	1250.00	.....	.....	.....	.....
ZM1032	9.95	.....	.....	.....	.....
ZM1033	9.95	.....	.....	.....	.....
1038	9.15	8.69	8.24	.....	.....
XP1040	615.00	.....	.....	.....	.....
1047	5.05	4.80	4.55	.....	.....
1051A	68.00	.....	.....	.....	.....
1051AP	68.00	.....	.....	.....	.....
1052A	104.00	.....	.....	.....	.....
1052AP	104.00	98.80	.....	.....	.....
1053	Use NL-5553B				
1053A	300.00	.....	.....	.....	.....
1061	68.00	64.60	.....	.....	.....
1061P	68.00	64.60	.....	.....	.....
1062	104.00	98.80	.....	.....	.....
1062P	104.00	98.80	.....	.....	.....
1063	300.00	.....	.....	.....	.....
1081	78.75	.....	.....	.....	.....
1081P	80.00	.....	.....	.....	.....
1082	112.35	.....	.....	.....	.....
1082P	113.75	.....	.....	.....	.....
1091	78.75	.....	.....	.....	.....
1091P	79.75	.....	.....	.....	.....
1092	112.35	.....	.....	.....	.....
1092P	113.75	.....	.....	.....	.....
XP11110	120.00	.....	.....	.....	.....
XP1113	98.00	.....	.....	.....	.....
R1130B	22.90	.....	.....	.....	.....
R1131C	21.60	.....	.....	.....	.....
R1168	26.95	.....	.....	.....	.....
1220/5654	3.05	2.90	2.75	.....	.....
1222	6.65	6.65	5.65	5.65	.....
1229	8.75	9.31	7.88	.....	.....
1236C	16.50	15.00	14.00	13.00	.....
1252/6U8A	2.00	1.90	1.80	.....	.....
1258	31.80	30.21	28.62	.....	.....
ME-1400	8.00	.....	.....	.....	.....
K-1320	595.00	.....	.....	.....	.....
1500T	320.00	.....	.....	.....	.....
1612	6.84	6.50	6.16	.....	.....
1613	3.53	3.35	3.18	3.00	.....
1614	5.84	5.55	5.26	4.96	.....
1616	17.85	16.96	16.07	.....	.....
1619	7.16	6.80	6.44	.....	.....
1620	8.64	8.21	7.78	7.34	.....
1621	4.05	3.85	3.65	.....	.....
1622	6.16	5.85	5.54	5.24	.....
1624	12.50	11.80	11.25	.....	.....
1625	6.60	6.27	5.95	5.61	.....
1629	2.86	2.72	2.57	2.43	.....
1635	5.02	4.77	.....	.....	.....
1901/B5016	11.00	.....	.....	.....	.....
1902/C50911	Use 50911/CK1902				
1903	15.75	.....	.....	.....	.....
1904	16.25	.....	.....	.....	.....
1905	8.75	.....	.....	.....	.....
1906	8.75	.....	.....	.....	.....
1907	8.00	.....	.....	.....	.....
1909	8.60	.....	.....	.....	.....
1916	8.75	.....	.....	.....	.....
1917	8.75	.....	.....	.....	.....
1918	8.75	.....	.....	.....	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
1920	8.50	.....	.....	.....	.....
1922	8.75	.....	.....	.....	.....
1923	8.75	.....	.....	.....	.....
1946	16.15	15.34	14.54	.....	.....
1947	47.00	44.65	44.10	.....	.....
1949	23.75	22.56	21.38	20.19	.....
2020	93.85	89.16	.....	.....	.....
2048A	720.00	.....	.....	.....	.....
2050	2.45	2.33	2.21	2.08	.....
2050A	2.29	2.18	2.06	1.95	.....
2050W	8.10	7.70	7.29	6.89	.....
K2060	5300.00	.....	.....	.....	.....
2067	175.00	.....	.....	.....	.....
K2112	1260.00	.....	.....	.....	.....
K2216A	1300.00	.....	.....	.....	.....
K2247/702	2520.00	.....	.....	.....	.....
K2225	1295.00	.....	.....	.....	.....
2399	14.30	13.59	12.87	12.16	.....
KM2433	175.00	.....	.....	.....	.....
SC2854	175.00	.....	.....	.....	.....
ZB3200	835.00	.....	.....	.....	.....
4028A	32.25	30.73	29.12	.....	.....
4031	19.00	.....	.....	.....	.....
4037A	28.50	27.08	256.55	.....	.....
4055	32.90	31.26	29.61	27.97	.....
R4330	29.10	27.65	.....	.....	.....
R4340	60.50	57.48	54.45	51.43	.....
4401	11150.00	.....	.....	.....	.....
4401V1	Use 8775				
4404	1.35	1.28	1.21	1.14	.....
4409	5.60	5.32	5.04	4.76	.....
4415/S	Use 8673/S or 8674/S				
4416/S	Use 7863/S or 8674/S				
4438	120.00	114.00	.....	.....	.....
4439	120.00	114.00	.....	.....	.....
4440	115.00	109.25	.....	.....	.....
4441	170.00	.....	.....	.....	.....
4441A	350.00	.....	.....	.....	.....
4449A	Price on Request				
4459	495.00	.....	.....	.....	.....
4460	235.00	.....	.....	.....	.....
4461	310.00	.....	.....	.....	.....
4463	260.00	.....	.....	.....	.....
4464	260.00	.....	.....	.....	.....
4465	305.00	.....	.....	.....	.....
4471	19.00	18.05	17.10	.....	.....
4472	24.60	23.37	22.13	.....	.....
4473	63.00	59.85	.....	.....	.....
4486	115.00	.....	.....	.....	.....
4488	Use 7735				
4489	No RCA Replacement				
4491	40.60	38.57	36.54	.....	.....
4493	1055.00	.....	.....	.....	.....
4494	1055.00	.....	.....	.....	.....
4495	1055.00	.....	.....	.....	.....
4499	28.00	26.60	.....	.....	.....
4500	480.00	.....	.....	.....	.....
4503	470.00	.....	.....	.....	.....
4510	35.70	33.92	32.13	.....	.....
4516	185.00	.....	.....	.....	.....
4517	80.00	.....	.....	.....	.....
4518	105.00	.....	.....	.....	.....
4524	135.00	.....	.....	.....	.....
4525	170.00	.....	.....	.....	.....
4526	400.00	.....	.....	.....	.....
4536	2165.00	.....	.....	.....	.....
4542	430.00	.....	.....	.....	.....
4589	370.00	.....	.....	.....	.....
4600A	370.00	.....	.....	.....	.....
4604	9.80	9.31	8.82	8.33	.....
4614	345.00	.....	.....	.....	.....
4615	Use 8596				
4620	Use 858B				
4621	125.00	118.75	.....	.....	.....
4624	295.00	.....	.....	.....	.....
4626	645.00	.....	.....	.....	.....
4628	1225.00	.....	.....	.....	.....
4629	445.00	.....	.....	.....	.....
4630	2670.00	.....	.....	.....	.....
4631	100.00	.....	.....	.....	.....
4632	1160.00	.....	.....	.....	.....
4634	Use 4634V1				
4634V1	460.00	.....	.....	.....	.....
4635	2500.00	.....	.....	.....	.....
4636	525.00	.....	.....	.....	.....
4637	117.00	.....	.....	.....	.....
4638	700.00	.....	.....	.....	.....
4640	3165.00	.....	.....	.....	.....
4651	390.00	.....	.....	.....	.....
4998	21.35	.....	.....	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5030	28.00	.....	.....	.....	.....
5032	15.75	.....	.....	.....	.....
Z5188	5,660.00	.....	.....	.....	.....
Z5189	6000.00	.....	.....	.....	.....
Z5190	7200.00	.....	.....	.....	.....
Z5191	7900.00	.....	.....	.....	.....
Z5395	6000.00	.....	.....	.....	.....
5513	775.00	.....	.....	.....	.....
5517	4.80	4.56	.....	.....	.....
5518	1919.00	.....	.....	.....	.....
5530	475.00	.....	.....	.....	.....
5530H	475.00	.....	.....	.....	.....
5531	795.00	755.25	.....	.....	.....
5541	690.00	.....	.....	.....	.....
5544	34.10	32.40	30.69	.....	.....
5545	72.00	.....	.....	.....	.....
5549	890.00	.....	.....	.....	.....
5550	53.10	.....	.....	.....	.....
5551A	71.00	.....	.....	.....	.....
5552A	107.00	.....	.....	.....	.....
5553B-GE	265.00	.....	.....	.....	.....
5553B	254.00	.....	.....	.....	.....
5553B/655	265.00	.....	.....	.....	.....
5554	235.00	.....	.....	.....	.....
5555	350.00	.....	.....	.....	.....
5555	320.00	.....	.....	.....	.....
5555/653B	336.00	.....	.....	.....	.....
5556	70.00	.....	.....	.....	.....
5556	67.00	.....	.....	.....	.....
5557	9.50	9.03	8.55	.....	.....
5557/FG17	9.50	9.03	8.55	.....	.....
5558	17.50	16.63	15.75	.....	.....
5558/FG32	17.50	16.63	15.75	.....	.....
5559	23.00	21.85	20.70	.....	.....
5559/FG57	23.00	.....	.....	.....	.....
5560	33.00	31.25	29.70	.....	.....
5560/FG95	33.00	31.65	29.70	.....	.....
5561	59.00	56.05	.....	.....	.....
5563A	57.30	54.44	.....	.....	.....
5563A	53.90	.....	.....	.....	.....
5564	1080.00	.....	.....	.....	.....
5575-100	225.00	.....	.....	.....	.....
5575/100/616	235.00	.....	.....	.....	.....
5576/200	245.00	.....	.....	.....	.....
5576/200 WES	255.00	.....	.....	.....	.....
5581	6.60	6.27	5.94	5.61	.....
5582	7.90	7.51	7.11	.....	.....
5583	9.85	9.36	8.87	.....	.....
5586	504.00	.....	.....	.....	.....
5604	570.00	541.50	.....	.....	.....
5604	598.00	.....	.....	.....	.....
5606A	322.00	.....	.....	.....	.....
5606	288.00	.....	.....	.....	.....
5606	297.00	.....	.....	.....	.....
5619	423.00	.....	.....	.....	.....
5630	2320.00	.....	.....	.....	.....
5632/C3J	Use C3J/5632				
5636	6.10	5.80	5.49	5.19	.....
5639	5.70	5.42	5.13	4.85	.....
5642	3.53	3.35	3.18	.....	.....
5643	6.85	6.51	6.17	5.82	.....
5651	1.95	1.85	1.76	1.66	.....
5651A	1.95	1.85	1.76	1.66	.....
5651WA	3.95	3.75	3.56	3.36	.....
5652	9.15	8.69	8.24	7.78	.....
5653	5.65	5.37	5.09	4.80	.....
5654	2.70	2.57	2.43	2.30	.....
5654/6AK5W	2.70	2.57	2.43	2.30	.....
5654/6AK5W/6096	Use 5654				
5656	16.65	15.82	14.99	.....	.....
5657	550.00	.....	.....	.....	.....
5658	595.00	.....	.....	.....	.....
5663	2.65	2.52	2.38	2.25	.....
5665/C16J	52.50	49.88	.....	.....	.....
5666	280.00	.....	.....	.....	.....
5667	370.00	.....	.....	.....	.....
5668	365.00	.....	.....	.....	.....
5669	515.00	.....	.....	.....	.....
5670	2.90	2.76	2.61	2.47	.....
5670WA	2.70	2.57	2.43	2.30	.....
5671	2665.00	.....	.....	.....	.....
5672	2.70	2.57	2.43	.....	.....
5675	16.05	15.25	14.44	13.64	.....
5676	3.45	3.28	3.11	.....	.....
5678	2.70	2.57	2.43	.....	.....
5681	2195.00	.....	.....	.....	.....
5682	2625.00	.....	.....	.....	.....
5684	17.85	16.96	16.07	.....	.....
5684A	19.20	.....	.....	.....	.....
5686	4.00	3.80	3.60	3.40	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5687	4.39	4.17	3.95	3.73	.....
5687WA	5.70	5.42	5.13	4.85	.....
5691	9.35	8.88	8.42	7.95	.....
5692	8.98	8.53	8.08	7.63	.....
5693	7.24	6.88	6.52	6.15	.....
5696A	2.25	2.14	2.03	1.91	.....
5696	2.36	2.24	2.12	2.01	.....
5702	4.56	4.33	4.10	.....	.....
5702WA	7.10	6.75	6.39	.....	.....
5702WB	10.35	9.83	9.32	.....	.....
5703	3.48	3.31	3.13	.....	.....
5703WA	7.75	7.36	6.98	.....	.....
5703WB	9.65	9.17	8.69	.....	.....
5704	4.57	4.34	4.11	.....	.....
5704WA	8.80	8.36	7.92	.....	.....
5713	850.00	.....	.....	.....	.....
5718	4.20	3.99	3.78	.....	.....
5719	4.20	3.99	3.78	.....	.....
5720	38.65	36.71	34.79	.....	.....
5721	120.00	.....	.....	.....	.....
5722	8.35	7.93	7.42	7.10	.....
5725	3.40	3.23	3.06	2.89	.....
5725/6AS6W	3.40	3.23	3.06	2.89	.....
5726	2.19	2.08	1.97	1.86	.....
5726/6AL5W	2.20	2.09	1.98	1.87	.....
5726/6AL5W/6097	2.02	1.92	1.82	1.72	.....
5727	3.05	2.90	2.75	2.59	.....
5727/2D21W	3.05	2.90	2.75	2.59	.....
5734	22.05	20.95	19.85	.....	.....
5736	205.00	.....	.....	.....	.....
5744WA	7.75	7.36	6.98	6.59	.....
5744WB	9.80	9.31	8.82	8.33	.....
5749	3.03	2.88	2.73	2.58	.....
5749/6BA6W	3.05	2.90	2.75	2.59	.....
5750	6.75	.....	.....	.....	.....
5750	4.10	3.90	3.69	3.49	.....
5751	2.99	2.84	2.69	2.54	.....
5751WA	2.83	2.69	2.55	2.41	.....
5755	10.20	9.69	.....	.....	.....
5762/7C24	263.00	.....	.....	.....	.....
5762	255.00	.....	.....	.....	.....
5763	2.69	2.56	2.42	2.29	.....
5770	1930.00	.....	.....	.....	.....
5771	700.00	.....	.....	.....	.....
5779	172.00	.....	.....	.....	.....
5783	4.56	4.33	4.10	3.88	.....
5783WA	7.60	7.22	6.84	6.46	.....
5784WA	10.00	9.50	9.00	8.50	.....
5784WB	16.80	15.96	15.12	14.28	.....
5786	370.00	352.00	.....	.....	.....
5787	5.10	4.85	4.59	.....	.....
5787A	5.45	5.18	4.91	.....	.....
5787WA	5.47	5.20	4.92	4.65	.....
5788	700.00	.....	.....	.....	.....
5796	17.25	16.39	15.52	14.66	.....
5800/VX-41A	57.00	.....	.....	.....	.....
5814A	2.80	2.66	2.52	2.38	.....
5814WA	Use 5814A				
5819	85.55	.....	.....	.....	.....
5820A	1095.00	.....	.....	.....	.....
5820A	1110.00	.....	.....	.....	.....
5820A/L	1890.00	.....	.....	.....	.....
5820A/R	995.00	.....	.....	.....	.....
5822A	125.00	.....	.....	.....	.....
5822A	125.00	.....	.....	.....	.....
5823	1.84	1.75	1.66	1.56	.....
5824	4.58	4.55	4.12	3.89	.....
5825	33.00	31.35	29.70	.....	.....
5829	4.56	4.33	4.10	3.88	.....
5829WA	8.20	7.79	7.38	6.98	.....
5830	710.00	.....	.....	.....	.....
5840	5.75	5.46	5.18	4.89	.....
5840A	5.35	5.08	4.82	4.55	.....
5841	12.00	.....	.....	.....	.....
5842	7.35	6.98	6.62	6.25	.....
AX5842	8.10	7.70	7.29	6.89	.....
5842/417A	7.35	6.98	6.62	6.25	.....
5842WA	15.70	14.92	14.13	13.35	.....
5844	2.72	2.58	2.45	2.31	.....
5844	4.58	4.35	4.12	3.89	.....
5845	9.95	9.45	8.96	.....	.....
5847	9.55	9.07	8.60	.....	.....
5847/404A	9.55	9.07	8.60	.....	.....
5855 GE	121.50	.....	.....	.....	.....
5855	111.65	.....	.....	.....	.....
5861/TD03-10/EC55	37.50	.....	.....	.....	.....
5866	29.25	.....	.....	.....	.....
5867	Use 5867A				
5867A	35.20	33.44	.....	.....	.....
5868	71.25	.....	.....	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5869	33.00	.....	.....	.....	.....
5870	116.50	.....	.....	.....	.....
5876A	10.25	9.74	9.23	.....	.....
5877/22994	Use 22994/5877				
5879	2.67	2.41	2.14	1.93	.....
5881	3.10	2.95	2.73	2.64	.....
5886	5.80	5.51	5.22	4.93	.....
5889	21.50	20.43	19.35	.....	.....
5893	18.45	17.53	16.61	15.68	.....
5894	29.00	27.55	26.10	.....	.....
5894A	32.50	30.88	29.25	.....	.....
5894B/8737	34.75	33.01	31.28	.....	.....
5894	20.10	19.10	18.09	.....	.....
5895	20.10	19.10	18.09	.....	.....
5896	4.75	4.51	4.28	.....	.....
5899	5.55	5.27	5.00	.....	.....
5902	5.26	5.00	4.73	4.47	.....
5902WA	9.50	9.03	8.55	8.08	.....
5915	1.99	1.89	1.79	1.69	.....
5920	4.50	.....	.....	.....	.....
5923	306.00	.....	.....	.....	.....
5924A	330.00	.....	.....	.....	.....
5931	6.80	6.46	6.12	.....	.....
5932	11.30	10.74	10.17	.....	.....
5933	12.35	.....	.....	.....	.....
5933WA	16.50	15.68	14.85	.....	.....
5946	160.00	152.00	.....	.....	.....
5963	1.48	1.41	1.33	1.26	.....
5964	2.03	1.93	1.83	1.73	.....
5965	2.24	2.13	2.02	1.90	.....
5966	45.00	42.75	40.50	.....	.....
5971	8.00	7.60	7.20	6.80	.....
5976	75.00	.....	.....	.....	.....
5985A	2.10	2.00	1.89	1.79	.....
NL-5992	15.75	.....	.....	.....	.....
5998	26.65	25.32	23.99	.....	.....
6005	3.73	3.54	3.36	3.17	.....
6005/6AQ5W	3.75	3.56	3.38	3.19	.....
6005/6AQ5W/6095	3.23	3.07	2.91	2.75	.....
6007	3.00	.....	.....	.....	.....
6012	8.21	7.80	7.39	6.98	.....
GL-6014/C1K	11.80	11.21	10.62	10.03	.....
NL-6014/C1K	12.30	11.69	.....	.....	.....
6014/C1K	12.30	11.69	.....	.....	.....
6014/5683/C1K	11.80	11.21	10.62	10.03	.....
6021	3.80	3.61	3.42	3.23	.....
6021WA	9.50	9.03	8.55	8.08	.....
6029	8.00	7.60	7.20	6.80	.....
GL-6039	2580.00	.....	.....	.....	.....
6046	1.80	1.71	1.62	.....	.....
6072	4.24	4.03	3.82	3.60	.....
6072A	4.24	4.03	3.82	3.60	.....
6073	3.53	3.35	3.18	.....	.....
6073/0A2	3.94	3.74	3.55	3.35	.....
6074	4.02	3.82	3.62	.....	.....
6074/0B2	4.19	3.98	3.77	3.56	.....
6075A	293.00	.....	.....	.....	.....
6076	345.00	.....	.....	.....	.....
6076A	345.00	.....	.....	.....	.....
6079	120.00	.....	.....	.....	.....
6080	5.50	5.23	4.95	4.08	.....
6080WA	11.12	10.56	10.01	.....	.....
6082	5.84	5.55	5.26	.....	.....
6083	25.00	.....	.....	.....	.....
6084	4.65	4.45	4.19	3.95	.....
6085	4.65	4.45	4.19	3.95	.....
6087	6.20	5.89	5.58	5.27	.....
6088	3.79	3.60	3.41	.....	.....
6098/6AR6WA	19.20	18.24	17.28	16.32	.....
6101	6.01	5.71	5.41	.....	.....
6101/6J6WA	5.75	5.46	5.18	.....	.....
6111	4.00	3.80	3.60	.....	.....
6111WA	9.50	9.03	8.55	8.08	.....
6112	4.40	4.18	3.96	3.74	.....
6112WA	6.70	6.37	6.03	5.70	.....
6130/3C45	25.75	.....	.....	.....	.....
6134	6.45	6.13	5.81	5.48	.....
6135	2.60	2.47	2.34	2.21	.....
6136	3.25	3.09	2.93	2.76	.....
6136/6AU6WA	3.75	3.09	2.93	2.76	.....
6146A	4.45	4.23	4.01	3.78	.....
6146B/8298A	5.70	5.42	4.64	4.38	.....
6146W	6.60	6.27	5.94	4.38	.....
6146/7212	Use 6146W				
6155	42.00	39.90	27.80	.....	.....
6156	45.25	42.99	.....	.....	.....
6159	5.05	4.80	4.55	4.29	.....
6159A	4.80	4.56	4.32	4.08	.....
6159B	5.05	4.80	4.55	4.29	.....
6159W/7357	9.00	8.55	8.10	7.65	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6161	170.00	.....	.....	.....	.....
6166	910.00	.....	.....	.....	.....
6166A/7007	1055.00	.....	.....	.....	.....
6173	15.20	14.44	13.68	.....	.....
6174	5.19	4.93	.....	.....	.....
6181	1390.00	.....	.....	.....	.....
6186	4.60	4.37	4.14	.....	.....
6186/6AG5WA	4.60	4.37	4.14	.....	.....
6189/12UA6WA	4.00	3.80	3.60	3.40	.....
6189	4.19	3.98	3.77	3.56	.....
6189/12AU7WA	4.00	3.80	3.60	3.40	.....
6197	2.90	2.76	2.61	.....	.....
6199	53.20	50.54	.....	.....	.....
6201	3.28	3.12	2.95	2.79	.....
6201/12AT7WA	3.15	2.99	2.84	2.68	.....
6202	2.85	2.71	2.57	2.42	.....
6203	4.65	4.41	4.19	3.95	.....
6205	5.80	5.51	5.22	4.93	.....
6206	8.65	8.22	7.79	7.35	.....
6211	2.71	2.57	2.44	2.30	.....
6213	7.20	6.84	6.48	6.12	.....
6216	4.00	3.80	3.60	3.40	.....
6217	85.55	.....	.....	.....	.....
6218	10.50	9.98	9.45	8.93	.....
6227	5.80	.....	.....	.....	.....
6228	3696.25	.....	.....	.....	.....
6247	12.25	11.64	11.03	10.41	.....
6247WA	20.45	19.43	18.41	17.38	.....
6251	3160.00	.....	.....	.....	.....
6252	35.75	33.96	32.18	.....	.....
6256	345.00	.....	.....	.....	.....
6257	350.00	.....	.....	.....	.....
6258	390.00	.....	.....	.....	.....
6263A	13.55	12.87	12.20	11.52	.....
6264A	14.35	13.63	12.92	12.20	.....
6265	4.10	3.90	3.69	3.49	.....
*6267/EF86	2.75	2.61	2.48	2.34	.....
6267/EF86 10M	2.75	2.61	2.48	2.34	.....
6268	48.00	.....	.....	.....	.....
6279	89.00	84.55	.....	.....	.....
6283	540.00	.....	.....	.....	.....
6291	63.00	59.85	.....	.....	.....
6292	63.00	5985	.....	.....	.....
6293	6.15	5.84	.....	.....	.....
6299	71.05	67.50	.....	.....	.....
6328	14.45	13.73	13.01	12.28	.....
6336A	19.04	18.08	17.14	16.18	.....
6339	46.35	.....	.....	.....	.....
6342A	66.50	63.18	.....	.....	.....
6350	2.37	2.25	2.13	2.01	.....
6354/105B2	2.25	2.42	2.30	2.17	.....
6360	4.95	4.70	4.46	.....	.....
6360A	6.25	5.94	5.63	.....	.....
6362	133.00	.....	.....	.....	.....
6363	123.50	.....	.....	.....	.....
6364	161.00	.....	.....	.....	.....
6365	65.00	.....	.....	.....	.....
6366	175.00	.....	.....	.....	.....
6370/EIT	27.60	26.22	24.84	20.91	.....
6381	Prices on Request				
6386	9.59	9.03	8.55	.....	.....
6397	11.00	10.49	9.90	.....	.....
6405/1640	9.55	9.07	8.60	.....	.....
6414	3.65	3.47	3.26	3.10	.....
6417	3.53	3.35	.....	.....	.....
6418	3.90	3.71	3.51	3.32	.....
6419	8.05	7.65	7.25	6.84	.....
6420	445.00	422.75	.....	.....	.....
6421	525.00	.....	.....	.....	.....
6421F	545.00	.....	.....	.....	.....
6422	450.00	.....	.....	.....	.....
6423	525.00	.....	.....	.....	.....
6423F	545.00	.....	.....	.....	.....
6424	518.00	.....	.....	.....	.....
6425	645.00	.....	.....	.....	.....
6425F	645.00	.....	.....	.....	.....
6425F Syl.	671.00	.....	.....	.....	.....
6426	720.00	684.00	.....	.....	.....
6427	840.00	.....	.....	.....	.....
6442	39.00	.....	.....	.....	.....
6448	5975.00	.....	.....	.....	.....
6463	2.75	2.61	2.48	2.34	.....
6467	63.00	.....	.....	.....	.....
6472	16.20	15.39	.....	.....	.....
6476	19.10	18.15	17.17	.....	.....
6476A	14.95	.....	.....	.....	.....
6483	3.09	.....	.....	.....	.....
6485	2.10	2.00	1.89	.....	.....
6499	285.00	.....	.....	.....	.....
6508	138.50	.....	.....	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6512	410.00	.....	.....	.....	.....
5613	560.00	.....	.....	.....	.....
6514	750.00	.....	.....	.....	.....
6515	1300.00	.....	.....	.....	.....
6519	8.05	7.65	7.25	6.84	.....
6521/R	725.00	.....	.....	.....	.....
6524	31.50	29.93	28.35	.....	.....
6528	21.85	20.76	19.67	18.57	.....
6528A	36.14	34.34	32.54	30.73	.....
6533	15.55	14.77	14.00	13.22	.....
6544	910.00	.....	.....	.....	.....
6549	Use 177WA				
6550	12.90	12.26	11.67	.....	.....
6550MP	12.60	11.98	11.34	10.71	.....
6550V1MP	12.50	11.88	11.25	10.63	.....
6562/5794A	Price on Request				
6569	Use 177WA				
6550	12.90	12.26	11.61	.....	.....
6576	925.00	.....	.....	.....	.....
6580	65.00	.....	.....	.....	.....
661 7	670.00	638.50	.....	.....	.....
6618	935.00	888.25	.....	.....	.....
6626/0A2WA	3.50	3.33	3.15	2.98	.....
6627	2.55	2.42	2.30	2.17	.....
6655A	66.50	63.18	59.85	56.53	.....
6660	1.69	1.61	1.52	1.44	.....
6660/6BA6	1.69	1.61	1.52	1.44	.....
6661	2.10	2.00	1.89	1.87	.....
6661/6BH6	1.43	1.36	1.29	1.23	.....
6662	2.08	1.98	1.87	1.77	.....
6662/6BJJ6	1.30	1.24	1.17	1.11	.....
6663	1.54	1.46	1.39	.....	.....
6663/6AL5	1.54	1.46	1.39	.....	.....
6664	1.85	1.76	1.67	1.57	.....
6664/6AB4	1.85	1.76	1.67	1.57	.....
6669	1.76	1.67	1.58	1.50	.....
6669/6AQ5A	1.76	1.67	1.58	1.50	.....
6669/6AQ5	1.10	1.05	.99	.94	.....
6676	1.69	1.61	1.52	1.44	.....
6676/6CB6A	1.69	1.61	1.52	1.44	.....
6677	2.46	2.34	2.21	2.09	.....
6677/6CL6	2.46	2.34	2.21	2.09	.....
6678	2.02	1.92	1.82	1.72	.....
6678/6U8A	2.02	1.92	1.82	1.72	.....
6679	1.83	1.74	1.65	1.56	.....
6679/12AT7	1.83	1.74	1.65	1.56	.....
6680	1.61	1.53	1.45	1.37	.....
6680/12AU7A	1.61	1.53	1.45	1.37	.....
6681	1.44	1.37	1.30	1.22	.....
6681/12AX7A	1.44	1.37	1.30	1.22	.....
6681/12AX7	1.44	1.37	1.30	1.22	.....
6686	5.70	.....	.....	.....	.....
6687	5.00	4.75	4.00	.....	.....
6688	9.60	9.12	8.64	8.16	.....
6688A	8.75	8.31	7.87	7.44	.....
6689	5.15	4.89	4.64	4.38	.....
6693	59.50	.....	.....	.....	.....
6696	1090.00	1035.50	.....	.....	.....
6697	1320.00	1254.00	.....	.....	.....
6697A	1320.00	.....	.....	.....	.....
6761	7.50	.....	.....	.....	.....
6763	4.80	4.56	4.32	.....	.....
6771	71.90	.....	.....	.....	.....
6775	60.00	57.00	.....	.....	.....
6786	270.00	256.50	.....	.....	.....
6792	15.45	.....	.....	.....	.....
6802	16.30	15.49	14.67	.....	.....
6806	7350.00	.....	.....	.....	.....
6807	40.00	38.00	32.75	.....	.....
6808	40.50	.....	.....	.....	.....
6809	44.95	.....	.....	.....	.....
6810A	225.00	.....	.....	.....	.....
6810B	225.00	.....	.....	.....	.....
6814	6.58	.....	.....	.....	.....
6816	56.00	53.20	.....	.....	.....
6829	6.60	6.27	5.94	5.61	.....
6842	14.75	14.40	13.90	.....	.....
6844A	11.00	.....	.....	.....	.....
6850	28.00	26.60	25.20	23.80	.....
GL6858/760	Use 760				
GL6859/760P	Use 760P				
6861	995.00	.....	.....	.....	.....
6883	4.85	4.61	4.37	4.12	.....
6883B/8032A/8552	5.95	5.65	5.36	5.06	.....
6884	39.20	37.24	35.28	.....	.....
6887	1.46	1.39	1.31	1.24	.....
6893	4.75	4.49	.....	.....	.....
6894	26.05	24.75	.....	.....	.....
6895	26.05	24.75	.....	.....	.....
6897	38.55	36.62	34.70	.....	.....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6903	430.00	408.50	.....	.....	.....
6907	27.00	.....	.....	.....	.....
6909	16.35	15.53	14.72	.....	.....
6910	19.15	18.19	.....	.....	.....
6911	145.00	.....	.....	.....	.....
6914	Prices on Request				
6914A	Prices on Request				
6922	4.86	4.63	4.38	4.14	.....
6922/E88C	4.87	4.63	4.38	4.14	.....
6923	20.50	.....	.....	.....	.....
6933	1295.00	.....	.....	.....	.....
6935	140.00	.....	.....	.....	.....
6939	11.37	10.80	10.23	.....	.....
6942	1140.00	.....	.....	.....	.....
6953	9.15	8.69	.....	.....	.....
6960A	204.50	.....	.....	.....	.....
6961A	290.50	275.50	.....	.....	.....
*6973	3.03	2.73	2.73	2.27	2.02
6977	2.50	2.38	2.25	.....	.....
6979	46.00	.....	.....	.....	.....
6989	35.50	33.73	31.95	.....	.....
6989/C6J/KL	30.25	28.75	37.23	.....	.....
7007/6166A	1020.00	969.00	.....	.....	.....
7007	1020.00	.....	.....	.....	.....
7009	19.00	.....	.....	.....	.....
7016	21.40	20.33	18.30	16.77	.....
7018	10.05	9.55	7.97	6.93	.....
7019	13.00	12.35	11.00	10.01	.....
*7025	1.86	1.67	1.67	1.40	1.24
7025 10M	2.60	2.47	2.34	.....	.....
*7027A	4.47	4.02	4.02	3.35	2.98
7034/4X150A	Use 4X150A				
7035/4XS50S	Use TPG200D				
7037	26.00	.....	.....	.....	.....
7038	175.00	.....	.....	.....	.....
7038V	190.00	.....	.....	.....	.....
7044	3.15	2.99	2.84	2.68	.....
7046	Use 4522				
7054	1.68	1.60	1.51	1.43	.....
7055	1.18	1.12	.....	.....	.....
7056	1.02	.97	.92	.87	.....
7057	2.17	2.06	1.95	1.84	.....
7058	1.50	1.43	1.35	1.28	.....
7059	1.65	1.57	1.49	1.40	.....
7060	2.08	1.98	1.87	1.77	.....
7061	1.66	1.58	1.49	1.41	.....
7062	3.75	.....	.....	.....	.....
7064	60.20	57.19	54.18	51.17	.....
7077	45.55	43.27	41.00	.....	.....
7090	310.00	.....	.....	.....	.....
7092	127.50	.....	.....	.....	.....
7094	45.00	.....	.....	.....	.....
7102	115.00	109.25	.....	.....	.....
7117	13.65	12.97	12.29	.....	.....
7119	4.95	.....	.....	.....	.....
7136	59.50	.....	.....	.....	.....
7151	840.00	.....	.....	.....	.....
7153	14.50	13.77	.....	.....	.....
7154	14.50	13.70	.....	.....	.....
7155	13.37	.....	.....	.....	.....
7167	1.67	1.59	1.50	1.42	.....
7171	65.00	.....	.....	.....	.....
7183A	995.00	.....	.....	.....	.....
*7189	2.64	2.38	2.38	1.98	1.76
7198A	1335.00	.....	.....	.....	.....
*7199	3.39	3.05	3.05	2.54	2.26
7200	210.00	.....	.....	.....	.....
7203/4CX250B	Use 4CX250B/7203				
7204/4CX250F	Use 4CX250F/7204				
7211	45.00	.....	.....	.....	.....
7213	430.00	.....	.....	.....	.....
7214	465.00	.....	.....	.....	.....
7226	315.00	299.75	.....	.....	.....
7233	2.70	2.57	2.43	2.30	.....
7234	16.00	15.60	15.30	.....	.....
7235	10.00	9.80	9.65	.....	.....
7237A	250.00	237.50	.....	.....	.....
7239	8.25	7.84	7.43	.....	.....
7246	8.40	7.98	7.56	7.14	.....
*7247	2.43	2.19	2.19	1.82	1.62
7255	229.00	217.55	206.10	.....	.....
7258	1.92	1.73	1.73	1.44	1.28
7262A	190.00	.....	.....	.....	.....
7263A	470.00	.....	.....	.....	.....
7263A RCA	360.00	.....	.....	.....	.....
7264	265.00	251.75	.....	.....	.....
7265	390.00	270.50	.....	.....	.....
7266	43.95	41.75	39.56	.....	.....
7268A	1610.00	.....	.....	.....	.....
7269	69.00	65.55	.....	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
7271	44.80	42.56	40.32	.....	.....
7289/3CX100A5	26.90	25.56	24.21	22.87	.....
7289	30.75	29.21	27.67	26.14	.....
7293A	1150.00	.....	.....	.....	.....
7293A/L	Use 8674				
7295B	1460.00	.....	.....	.....	.....
7295B/L	Use 7295C				
7295C	1990.00	.....	.....	.....	.....
7296	65.35	62.08	.....	.....	.....
7300	1335.00	.....	.....	.....	.....
7308A/5684/C3J/A	13.75	13.06	.....	.....	.....
7307A/6011/710	12.75	12.11	11.48	.....	.....
7308	3.60	3.23	3.23	2.70	2.40
7315	994.00	.....	.....	.....	.....
7315 RCA	925.00	.....	.....	.....	.....
7316	2.15	2.04	1.94	.....	.....
7325	170.00	.....	.....	.....	.....
7326	370.00	.....	.....	.....	.....
*7355	2.19	1.87	1.87	1.64	.....
7360	3.18	2.86	2.86	2.39	1.46
7377	32.70	31.07	29.43	27.80	.....
7378	61.00	57.95	54.90	51.95	.....
7389B/L	Use 7389C				
7389C	1990.00	.....	.....	.....	.....
7391	86.95	82.60	.....	.....	.....
*7408	2.01	1.81	1.81	1.51	1.34
7409	4840.00	.....	.....	.....	.....
7457	63.90	60.71	57.51	54.32	.....
7459	310.00	.....	.....	.....	.....
7462	46.45	44.13	41.81	.....	.....
7467	Use SQ516				
7479A	950.00	902.50	.....	.....	.....
7480	1590.00	1510.50	.....	.....	.....
7482	4455.00	4232.50	.....	.....	.....
7486	45.55	43.27	41.00	.....	.....
7509A/710L	15.20	14.44	13.68	.....	.....
7513	Use 8673				
7513/S	Use 8674/S				
7518	14.75	14.01	15.30	.....	.....
7527	46.50	44.18	.....	.....	.....
7533	7.75	7.36	6.98	.....	.....
7534	28.20	26.79	.....	.....	.....
7538	3200.00	.....	.....	.....	.....
*7543	1.95	1.76	1.76	1.46	1.30
7551	3.09	2.78	2.78	2.32	2.06
7552	46.65	44.32	41.99	39.65	.....
7553	55.80	53.01	50.22	47.43	.....
7554	39.20	37.24	.....	.....	.....
7556A-NE	20.80	19.76	.....	.....	.....
7558	3.12	2.81	2.81	2.34	2.08
7560	4455.00	.....	.....	.....	.....
7580	44.50	42.28	40.05	37.83	.....
*7581A	3.69	3.32	3.32	2.77	2.46
7586	3.65	3.47	3.29	3.10	.....
7587	5.50	5.23	4.95	4.68	.....
7588	125.10	118.85	.....	.....	.....
*7591A	1.68	1.51	1.51	1.26	1.12
7609	31.50	29.93	28.35	.....	.....
7625	54.65	51.92	49.19	46.45	.....
7629A	1700.00	.....	.....	.....	.....
7643	6.00	5.70	5.40	5.10	.....
7644	90.50	.....	.....	.....	.....
7645	13.75	.....	.....	.....	.....
7650	275.00	226.50	.....	.....	.....
7651	270.00	256.50	.....	.....	.....
7664	280.00	.....	.....	.....	.....
7669	68.00	.....	.....	.....	.....
7670	78.00	.....	.....	.....	.....
7671	107.00	.....	.....	.....	.....
7673GE	265.00	.....	.....	.....	.....
7673	254.00	.....	.....	.....	.....
7473P	254.00	.....	.....	.....	.....
7681	170.00	.....	.....	.....	.....
7693	4.95	.....	.....	.....	.....
7694	3.95	.....	.....	.....	.....
*7695	2.64	2.38	2.38	1.98	1.76
7697	170.00	.....	.....	.....	.....
7698	45.00	42.75	.....	.....	.....
7698 RAY	75.00	71.25	.....	.....	.....
7699	19.90	.....	.....	.....	.....
7703GE	190.00	.....	.....	.....	.....
7703	176.00	.....	.....	.....	.....
7717/6CY5	1.17	1.05	1.05	.88	.78
7720	55.90	53.11	50.31	.....	.....
7723-NE	14.85	.....	.....	.....	.....
7724/14GT8	1.26	1.13	1.13	.95	.84
7725	17.60	16.72	.....	.....	.....
7726	22.50	.....	.....	.....	.....
7734/6GE8	4.60	4.37	4.14	.....	.....
7735	110.00	.....	.....	.....	.....

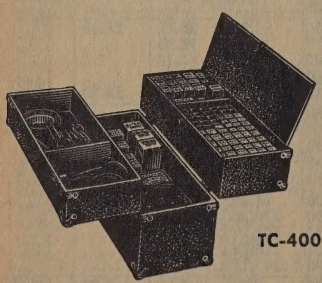
Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
7735A	150.00	142.50	.....	.....	.....
7735B	175.00	166.25	.....	.....	.....
7736	1110.00	.....	.....	.....	.....
7737	8.35	7.93	7.52	.....	.....
7746	215.00	204.25	.....	.....	.....
7753	240.00	228.00	.....	.....	.....
7764	135.00	.....	.....	.....	.....
7767	130.00	123.50	.....	.....	.....
7768	129.50	123.03	.....	.....	.....
7784	87.50	.....	.....	.....	.....
7786	21.00	19.95	18.90	.....	.....
7788	11.25	10.69	10.13	9.56	.....
7800	810.00	.....	.....	.....	.....
7801	280.00	.....	.....	.....	.....
7804	479.50	455.00	.....	.....	.....
7805	428.00	.....	.....	.....	.....
Z7805	7600.00	.....	.....	.....	.....
7806	975.00	.....	.....	.....	.....
Z7806	6500.00	.....	.....	.....	.....
7807	705.00	669.75	.....	.....	.....
Z7807	5080.00	.....	.....	.....	.....
Z7814	5500.00	.....	.....	.....	.....
7815/3CN10A5	25.60	.....	.....	.....	.....
7815	25.50	.....	.....	.....	.....
7815/AL	34.75	.....	.....	.....	.....
7815R/AL	34.75	.....	.....	.....	.....
7816	6500.00	.....	.....	.....	.....
7841	46.75	44.41	.....	.....	.....
7842	63.90	60.71	.....	.....	.....
7843	35.00	33.25	31.50	29.75	.....
7850	260.00	247.00	.....	.....	.....
7854	40.00	38.00	36.00	.....	.....
7855	60.00	57.00	.....	.....	.....
7855K/AL	65.00	.....	.....	.....	.....
7860	135.00	.....	.....	.....	.....
Z7866	1975.00	1876.25	.....	.....	.....
*7868	2.82	2.54	2.26	2.03	.....
Z7869	1725.00	.....	.....	.....	.....
Z7870	1775.00	.....	.....	.....	.....
7870	120.00	114.00	.....	.....	.....
7895	3.09	2.78	2.78	2.32	2.06
7898	1.32	1.19	1.19	.99	.88
Z7899	1890.00	.....	.....	.....	.....
7900	400.00	.....	.....	.....	.....
7905	3.42	3.08	3.08	2.57	2.28
7910	95.60	90.82	.....	.....	.....
Z7911	75.00	.....	.....	.....	.....
7913	152.75	145.11	.....	.....	.....
Z7929R	1055.00	.....	.....	.....	.....
Z7929G	1055.00	.....	.....	.....	.....
Z7946	1820.00	.....	.....	.....	.....
7967	4840.00	.....	.....	.....	.....
Z7969	3600.00	.....	.....	.....	.....
7977/4032	19.00	.....	.....	.....	.....
7983	18.75	.....	.....	.....	.....
7984	5.35	5.08	4.82	.....	.....
7986/5866A	32.25	.....	.....	.....	.....
7994	16.05	15.25	14.45	13.64	.....
7995	16.05	15.25	14.45	13.64	.....
7996	62.90	.....	.....	.....	.....
8000	29.05	27.60	26.15	24.69	.....
8005	21.00	19.95	18.90	.....	.....
8008	12.40	11.78	11.16	.....	.....
8008A	12.40	11.78	11.16	.....	.....
8013A	21.45	20.38	19.31	18.23	.....
8020 (100R)	26.50	.....	.....	.....	.....
8020	23.50	.....	.....	.....	.....
8032	4.90	4.66	4.41	4.17	.....
8035	11.10	.....	.....	.....	.....
8037/5031	15.75	.....	.....	.....	.....
8042	12.00	11.40	10.80	.....	.....
8051	610.00	579.50	.....	.....	.....
8053	107.65	102.27	.....	.....	.....
8054	125.00	118.75	.....	.....	.....
8055	155.00	147.25	.....	.....	.....
8056	4.32	3.89	3.89	3.24	2.88
8058	15.80	15.01	14.22	.....	.....
8062	135.00	.....	.....	.....	.....
8068	4.10	3.89	3.69	3.49	.....
8072	21.85	.....	.....	.....	.....
8077/7054	1.32	1.19	1.19	.99	.88
8078	112.00	106.40	100.80	.....	.....
8081	42.90	40.76	38.61	.....	.....
8082	57.60	54.72	51.84	.....	.....
8083	57.60	54.72	51.84	.....	.....
8091	22.50	.....	.....	.....	.....
8092A GE	1870.00	.....	.....	.....	.....
8092A	1110.00	.....	.....	.....	.....
8093A	Use 8673				
8093A	1150.00	.....	.....	.....	.....

Receiving, Industrial & Special Purpose Tubes

Tube Type	EACH 1-5	* MAY BE ASSORTED 6-24	25-49	50-99	NOT ASST. 100-Up
8093A/L	Use 8673				
8094/199	335.00	.....	.....	.....	.....
8096	20.45	19.43	18.41	17.38	.....
8102	1.65	1.57	1.49	.....	.....
8106	1.76	1.66	1.58	.....	.....
8108/EC157	233.00	.....	.....	.....	.....
8117A	58.00	55.10	.....	.....	.....
8118	56.00	53.20	50.40	.....	.....
8121	33.60	31.92	30.24	.....	.....
8122	35.00	.....	.....	.....	.....
8124	4690.00	.....	.....	.....	.....
8134	200.00	.....	.....	.....	.....
8134V	370.00	.....	.....	.....	.....
8134V1	370.00	.....	.....	.....	.....
8136	1.20	1.14	1.08	1.02	.....
8156	3.89	3.70	3.50	3.31	.....
8163	34.00	.....	.....	.....	.....
8165/4-65A	32.50	.....	.....	.....	.....
8166/4-1000A	Use 4-1000A/8166				
8179	204.00	.....	.....	.....	.....
8184	2555.00	.....	.....	.....	.....
8203	4.02	3.82	3.62	3.42	.....
8226	80.05	76.05	.....	.....	.....
8228	2.90	2.86	2.61	.....	.....
8233	14.70	13.97	13.23	12.50	.....
8236	29.90	28.41	26.91	25.42	.....
8254	28.75	.....	.....	.....	.....
8255/E88C	6.70	.....	.....	.....	.....
8268	243.00	.....	.....	.....	.....
8269	338.00	.....	.....	.....	.....
8270	105.50	.....	.....	.....	.....
8281/4CX15000A	Use 4CX15000A/8281				
8281/4CX15000A	Use 4CX15000A/ML8221				
8295A/172	195.00	.....	.....	.....	.....
8295A	195.00	.....	.....	.....	.....
8298	5.25	5.00	4.73	.....	.....
8298A	Use 614B/8289				
8348	10.70	10.17	9.63	.....	.....
8353	11.10	.....	.....	.....	.....
8393	3.60	3.42	3.24	3.06	.....
8403	115.00	109.75	.....	.....	.....
8408	15.75	14.96	14.18	.....	.....
8416	9.15	.....	.....	.....	.....
*8417	2.82	2.54	2.26	.....	.....
8421/5092	15.75	.....	.....	.....	.....
8422/5991	15.75	.....	.....	.....	.....
8423/6091	19.00	.....	.....	.....	.....
8423	180.00	.....	.....	.....	.....
*8425A/6AU6A	2.82	2.54	2.26	2.03	.....
*8426A/12AU6	1.87	1.69	1.50	1.35	.....
8436/EC158	375.00	.....	.....	.....	.....
8437	2890.00	.....	.....	.....	.....
8438	Use 4-400A/8436				
8458	12.25	11.64	11.03	10.41	.....
8462	53.90	51.20	.....	.....	.....

Tube Type	EACH 1-5	* MAY BE ASSORTED 6-24	25-49	50-99	NOT ASST. 100-Up
8480	760.00	.....	.....	.....	.....
8480/V1	1140.00	.....	.....	.....	.....
8482	105.50	.....	.....	.....	.....
8484	170.00	.....	.....	.....	.....
8500	520.00	.....	.....	.....	.....
8501	1150.00	.....	.....	.....	.....
8502/4021	33.00	.....	.....	.....	.....
8507A	190.00	.....	.....	.....	.....
8509	40.75	.....	.....	.....	.....
8511	315.00	299.75	.....	.....	.....
8521	610.00	.....	.....	.....	.....
8532	5.84	5.55	5.26	.....	.....
8533	115.00	.....	.....	.....	.....
8534	120.00	.....	.....	.....	.....
8535	120.00	.....	.....	.....	.....
8536	120.00	.....	.....	.....	.....
8537	120.00	.....	.....	.....	.....
8538	120.00	.....	.....	.....	.....
8539	120.00	.....	.....	.....	.....
8541	310.00	.....	.....	.....	.....
8541A	190.00	.....	.....	.....	.....
8567	995.00	945.25	.....	.....	.....
8571	215.00	.....	.....	.....	.....
8572	215.00	.....	.....	.....	.....
8572A	215.00	.....	.....	.....	.....
8572V	235.00	.....	.....	.....	.....
8573	275.00	.....	.....	.....	.....
8573A	210.00	.....	.....	.....	.....
8575	325.00	308.78	.....	.....	.....
8596	105.00	.....	.....	.....	.....
8604	310.00	.....	.....	.....	.....
8627	14.15	12.74	12.03	.....	.....
8628	5.00	4.75	4.50	4.25	.....
8632	20.00	18.65	17.30	.....	.....
8643	38.10	36.20	34.29	.....	.....
8644	310.00	.....	.....	.....	.....
8645	415.00	394.25	.....	.....	.....
8664	1665.00	.....	.....	.....	.....
8664/V1	2000.00	.....	.....	.....	.....
8673	1890.00	.....	.....	.....	.....
8674	1890.00	.....	.....	.....	.....
8684	2775.00	.....	.....	.....	.....
8793	555.00	527.25	.....	.....	.....
8794	645.00	.....	.....	.....	.....
8806	645.00	.....	.....	.....	.....
9001	5.38	5.11	4.84	4.57	.....
9002	4.33	4.11	3.90	3.68	.....
9003	5.67	5.39	5.10	4.82	.....
9005	8.05	7.65	7.25	6.84	.....
9006	2.70	2.57	2.43	2.30	.....
9012	7.00	.....	.....	.....	.....
50911	15.75	.....	.....	.....	.....
50911/CK1902	15.75	.....	.....	.....	.....
22 994/5877	2.25	.....	.....	.....	.....
55702	.50	.....	.....	.....	.....

ARGOS TUBE CADDIES



TC-400

TC-400

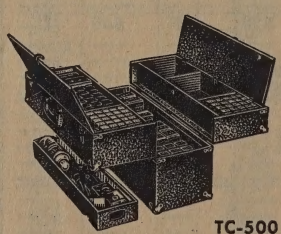
Carry-all Tube Caddy. A must item for all electronic service men, this case is a complete tube and tool kit. Holds up to 260 tubes with space for accessories. Grey vinyl covering. 21" x 15" x 8". Shpg. wt., 11 lbs.

86F747. NET..... 17.95

TC-200

Junior Tube Caddy. Small, easy-to-carry size. Holds up to 143 tubes, less with space or tools, meters, etc. Grey vinyl covering. 16 x 12½ x 8". Shipping weight, 7¼ lbs.

86F774. NET..... 11.50



TC-500

TC-600

Most rugged, strongest tube caddy in the line. Steel runners protect the caddy. Offers more than 3300 cubic inches for more than 300 tubes with space for tools, meters and accessories. Grey vinyl covering. 24" W x 16½" H x 8½" D. Shipping weight 20 lbs., 8 oz.

86F748. NET 31.95

TC-500

Super Tube Caddy has 3300 cubic inches for tubes, meters, tools and accessories. Removable tray. Grey vinyl covering. Size: 24" W x 16½" H x 8½" D. Shipping weight, 17 pounds.

86F746. NET 25.95

- Phone, Write, Wire for Price Quotations
- Shipment from On-the-shelf Stocks
- OEM Prices
- Complete Stocks of All Industrial & Military Types

To Serve You Better—Stocking Warehouses from Coast-to-Coast

Preliminary Selection Guide for Photomultiplier Tubes.

Nominal Tube Diameter Inches	Spectral Response	See Note "A"	See Note "B"	Type No.	Net
½	102(S-4)	S	C	8571	215.00
¾	107(S-11)	H	I	4460	235.00
¾	107(S-11)	H	I	7764	135.00
¾	107(S-11)	H	I	7767	130.00
¾	110(S-20)	H	I	8644	310.00
¾	110(S-20)	H	I	8645	415.00
¾	115	H	I	4516	185.00
1⅛	102(S-4)	S	C	1P21	56.70
1⅛	102(S-4)	S	C	931A	12.50
1⅛	102(S-4)	S	C	4471	19.00
1⅛	102(S-4)	S	C	4472	24.60
1⅛	102(S-4)	S	C	4473	63.00
1⅛	102(S-4)	S	C	6328	14.45
1⅛	102(S-4)	S	C	6472	16.20
1⅛	102(S-4)	S	C	7117	13.65
1⅛	103	S	C	1P28/V1	33.60
1⅛	103	S	C	1P28A/V1	46.20
1⅛	104(S-5)	S	C	1P28	22.50
1⅛	104(S-5)	S	C	1P28A	28.70
1⅛	105(S-8)	S	C	1P22	18.65
1⅛	109(S-19)	S	C	7200	210.00
1½	101(S-1)	H	C	7102	115.00
1½	107(S-11)	H	C	2060	55.30
1½	107(S-11)	H	C	2067	175.00
1½	107(S-11)	H	C	4438	120.00
1½	107(S-11)	H	C	4439	120.00
1½	107(S-11)	H	C	4440	115.00
1½	107(S-11)	H	C	4441	170.00
1½	107(S-11)	H	C	4441A	350.00
1½	107(S-11)	H	C	4461	310.00
1½	107(S-11)	H	C	6199	53.20
1½	111	DW	C	4526	400.00
1½	115	H	C	4517	80.00
2	106(S-10)	H	C	6217	85.55
2	107(S-11)	H	C	2020	93.85
2	107(S-11)	H	C	2061	66.50
2	107(S-11)	H	C	2062	66.50
2	107(S-11)	H	V	2063	105.00
2	107(S-11)	H	C	5819	85.55
2	107(S-11)	H	C	6342A	66.50
2	107(S-11)	H	C	6655A	66.50
2	107(S-11)	H	I	6810A	225.00
2	107(S-11)	H	I	7264	265.00
2	107(S-11)	H	I	7746	215.00
2	107(S-11)	H	I	7850	260.00
2	107(S-11)	H	V	8053	107.65
2	108(S-13)	H	C	6903	430.00
2	110(S-20)	H	I	4459	495.00
2	110(S-20)	H	V	4463	260.00
2	110(S-20)	H	I	7265	390.00
2	110(S-20)	H	I	7326	370.00
2	115	H	C	4518	105.00
2	115	H	V	4523	125.00
2	116	H	I	8575	325.00
2	116	H	I	8850	600.00
2	120	H	V	8664	1665.00
2	120	H	V	8864/V1	2000.00
3	107(S-11)	H	V	2064B	120.00
3	107(S-11)	H	V	8054	125.00
3	110(S-20)	H	V	4464	260.00
3	115	H	V	4524	135.00
3	122	H	V	4521	585.00
5	107(S-11)	H	V	2065	153.00
5	107(S-11)	H	V	8055	155.00
5	110(S-20)	H	V	4465	305.00
5	115	H	V	4525	170.00
5	118	H	I	4522	645.00

NOTE "A" - Photocathode configurations: H, head on; S, side on; and DW, dormer window. Note "B" - Cage structures: C, circular cage; I, in line; and V, venetian blind.

QUANTACON PHOTOMULTIPLIERS

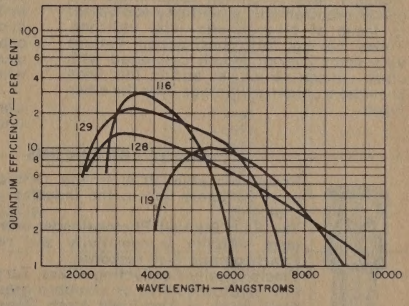
RCA's breakthrough in the use of III/V compounds as photocathodes and/or secondary emission materials in phototubes will unfold a whole new generation of Quantacon photomultiplier tubes. Listed below are some of Quantacons which are presently available. Others are under development.

The III/V compound, gallium phosphide provides up to an order of magnitude increase in secondary-emission ratio over conventional materials. When gallium phosphide is used for the first dynode of a Quanticon, this high secondary-emission ration provides a pulse-height resolving capability that permits discrimination of single, double, triple and quadruple electron events at the photocathode. When gallium phosphide is used for all the dynodes of a photomultiplier, the additional advantages of smaller size and reduced anode pulse rise time are achieved.

The use of III/V compounds, such as gallium arsenide and gallium-arsenide-phosphide, for photocathodes opens new vistas in broad spectral response photomultipliers with low noise performance.

- **Higher Secondary Emission Ratio**
- **Better Electron Resolution**
- **Low Noise in Signal Current**
- **Faster Rise Time**
- **Broad Spectral Response**

TYPICAL SPECTRAL RESPONSE (QE)



PHOTODIODES

Vacuum Photodiodes have excellent response to pulsed light, good stability, and are characterized by photocurrent response which is linear over a wide range of lincident light level. These tubes are frequently used for light comparison measurements. Typical applications: Photometry, Colorimetry, Spectrophotometry, Industrial controls, Facsimile.

Gas Photodiodes have a response to pulsed light that covers the audio frequency range. They are 3 to 5 times more senstive than vacuum photodiodes. Typical applications: Industrial Controls, Sound Reproduction.

PRELIMINARY SELECTION GUIDES

For Photodiodes

Spec. Resp.	Construction	Vac. or Gas	RCA Type(s)
S1	Single Unit	Vac.	917, 919, 922, 925, 6570
S1	Single Unit	Gas	1P40, 1P41, 868, 918, 921,923, 927, 930, 6405/1640, 6953
S1	Twin Unit	Gas	920
S3	Single Unit	Vac.	926
S3	Single Unit	Gas	1P29
S4	Single Unit	Vac.	1P39, 929, 934, 5653, 7043
S4	Single Unit	Gas	1P37, 4409, 5581, 5582, 5583
S4	Composite Anode/Cathode	Vac.	5652
S5	Single Unit	Vac.	935
S9	Single Unit	Vac.	1P42

For more information refer to the product line catalog and manual. RCA Photomultiplier Tubes, Image Converter tubes, Photodiodes, PIT-700A-58 pages. Provides tabulated data and preliminary selection chart for photodiodes. RCA Phototubes and Photocells, Technical manual PT-60. Provides theory, measurement, construction and principals of operation.

NOTE: the tubes listed in this section are not all the photomultipliers or Photociodes. Refer to the tube directory for a complete listing.

929

927

931A

RCA CAMERA TUBES

RCA VIDACONS

The RCA Vidicons described here are designed for use in commercial, educational industrial, and military TV systems. Each Vidicon tube type is designed for a particular type of service and has operational performance, and mechanical characteristics best suited for that intended service. The table shown below is intended as a very preliminary selection guide. The different Vidicon type shown in this table are grouped in specific catagories of focus and deflection method, mesh-electrode connection, and heater power. The choices between these three catagories are briefly described, below the chart to make them more meaningful.

	Magnetic-Focus Magnetic-Deflection Vidicons					Magnetic-Focus Electrostatic-Deflection Vidicons	Electrostatic-Focus Magnetic-Deflection Vidicons		Electrostatic-Focus Electrostatic-Deflection Vidicons	
	½" Diameter Types	1" Diameter Types	1½" Diameter Types	2" Diameter Types	4½" Diameter Types	1" Diameter Types	1" Diameter Types	1½" Diameter Types	1" Diameter Types	Heater Power
	4427	2048* 7262A 7263A*								0.6W
Conventional Mesh Connection		4478 4500 7038 7735 7735A 7735B								3.8W
Seperate Mesh Connection	C23104	4542 8541A 8573A C23066 C23136+		C23061A Ø C23063		C23073A5#	4493 8134 4494 8134/VI 4495 8567*	8480 8180/VI C23033		0.6W
		4503A* C23113#							4514*	1.9W
		8507A 8572A	8051 8521		C74137A Ø					

*Ruggedized Type Ø Return Beam Vidicon Type #Vidicon Assembly +Silicon Target Type

FOCUS AND DEFLECTION METHOD

Magnetic-focus, electrostatic -deflection vidicons provide highest center and corner resolution but require the most electrical power and result in TV cameras having the most weight.

Magnetic-focus, electrostatic-deflection vidicons have resolution capabilities and power requirements essentially equivalent to those of all-magnetic type vidicons. Tubes having this construction feature very short overall length compared with other vidicon structures and in this area provides a unique advantage over the other types.

CHOICE OF CATAGORIES

Electrostatic-focus, magnetic-deflection vidicons have intermediate resolution capability, require intermediate electrical power, and find use in compact lightweight cameras.

Electrostatic-focus, electrostatic-deflection vidicons require the least of all vidicon structures and are intended for use in TV cameras that approach the ultimate in package size and weight. The resolution capability of this type vidicon however, is usually less than that of other type vidicons when operating volts are the same.

TUBE DIAMETER

Larger tube diameter provides more TV lines per picture height.

SEPARATE MESH ELECTRODE

RCA vidicons are available with separate mesh connection or with conventional mesh connection. Separate mesh connection vidicons provide higher and more uniform signal output when operated at high voltage than to comparable size vidicons having mesh and wall electrodes connected.

HEATER POWER

RCA vidicons are available with conventional 3.8 w heaters, 1.9 w heaters, and 0.6W Dark heaters for transistorized TV Cameras.

IMAGE ORTHICONS

From available RCA Image Orthicons, the most complete line in the industry, get your choice of:

The RCA Bialkali Photocathodes-with its long term stability in sensitivity and resolution, Panchromatic S-10 response.

Electronically-Conducting Glass Targets-Thin film semiconductive or standard glass target. Field Mesh or Non-Field Mesh Design. Field mesh offers a picture relatively free of bright edges, improved dynamic registration of color superior picture sharpness.

2", 3", or 4½"-Diameter Types-2" types for compact portable TV cameras, 3" types for conventional image-orthicon cameras, 4½" types for TV pickup systems requiring exceptional resolution and signal/noise ratio. Matched Sets for Color Pickup

The table shown below classifies the different RCA image orthicon types by target material, spectral response, field or non-field mesh design, and tube diameter. This table is intended to assist the camera tube user in making an initial selection of the image orthicon best suited for his television system.

	Electronically-Conducting Glass Target Types		Thin-Film Semiconductive Target Types		Standard Glass	Size
Field Mesh Types		8673 8673/S 8674	8092A 8092A/S			
Non-Field Mesh Type		8674/S 8775	7629A	7967	5820A 7198A	3" Tube Dia.
Field Mesh Type	4536 7295C 7389C	8748 8749			4492 7295B	4½" Tube Dia.
	S-10	Bialkali	S-10	S-20	S-10	

Spectral Response

RCA NUMITRON

DIGITAL DISPLAY DEVICES-SEGMENTED INCANDESCENT TYPES

- High Brightness—Fully Adjustable
- Low Voltage Operation
- High Contrast Segmented Digits
- Wide Viewing Angle
- High Reliability rugged Build
- Wide Spectrum

Type	Digital Display	Type	Digital Display
DR2000 DR2100 2R2010 DR2110	0-9 0-9	DR2020 DR2120 DR2030 DR2130	+ — and 1 + —

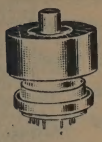
PR2010

DR2100

RCA Numitron types DR200 series and DR2100 series are digital display devices which provide a sharp, high-brightness numeric display. These low-voltage, incandescent-type devices have wide-spectrum light emission which permits the use of filters to obtain a display of any desired color. Intended for use in equipment which requires a numeric display output, these devices are fully compatible with IC decoder/drivers and may be operated in either a direct or multiplex mode.

Partial Listing. See RCA Tube Directory for full Camera Tube Listing.

RCA Power Devices

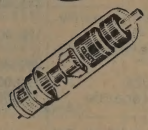


CW OPERATION

These units cover the entire power range from watts to megawatts, and also operate through the ultra high frequency band.

PULSE OPERATION

Special designs specifically for pulse communications, search radar, and accelerator applications. Also useful as regulators and modulators.



RECTIFIERS

Both High-vacuum and Gas-filled. These units convert AC line power to useful DC at all levels of voltage and/or current.

THYRATRONS

Triodes, tetrodes, gas mercury. These units are ideal for the control of high currents in special industrial applications.

IGNITRONS

Special purpose tubes. Ignitrons are used primarily for welding applications for both steady use and intermittent operation.

HEAT PIPES

Isothermal transfer of heat. Special component designed to improve the transportation and dissipation of heat to increase ratings and extend life.

PRODUCT GUIDE FOR POWER DEVICES PWR-506C

SELECTION GUIDE—COMMUNICATIONS

POWER OUTPUT LEVEL	HF SSB	HF Vehicular	VHF TV	FM Broadcast	VHF Aircraft	VHF Vehicular	VHF TV	UHF Military	UHF TV
	Common Carrier Marine Aircraft Military Aircraft ARC Vehicular VRC Portable PRC Shipboard SRC Fixed TRC (FRT)	Civilian 30-50 MHz Military VRC	Low Band Channels 2-6	Civilian FM Broadcast	Commercial 108-132MHz Military ARC	Civilian Communication	High Band Channels 7-13	Aircraft (ARC) Vehicular (VRC) Portable (PRC) Shipboard (SRC) Fixed (TRC) (FRT)	UHF Band Channels 14-83
	1.6-30 MHz	30-76 MHz	54-88 MHz	88-108 MHz	108-144 MHz	148-174 MHz	174-216MHz	225-420 MHz	470-890MHz
	Peak Envelope Power	FM, CW Power	Peak Sync. Power	FM CW Power	AM Carrier Power Class B Linear	FM CW Power	Peak Sync. Power	AM Carrier Power Class B Linear	Peak Sync. Power
10 to 25 W					6146 * 6159B* 8072 8462			7457 6816 6884 7842 7843 8072 8462 8596 4631	
25 to 50 W	6146B 6883B			6146B	8121 8646	6146B 6883B		8121 8072* 8462* 4631* 6816* 6884*	
50 to 100	8072 8121 8462	4631 8 6816 8 6884 8 7843 8 8462 15		(2) 6146B	4633 4637 8072* 8122 8226 8462*	8072 8462		4633 4637 8122 8226 8072* 8462	8226
100 to 250 W	4633 8122 8072	4637 9 8121 15		8121	7650 8121*	8121 8122		7650* 8791	
250 to 500 W		8122 15 8226 9		8122	7213	(2) 8121 (2) 8122		8792 4618 7213	7650
500 W to 1.0 KW	8791		8791	8791			8791	4632	7213
1.0 to 2.5 KW	8792		8792	8792			8792	4628 4635 8437	4632 8501
2.5 Ro 5.0 KW			8793	8793			8793		8501
5.0 to 10 KW	8793		8793	8793			8793		6806
10 to 25 KW	8794		8794	8794			8794		6806

*Plate Modulated
**Page References

NOTE: The tubes listed in this section are not all of the Power Devices. Refer to the tube directory for a complete listing.

Industrial & Special Purpose Tubes

Z-7888 GL-7038

•NEW CAMERA TUBES-IMAGE ORTHICONS

Anti-microphonic design. Choice of faceplate types, storage and integration capability. High resolution, outstanding low light sensitivity. Wide dynamic range. Choice of spectral response photo cathodes. Magnesium oxide and electronic conductive glass for high sensitivity. Life average over 4000 hours. Stickiness and burn in is virtually eliminated: *Field Mesh

3" IMAGE ORTHICONS FOR TV STUDIO CAMERAS

Type	Target & Description	Sig. Noise	Net
5820A	Glass, black and white uses	50:1	1095.00
7293A	Glass, FM version of 5820A*	50:1	1150.00
7629A	Magnesium-oxide	40:1	1700.00
8092A	Magnesium-oxide*	40:1	1870.00
8093A	Glass*	55:1	1150.00
4401	High sens, 5820A; x-ray uses	50:1	1150.00
Z7866	Magnesium-oxide; color*	50:1	1975.00
Z7888	Glass, Long life*	65:1	1890.00
Z7899	Glass, Long life	65:1	1890.00

ORTHICONS FOR SPECIAL PURPOSE APPLICATIONS

Magnesium—oxide targets, non-field mesh types.

Type	Desc. & Appl.	Photo Cathode	Threshold Illum.	Net Each
Z5395	Infra-red response	S-1	10-5 foot candles	6000.00
Z7805	Ruggedized Z5395			7600.00
7967	Most sensitive available	S-20	10-7 foot candles	4840.00
Z7806	Ruggedized 7967			6500.00
7969	UV & visible response	UV	10-6 foot candles	3600.00
Z7807	Ruggedized 7969			5080.00
7538	Visible spectral resp.	S-10	10-6 foot candles	3200.00
Z7409	Ruggedized 7538			4840.00

FIELD MESH TYPES

Z7814	Most sensitive available	S-20	10-7 ft. can.	5500.00
Z7816	Infra-red response	S-1	10-5 ft. can.	6500.00

VIDICONS

Tube Type	Description	1-5
GL-7038	For film pickup applications. . .monochrome or color. . .a direct replacement for the 6198A	175.00
GL-7038v	For use in Chroma channel of the GE Model PE24 camera.	190.00
GL-7325	High sensitivity for live pickup. . .lower lag at low light. . .ideal for industrial use	170.00
GL-7735A	Highest sensitivity, lowest lag at low light levels. . .for studio or remote pickup	150.00
GL-7735B	Highest sensitivity, lowest lag or low light levels, for studio or remote pickup, has higher resolution.	175.00
GL-7697	For cameras with automatic sensitivity control. . .similar to 7735A	170.00
GL-7226	Low heater power. . .for transistorized cameras . . .good live pickup.	315.00
GL-7262A	Low heater rating of 0.6 watt. . .excellent sensitivity and low lag at low light	190.00
GL-7263A	Specially designed to withstand severe shock, vibration and high humidity	470.00
GL-8484	High Sensitivity, high Resolution of 7325	170.00
GLZ-7911	Low Cost Domestic, For General Servacance	75.00
GLZ-7929	Replacement tube for chroma channels RCA TK 42 cameras Color matched set: red, blue, green	3165.00
GL-8134	Replacement tube for RCA closed circuit TV cameras	200.00
GL-8134V	For use in chroma channels RCA TK 27 cameras	370.00
GL-8507A	Separate Field Mesh 7735A	190.00
GL-8541	For transistorized cameras. . .similar to GL-8507 except 0.6 watt rating. . .high sensitivity, low lag	310.00
GL-8572	Broadcast film pickup Sep. field mesh of 7038.	215.00
GL-8572v	Luminance Channel GE Camera Model PE240	235.00
GL-8604	Similar to 8572, except low heater power.	310.00
GL-8573	Live industrial—high sensitivity, short length, low heater power. Sep. field mesh.	275.00

THYRATRONS

Type	Peak Forward Anode Volts	Peak Inverse Anode Volts	Average Cathode Amperes	1-5	6-24	25-49	50-99
GL-3C23	1,250	1,250	1.5	11.98	11.38	10.78	10.18
6D4	350	350	.025	3.20	3.04	2.88	2.72
2D21	650	1,300	0.1	1.49	1.42	1.34	. . .
FG-97	1,000	1,000	0.5	92.75	88.11	83.47	79.02
FG-172	2,000	2,000	6.4	190.00	. . .	. . .	. . .
GL-393-A	1,250	1,250	1.5	14.00	13.30	12.60	. . .
GL-414	3,000	3,000	5.0	390.00	. . .	. . .	. . .
GL-672-A	2,500	2,500	3.2	41.40	39.33	37.26	. . .
GL-678	10,000	15,000	1.6	50.20	47.69	44.55	. . .
2050	. . . .	. . . .	. . .	2.45	2.33	2.21	2.08
2050-A	650	1,300	0.1	2.29	2.18	2.06	1.95
GL-5544	1,500	1,500	3.2	34.10	32.39	30.69	. . . .
GL-5557 (FG17)	2,500	5,000	0.5	9.50	9.03	8.55	. . . .
GL-5559 (FG57)	1,000	1,000	2.5	23.00	21.85	20.70	. . . .
GL-5560 (FG95)	1,000	1,000	2.5	33.00	31.35	29.70	. . . .
GL-5632 (C3-J)	9,000	1,250	2.5	12.70	12.07	11.43	. . .
GL-5665 (C16-J)	1,000	1,250	0.02	52.50	49.88	. . .	. . .
GL-5720 (FG-33)	1,000	1,000	2.5	38.65	36.71	34.79	. . .
5727 (2D21-W)	650	1,300	0.1	3.05	2.90	2.75	2.59
GL-5855	1,500	1,500	18	121.50	. . .	. . .	. . .
GL-6011 (710)	1,000	1,250	2.5	13.00	12.35	11.70	. . .
6012	650	1,300	0.5	8.21	7.80	7.39	6.98
GL-6014 (C1K)	1,000	1,250	1	11.80	11.21	10.62	10.03
GL-6807	1,500	1,500	6.4	40.00	. . .	. . .	. . .
GL-6808	1,500	1,500	6.4	40.50	. . .	. . .	. . .
GL-6809	1,500	1,500	6.4	44.95	. . .	. . .	. . .
GL-7518 (710-L)	1,000	1,250	2.5	14.75	14.01	15.30	. . .
GL-7725	3,500	3,500	2.5	17.60	16.72	. . .	. . .

5-STAR HIGH RELIABILITY TUBES

5-Star Tube Type	Replaces Tube Type	TUBE FUNCTION AND APPLICATION	MIL-E-1 • Specification	1-5	6-24	25-49	50-99
5654	6AK5	Sharp-cutoff RF pentode	5654M/6AK5W	2.70	2.57	2.43	2.30
5670	2C51	Medium-mu twin triode; general purpose	5670	2.90	2.76	2.61	2.47
5725	6AS6	Dual-control pentode; gated amplifier or mixer	5725/6AS6W	3.40	3.23	3.06	2.89
5726	6AL5	Twin-diode; detector or low-current rectifier	5726/6AL5W	2.19	2.08	1.97	1.86
5727	2D21	Thyratron; grid-controlled rectifier or pulse modulator	5727/2D21W	3.05	2.90	2.75	2.59
5749	6BA6	Remove cutoff RF pentode	5749/6BA6W	3.03	2.88	2.73	2.58
5750	6BE6	Pentagrid converter	5750/6BE6W	4.10	3.90	3.69	3.49
5751	12AX7	High-mu twin triode; AF voltage amplifier	5751,5751WA,5751W(1)	2.99	2.84	2.69	2.54
5814-A	12AU7	Medium-mu twin triode; general purpose	5814-W, 5814WB	2.80	2.66	2.52	2.38
5840	. . .	Sharp-cutoff RF pentode	5840, 6205	5.75	5.46	5.18	4.89
5844	. . .	Medium-mu twin triode; computer service	5844 (Sig. C.)	2.72	2.58	2.45	2.31
5899	. . .	Semi-remote-cutoff RF pentode	5899M, 6206M	5.55	5.27	5.00	. . .
5963	. . .	Medium-mu twin triode; computer service	5963(Navy)	1.48	1.41	1.33	1.26
5965A	. . .	Medium-mu twin triode; computer service	. . . .	2.24	2.13	2.02	1.90
6005	6AQ5	Beam power amplifier	6005M/6AQ5W	3.73	3.54	3.36	3.17
6072-A	12AY7	Medium-mu twin triode; AF preamplifier	6072-A-	4.24	4.03	3.82	3.60
6087	5Y3GT	Twin diode; full wave rectifier	5Y3WGTB(Navy)	6.20	5.89	5.58	3.60
6111	. . .	Medium-mu twin triode; general purpose	6111	6.20	5.89	5.58	3.61
6112	. . .	High-mu twin triode; AF voltage amplifier	6112	4.00	3.80	3.60	. . .
6136	6AU6	Sharp-cutoff RF pentode	6AU6WB	4.40	4.18	3.96	3.74
6201	12AT7	High-frequency twin triode; RF amplifier or oscillator	12AT7WA, 12AT7WB(Navy)	3.25	3.09	2.93	2.76
6202	6X4	Twin diode; full wave rectifier	6X4WA	3.28	3.12	2.95	2.76
6203	. . .	Twin diode; full wave rectifier	6203	2.85	2.71	2.57	2.42
6211A	. . .	Medium-mu twin triode computer service	6211(Navy)	4.65	4.41	4.19	3.95
6386	. . .	Medium-mu remote-cutoff twin triode; RF amplifier	6386(Navy)	2.71	2.57	2.44	2.30
6463	. . .	Medium-mu twin triode; computer service	. . . .	9.59	9.03	8.55	. . .
6829	5965	Medaium-mu twin triode; general purpose	6829M	2.75	2.61	2.48	2.34
				6.60	6.27	5.94	5.61

Special Purpose & Industrial Tubes

TRIODES

Type	Description	1-5	6-24	25-49	50-99
2C39A	High mu, ceramic-metal plan. triode 100W pl. diss. 6.3V 1A Fil. 1000V max. pl.	20.75	19.71	18.68	....
2C39WA	Suited for use in grid-isolated VHF and UHF circuits.	22.40	21.28	20.16	....
3-400Z/8163	Small 0-bias pwr. triode providing 1kW pep as a low distortion class B linear.	36.00	34.20	32.40	....
3-500Z	Larger version of 3-400Z	34.00	32.30	.....	....
3-1000Z/8164	Larger vers. of 3-400Z. 7 5V 21A Fil. No. bias with plate v. below 3000V.	88.00	83.60	....	....
3CPN10A5/7815	High MU Ceramic-Metal planar triode for pulse serv. to 3GC 6V1A Fil.	25.50	.....	.....	.....
3CV30000H3	Vapor coiled triode for industrial R.F. heating.	620.00	....	....	....
3CX100A5/7289	Improved version of 2C39.	26.00	....	....	
3CX2500A3/8161	Ceramic Med.-mu pwr. triode, forced air cooled. 7500W output up to 110MHz with 4000 plate v. 7.5V 54A Fil. 2500W plate diss.	206.00	....		
3CX2500F3/8251	Same as 3CX2500A3 exc. flexible leads to simplify grid & fil. conn. Ceramic type.	211.00	....	....	....
3CX3000A1	Ceramic-metal replacement for discontinued glass metal type 3X3000A1	241.00	....	....	....
3CX3000F1	Ceramic-metal replacement for discontinued glass metal type 3X3000F1	245.00	....	....	....
6C21	Pulse-modulator triode. Radiation and forced air cooled 8.2V 18A Fils. 30kV max. pl. v. 15A max. pulse pl. curr., 300W pl. diss.	121.00	....	....	....
100TH	High-mu pwr. triode. Full ratings to 40 MHz 5V, 6.3A Fil. 100W plate diss.	26.00	....	....	....
304TH	Med-mu pwr. triode. Up to 1200W class C with 53W drive. No forced air below. 40 MHz 5 or 10V, 25 or 12.5A. Fil. 3000V max. on pl. 300W pl. diss.	83.00	78.85	....	....
304TL	Low-mu version of 304TH.	83.00	78.85	....	....
450TH	High-mu pwr. triode, up to 1800W class C with 46W drive, cooled by pl. radiation and convection. Ratings to 40 MHz 7.5V 12A. Fil. 6000V max. on pl. 450W pl. diss.	103.00	97.85	....	....
450TL	Low-mu version of 450TH.	103.00	97.85	....	....
592/3-200A3	Med.-mu pwr. triode. Ratings to 150 MHz. Cooled by radiation and forced air. 10V 5A Fil. 3500V max. on plate 200W plate dissipation.	63.00	59.85	....	....
25T	Med.-mu triode. Full Ratings 60 MHz 6.3V 3A Fil. 2000V max. pl. v. 25W plate diss.	43.00	40.85	38.70	....
35T	High-mu triode. Full Ratings to 100MHz 5V 4A Fils. 2000 max. pl. v. 35W plate diss.	47.00	44.65	42.30	....
1000T	High-mu pwr. triode. 3000W class C 60W drive. Forced air cooled, 7.5V 16.5 A Fil.	172.00	....	....	....
5867A	Pwr. triode, 350 W Pl. Diss. 5V. 15A. fil.	35.20	33.44	31.68	....
6696A	Hi Pwr. triode, 60 KW Pl. Diss. 13V. 220A fil.	1090.00	1035.00	....	....
7211	Same mech. as 2C39 but 1/3 larger elect. 6.3V 1.3A Fil. 100W pl. diss.	45.00	42.75	40.50	38.25
7289/3CX100A5	Same as 3CX100A5.	26.90	25.56	24.21	22.87
7698	Same as 7211 except has no air cooler on anode.	45.00	42.75	....	....
7815AL	Airline quality version of 3CPN10A5	34.75	....	....	....

TETRODES & PENTODES

4-65A/8165	Pwr. tetrode. Full Ratings to 150MHz 6V 3.8 Fil. 3kV max. on pl. 65W pl. diss.	32.50	30.88	29.25	....
4-125A/4D21	Rad. beam pwr. tetrode. Ratings to 120MHz 375W class C with 2.5W drive. 5V 7A Fil. 3000V max. on pl. 125W plate dissipation.	44.00	41.80	39.60	....
4-250A/5D22	Compact pwr. tetrode. Forced air cooled. Full Ratings to 110 MHz 1kW Class C with 2.5W drive. 5V 14.5A Fil. 4000V max. on pl. 250W pl. diss.	48.00	45.60	43.20	....
4-400A/8438	Compact pwr. tetrode. Forced air cooled. Full Ratings to 110 MHz 1100W Class C with 6W drive. 5V 14.5A Fil. 4000 V max. on pl. 400 W pl. diss.	51.80	49.21	46.62	....
4-1000A/8166	Rad. beam pwr. tiode. Forced air cooled. Ratings to 110 MHz 3400W Class C with 15W drive. 7.5V 21A Fil. 6000V max. on pl. 1000W pl. diss.	135.00	....	.....	....
4CX250B/7203	Compact pwr. tetrode. Air cooled. 6V 3A Fil. 2000V max. on plate. 250W pl. diss.	35.60	33.82	32.04	....
4CX250K/8245	Compact pwr. Tetrode. Coaxial construc. for cavity oper. Forced air cooled. Ratings to 500 MHz. Useful to 1500 MHz 6V 3A Fil. 2kV max. on pl. 250W pl. diss.	70.00	66.50	....	....
4CX250R/7580W	Rugged compact pwr. tetrode. Forced air cooled. Ratings to 500 Mc. 6V 3A Fil. 2000V max. on plate. 250W plate dissipation.	44.50	42.28	40.05	....
4CX300A/8167	Pwr. tetrode. Air cooled. 6V 3A Fil. 2500V max. on pl., 300W pl. diss.	60.00	57.00	....	....
4CX350A/8321	Like 4CX250B but higher gain and power. Ratings to 500 MHz. Forced air cooled.6V 3.6A Fil. 2000V max. on plate. 350W pl. diss.	48.50	46.08	43.65	....
4CX350F/8322	Same as 4CX350A/8321 except has 26.5V 800 MA Fil.	51.50	48.93	....	....
4CX1000A/8168	Pwr. tetrode. Forced air cooled. Excellent high gain and low distortion Ratings to 110 MHz 6V 10A Fil. 3000V max. on plate. 1000W pl. diss.	200.00	....	....	....
4CX1000K/8352	Ident. to 4CX1000A, but gives better UHF performance to over 400 Mc.	225.00	....	....	....
4CX1500B/8660	Best for low I.M. distortion linear 6V F.I. 3KV. plate.	205.00	....	....	....
4CX3000A/8169	Pwr. tetrode. Ratings to 150 MHz 10V 48.5A Fil. 3KW pl. diss.	420.00	....	....	....
4CX5000A/8170	High pwr. tetrode. Forced air cooled. 16KW class C with 150W drive. Ratings to 110MHz 7.5V 78A Fil. 7500 V max. on pl. 5000W pl. diss.	495.00	....	....	....
4CX10000D/8171	Electrically ident. to 4CX5000A/8170, but larger anode radiator to reduce cooling air requir. or permit up to 10KWpl. diss.	575.00	546.25	....	....
4E27A/5-125B	Pwr. pentode with neutralization requir. simplified or eliminated. Ratings to 75 MHz 375W class C with 2W drive. 5V 7.5A Fil. 4kV max. on pl. 125W pl. diss.	50.00	47.50	45.00	....
4PR60C/8252W	Replaces 715C, 5D21 and Supercedes.	115.00	109.25	....	....
4PR65A/8187	Tethrode for pulse mod., amp., or osc. 6V, 3.8A Fil. 15kV max on pl. 65W pl. diss.	50.00	47.50	45.00	....
4X150A/7034	Compact pwr. tethrode. Air cooled. 6V 3A Fil. 2kV max. on pl. 250W pl. diss.	23.15	21.99	20.84	....
4X500A	Pwr. Tetrode for VHF. 500 W. PL. Diss. 5V. 14A. fil.	127.50	....	....	....
7203/4CX250B	Identical to 4Cx250B/7203.	35.60	33.82	32.04	....

UFH-TV POWER AMPLIFIER KLYSTRON

4KM100LA	4 cavity, 25 KW output, for channels 14 to 36.	9030.00	....	....	....
4KM150LA	4 cavity, 50 KW output, for channels 14 to 36.	11550.00	....	....	....

PREFORMED CONTACT FINGER STOCK

(Available in 3' lengths only) *Double sided

Stk.No.	Type	Width	NET	Stk.No.	Type	Width	NET
28F977	CF-100	17/32"	5.35	28F836	CF-600*	2 1/4"	10.00
28F834	CF-200*	13/16"	6.70	28F837	CF-700	17/32"	6.50
28F978	CF-300	31/32"	7.00	28F838	CF-800	23/32"	6.50
28F835	CF-400*	1 17/32"	10.00	28F839	CF-900	31/64"	9.25
28F979	CF-500	1 3/8"	9.25				

HEAT DISSIPATING CONNECTORS

Size indicates conductor diameter.

Stk.No.	Type	Size	NET	Stk.No.	Type	Size	NET
28F980	HR-1	.055	1.70	28F983	HR-6	.370	1.70
28F981	HR-2	.065	2.85	29F002	HR-7	.130	2.85
28F982	HR-3	.075	3.25	29F003	HR-8	.578	3.25
29F000	HR-4	.105	2.20	29F004	HR-9	.572	2.20
29F001	HR-5	.130	2.20	29F005	HR-10	.514	2.20

VACUUM SWITCHES AND COILS

Stk. No.	Type	Net	Stk. No.	Type	Net
38F261	VS-2	35.50	38F263	24V coil	12.50
38F262	12V coil	12.50	28F984	VS-5	47.00

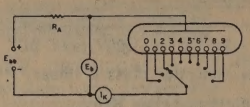
AIR SYSTEM SOCKETS

Stk. No.	Type	NET	Stk. No.	Type	NET
38F992	SK-300, FOR 4CX5000A	110.00	38F248	SK-710FOR 4CX300A	36.40
98F993	SK-410. FOR 4-400A	10.70	38F249	SK-740, FOR 4CN15A 4CX300A	14.30
38F994	SK-510. FOR 4-1000-A-4001	10.70	38F250	SK-760 FOR 4CN15A-4CX300A	14.50
38F995	SK-600, FOR 4X250F 4X150A/400 4X150D-4X250B 4CX250B 4W300B	12.00	38F251	SK770, FOR 4CN-15A (insert) 4CX300A Screen pin grounded	14.50
38F996	SK-610FOR 4X150D- 4X150A/4011 4CX250B-4X250B 4X250F-4W300B	13.60	38F990	SK800B FOR 4CX1000A	69.00
38F247	SK-700 4CX300A	36.40	38F252	SK-810B FOR 4CX1000A	70.00
			38F253	SK900, FOR 4X500A	107.00

NATIONAL ELECTRONICS, INC. READOUT TUBES

NL4998

NL7979-4032


Tube Fundamental Circuit

Cold cathode neon glow discharge tubes displaying numbers, (*) side view, (†) Rectangular end view. Simplicity, ruggedness at low cost. The only active display that will not fade with age. Manufactured under license from Burroughs Corp. Std. Life 90 days warranty. Long life 2 years warranty. Request Bulletin SB-26G.

NL950

NL7037

NL8754

NL8422-5991

MINIATURE—0.3" NUMERAL HEIGHT

Type No.	Ionization Voltage	Cat. Current Peak (Max.)	Type	Socket	Display	Oz.	1-5	6-24	25-49	50-99
NL-7977/4032	170 Vdc	2.0 ma	Long Life	RTS-3	Numeral 0-9	.14	19.00	. . .	. . .	. . .
NL-7009	170 Vdc	2.0 ma	Std. Life	RTS-3	Numeral 0-9	.14	19.00	18.05	17.10	. . .
NL-8502/4021	120 Vdc	2.0 ma	Std. Life-Low Voltage	RTS-3	Numeral 0-9	.14	33.00	31.35	29.70	. . .
NL-4998	170 Vdc	2.0 ma	Min. Long-Life Rect.	RTS-32	Numeral 0-9	.2	21.30	. . .	. . .	. . .
NL-4031	170 Vdc	2.0 ma	Long Life	RTS-3	Symbol ±	.14	19.00	. . .	. . .	. . .

SOLDER IN—.5" NUMERAL HEIGHT

NL950	170 Vdc	15 ma	Long Life*	None	Numeral 0-9	. .	8.00	. . .	. . .	. . .
NL5750	170 Vdc	15 ma	Long Life*	None	Dec. Points	. . .	6.75	. . .	. . .	. . .
NL1222	170 Vdc	22 ma	Long Life	·····	Rt. Hnd. Dec. Pts.	.4	6.65	6.65	5.65	5.65

STANDARD—0.6" NUMERAL HEIGHT

NL-803	170 Vdc	3.5 ma	Long Life*	RTS-11	Numeral 0-9	.5	9.00	. . .	. . .	. . .
NL-809	170 Vdc	3.5 ma	Long Life†	RTS-4	Numeral 0-9		17.35	. . .	. . .	. . .
NL-840/8754	170 Vdc	3.5 ma	Long Life*	RTS-11	Numeral 0-9	.5	8.00	. . .	. . .	. . .
NL-900	170 Vdc	3.5 ma	Long Life*	RTS-14	Numeral 0-9	.3	9.00	. . .	. . .	. . .
NL-8422/5991	170 Vdc	3.5 ma	Long Life†	RTS-4, 10	Numeral 0-9	.3	15.75	14.96	14.17	. . .
NL-8421/5092	170 Vdc	3.5 ma		RTS-1, RTS-2	Numeral 0-9	.4	15.75	14.96	14.17	. . .
NL-6844A	170 Vdc	4.0 ma	Std. Life	RTS-1, RTS-2	Numeral 0-0	.4	11.00	10.45	. . .	. . .
NL-5992	170 Vdc	3.5 ma	Long Life†	RTS-4, 10	Symbol‡	.3	15.75	14.96	14.17	. . .
NL-50911	170 Vdc	3.5 ma	Long Life-Wide Angle	RTS-1, RTS-2	Symbol‡	.4	15.75	14.96	14.17	. . .

SUPER—0.8" NUMERAL HEIGHT

NL-8423/6091	170 Vdc	4.5 ma	Long Life Wide Angle	RTS-1, RT-2	Numeral 0-9	.6	19.00	. . .	. . .	. . .
NL-7153	170 Vac	5.0 ma	Std. Life	RTS-1, RT-2	Numeral 0-9	.6	14.50	13.78	. . .	. . .

LARGE—1.375" NUMERAL HEIGHT

NL-8091	170 Vdc	6.5 ma	Long Life Wide Angle	RTS-5	Numeral 0-9	1.7	22.50	. . .	. . .	. . .

JUMBO—2" NUMERAL HEIGHT

NL-7037	200 Vdc	10 ma	Long Life Wide Angle	RTS-5	Numeral 0-9	3	26.00	. . .	. . .	. . .

DG10E READOUT TUBE

The **DG10E** is a compact digital Readout tube combining the plus-minus and righthand decimal point in the same tube. Added versatility is afforded by inclusion of a grid which allows easy strobing of the display which is a highly attractive light green. Green and blue filters allow highest light output although a subdued red is also possible, Power requirements are very small. Total grid and anode current is approximately 4 ma. Filament requirements are 0.9 volt at 100 ma.

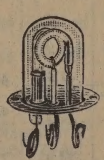
DG10E NET **5.00**

SOCKETS FOR ABOVE

Stock No.	Type	NET EACH	Stock No.	Type	NET EACH	Stock No.	Type	NET EACH
28F668	RTS-1	.90	28F692	RTS-6	.85	28F696	RTS-11	.50
28F672	RTS-2	.75	28F693	RTS-8	.90	28F697	RTS-14	.40
28F669	RTS-3	1.00	28F694	RTS-9	.90	40F6308	RTS-15	.40
28F670	RTS-4	.90	28F695	RTS-10	.90	28F698	RTS-32	1.50
28F671	RTS-5	1.25				28F676	RTS-44	.54

AMGLO INDUSTRIAL FLASHTUBES

U-35-B


HD-2

ST-25

FLAT FIELD REFLECTOR ASSEMBLIES

Aluminum construction 86% reflective efficiency. 4-pin plug-in base (78S4 socker). T in part no. denotes ST-25 trigger coil in bases. Uses H-88 tube, 350-600 VDC. 150 Joules max. input.

ARA400SD-H88-P4. Flat field Semi-diffused finish for photographic or industrial use. Reflector dia: 4-7/32", depth, 3-7/8". Voltage 350-600 VDC. Tube used: H-88.
62F2211. 1-9. . . .21.00 10-49. . . .18.90

ARA-400S-H-88-TP4. 4" Reflector with trigger coil & bright fin. for stroboscopic use where "hot spot" is desired.
62F2212. 1-9. . . .24.00 10-49. . . .21.60

ARA-400S-H-88-P4. As above without trigger coil.
62F2213. 1-9. . . .21.00 10-49. . . 18.90

ARA300SD-88-TP4. 3" Reflector with trigger coil. Semi-diffused finish for use as a many wheel balancer type of equipment.
62F2214. 1-9. . . .23.25 10-49. . . .20.95

U-35 SERIES STROBOSCOPIC TUBES

Use 1-2 MFD for high flashing rates and 2-4 MFD at rates to 30 second. Volt: 300-600 VDC. Max. Joules1uv1oFlash—50 Joules. Trigger coil ST-25. Min. self-ion. V: 1500.

Stk. No.	Type	Description	1-9	10-49
62F2208	U-35-T	With Trig. Band	8.70	7.80
62F2209	U-35-B	As above		
62F2210	U-35-BS	Mount in 78S6 socket Similar to U-35-B Silver stripe to facilitate trig.	9.25 8.80	8.35 7.92

FLASHTUBES

Flashtubes ideal for aircraft strobe beacons, photographic speedlight, etc. Operating volt: 450-900. Max. input: 125 joules-/flash. Max. Power: 10 watts. Output: 4500 Lumen sec at 125 joules; 10 joules—1 million lumens.

Stk. No.	Type	Description	1-9	10-49
62F2201	H-88-T	With Trig. Band	10.55	9.55
62F2202	H-88-B4	With 4 Pin Plug In-Base	14.50	13.25

ENERGY STORAGE CAPACITORS

CE5254C. 525 MFD. 450 Volt. 53 Joules storage.
62F2215. 1-9. . . .14.50 10-49. . . .12.35

CE10045C. 100 MFD at 450 VDC. 10 Joules storage.
62F2216. 1-9. . . .8.00 10-49. . . .6.50

HD SERIES REFLECTIVE BASE FLASHTUBES

Ultra high efficiency, increase in reflector working area. Neoprene mounting. Xenon filled pyrex tube with pyrex cover for up to 100,000 flashes.

Stock No.	Type	Description	Max. Input	1-9	10-49
62F2203	HD-1	U-shaped	50J/450V	12.00	10.80
62F2204	HD-2	1-turn Helical	150J/450V	15.00	13.50
62F2205	HD-2A	2-turn Helical	200J/900V	16.85	15.15

FLASHTUBE MANUAL

AMGLO FLASHTUBE. Second Edition. Engineering manual containing circuits, design-data and other useful information on design of strobe lighting systems.
62F2206 NET 2.00

Stk. No.	Type	Application	1-9	10-49	50-99
62F2221	ST25	For V-35/H-38	2.95	2.65	2.35
62F2220	MT55	HD Series 4 lead output 24KV peak	5.95	5.45	4.35

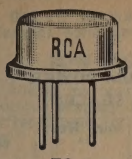
HD—TUBE REFLECTOR

Type **AR365SD.** Reflector for HD-Series Tubes. Step Reflector design provides 60° beamwidth. 6¾" Dia. x 2⅛" deep.
62F2222 1- 9 ..... 8.80
10-49 ..... 7.90

Photocells & Dry Reed Switch

RCA

BROAD-AREA CADMIUM-SULFIDE (CdS) PHOTOCELLS



TO-8

SQ2520

SQ2535

7163

GLASS-METAL TYPES

1" DIAMETER

Type	Max. DCV or Peak ACV	Power Dissipation Watt Cont. Service	Resistance at 2 Foot Candles Ohms	1-99	100-999	1000-Up
7163	600	0.75	17,000	1.21	.88	.73
4448	600	0.75	14,000	1.32	.96	.80
4404	600	0.75	9,000	1.32	.96	.80
4403	350	0.75	3,000	1.21	.88	.73

½"-DIAMETER TYPES (Modified TO-8 Case)

Type	Max. DCV Peak	Power Dissipation Watt Cont. Service	Resistance at 2 Foot-candls Ohms	1-99	100-999	1000-Up
SQ2521	250	0.35	14,000	1.40	1.02	.85
SQ2520	200	0.35	850	1.32	.96	.80
SQ2556	200	0.35	850	1.44	1.05	.87

¼"—DIAMETER TYPES (Modified TO-5 Case)

SQ2534	300	.075	8,000,000	1.24	.90	.75
SQ2529	300	.075	900,000	1.24	.90	.75

(¼"—DIAMETER TYPES (Continued)

Type	Max. DCV or Peak ACV	Power Dissipation Watt Cont. Service	Resistance at 2 Foot-candles Ohms	1-99	100-999	1000-Up
SQ2508	300	.075	58,000	1.24	.90	.75
SQ2519	300	.075	10,000	1.16	.84	.70
SQ2536	150	.075	3,800	1.24	.90	.75
SQ2554	150	.075	2,800	1.13	.82	.68
SQ2555	200	.075	20,000	1.24	.90	.75

1/5"—DIAMETER TYPE (Modified TO-18 Case)

SQ2535	200	0.03	26,000	1.57	1.14	.95

DUAL ELEMENT TYPES (Modified TO-5 Case)

SQ2557	100	.075	115,000	1.40	1.02	.85
SW2558	100	.075	13,000	1.57	1.14	.95

BROAD-AREA CADMIUM-SULFO-SELENIDE PHOTOCELLS

GLASS-METAL TYPES

⅛" DIAMETER TYPES (MODIFIED TO-5 CASE)

Type	Max. DC or Peak AVC	Power Dissipation Watt Cont. Service	Resistance at 2 Foot-candles Ohms	1-99	100-999	1000-Up
SQ2544	100	.075	2,400	1.90	1.38	1.15
SQ2544V1	150	.075	6,000	1.90	1.38	1.15

⅛"—DIAMETER TYPE (Modified TO-18 Case)

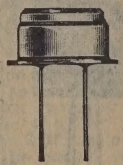
Type	Max. DC or Peak ACV	Power Dissipation Watt Cont. Service	Resistance at 2 Foot-candles Ohms	1-99	100-999	1000-Up
SQ2543	100	0.3	8,000	2.06	1.50	1.25

GENERAL ELECTRIC

PHOTOCONDUCTIVE CELLS

Hermetically sealed after evacuation and back filled with dry air to reduce the moisture content to approx .015%. Cells come in three basic sizes, four power ratings, and multiple resistance ratings. Wide range enables the designer to select a maximum power dissipation of 75, 250, 300 or 600 mw. By using cells to operate many devices directly, amplifying stages can be eliminated and overall circuits greatly simplified. Cells have very high sensitivity and spectral response peaks in the visible light range.

Near maximum response obtained over large portion of the spectral region. All are in glass-metal packages. Have flexible leads and small size to dissipation ratio. No external shields required. May be used for annunciators, anemometers, camera aperture control. *Dia. excludes flange.



Type	Wave Light. Spec. Res.	Max. pwr. dis. mw	Max. Appl. Volts	Resistance @2('-C)	Resistance @100 ('-C)	Amb. Temp. Rng. C.	Max. dia.*	1-249	250-Up
A-33	5500±700Ang.	75	30	6300Ω	360Ω	—40° to +65°	.330"	1.42	1.02
A33P1	5500 Ang.	50	30	6300Ω	360Ω	—40° to +65°	.330"	.82	.60
A-35	5500±700Ang.	75	50	12000Ω	900Ω	—40° to +65°	.330"	1.34	.96
A-36M1	5500±700Ang.	75	60	30000Ω	1000Ω	—40° to +65°	.330"	1.67	1.20
B-46	6100±600Ang.	250	60	1250Ω	100Ω	—40° to +65°	.510"	1.42	1.02
B-425	6100±600Ang.	250	250	9100Ω	400Ω	—40° to +65°	.510"	1.42	1.02
†C-425P1*	7300±600Ang.	50	250	15000Ω	600Ω	—40° to +65°	.470"	.75	.54
†B425P1	6100Ang.	200	250	9100Ω	400Ω	—40° to +65°	.510"	.75	.54
B430	6100±500Ang.	250	300	15000Ω	600Ω	—40° to +65°	.470	1.42	1.02
B1035M1	6100Ang.	600	350	12000Ω	500Ω	—40° to +65°	1.120"	1.47	1.06
B1035M2	6100Ang.	600	350	5500Ω	300Ω	—40° to +65°	1.120"	1.47	1.06
B-1035M3	6100±500Ang.	600	350	2750Ω	200Ω	—40° to +65°	1.120"	1.47	1.06

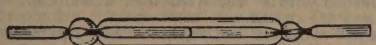
+Plastic encapsulated (not hermetically sealed) *Cadmium-selenide device.

PHOTOCONDUCTIVE CELL-LAMP COMBINATION

Photoconductor-lamp combination includes cadmium-sulfide (PL5C1 is cadmium-selenide) photoconductive cell and a variable illumination source enclosed in a light-tight package. Photoconduction is controlled by varying the voltage to the light source. Intended to be used for circuit isolation as a potentiometer free of moving-contact noise, and for low-level switching.

Type	Lamp Volts Current	Max. Volts	Resistance 20%V	Resistance 90%V	Temp.	1-249	250-499
PL5B1	5V-60Ma	250	40Kr	200 r	—40° +65°	4.18	3.00
PL5B2	5V-60Ma	60	3400	60	—40° +65°	4.18	3.00
PL5C1	5V-60Ma	200	20Kr	200 r	—40° +65°	4.18	3.00

DRY REED SWITCH



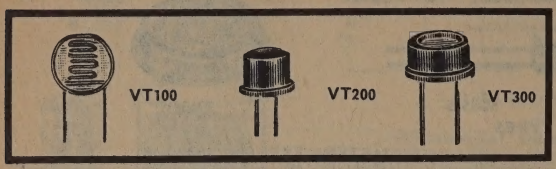
Contains a pair of magnetic overlapping, contact bearing canti-lever reeds sealed in a glass tube filled with dry inert gas. Life expectancy 20 million cycles. Operating temperature —65°C to 150°C. Shock without false operation. 40G's except DR100, 15G's. Length, with leads 3.21", Dia. .215". Contacts; normally open. Max. voltage 250 volts.

Type	Contact resist.	Contact material	Max. current	1-49	50-Up
DR100	150 Mohm	Diffused Gold	0.25 amp	1.00	.80
DR101	50 Mohm	Diffused Gold	3.0 amp	.75	.60
DR113	50 Mohm	Rhodium Plate	3.0 amp	1.45	1.13
DR121	150 Mohm	Rhodium over Gold	0.25 amp	1.25	1.00
DR123	150 Mohm	Rhodium over Gold	0.25 amp	1.25	1.00
DR125	150 Mohm	Diffused Gold	0.25 amp	1.00	.80
DR138	100 Mohm	Copper & Diffused Gold	0.25 amp	2.45	1.95
DR145	150 Mohm	Rhodium over Gold	0.25 amp	1.25	1.00
DR120	50 Mohm	Tungsten	3.0 amp	5.00	4.00

VACTEC Photo Cells

CdS AND CdSe VT PHOTOCONDUCTIVE CELLS

Ideal for circuit board mounting. Second digit indicates spectral peak 0=CdS5650A, 1=CdSe7350A, 2=CdS5150A, 3=CdS5500A (for high speed switching), 4=CdSe6750A, example: VT312 is type 1CdSe7350A. All have max. volt. of 300 except (*) 200 and ( ) 100. (**) indicates the minimum dark resistance (ohms) 5 seconds after 2 Ft-C.



VT-100(MAXIMUM POWER 200 mW) NON-HERMETIC

Stock No.	Type	Clairex Equival.'	2 ft. C Res. in K Ohms	Min. Res. **	1-99	100-999
61F1016	VT-10L*	.....	1.6	100K		
61F1017	VT-101*	.....	3	300K		
61F1018	VT-101H*	.....	6	1 meg		
61F1019	VT-102L	.....	9	5 meg		
61F1021	VT-103L	.....	32	10 meg		
61F1027	VT-112	.....	22	50 meg	.90	.63
61F1030	VT-121*	.....	3	300K		
61F1032	VT-122L	.....	9	5 meg		
61F1037	VT-132*	.....	10	5 meg		
61F1040	VT-14L*	.....	.6	100K		
61F1041	VT-141*	.....	1.2	500K		

VT-200 (50mW MAXIMUM POWER. TO-18 HERMETICALLY SEALED.)

Stock No.	Type	Clairex Equival.	2 Ft-CRes. in K Ohms	Min. Res. **	1-99	100-999
61F1065	VT-201†	.....	4.3	500 K		
61F1066	VT-202†	CL905L	8	750 K		
61F1068	VT-204L	CL905N	88	10 meg		
61F1069	VT-204	CL905	110	20 meg		
61F1071	VT-211†	.....	2.3	500 K		
61F1072	VT-211H†	CL603AL	3.5	1 meg		
61F1073	VT-212L†	CL903L	6	5 meg	1.50	1.15
61F1077	VT-214L	CL903N	64	100 meg		
61F1078	VT-214	CL903	140	200 meg		
61F1081	VT-225	CL902	1000	200 meg		
61F1087	VT-241†	CL604L	2	500 K		
61F1089	VT-242L†	CL604M	8	1 meg		
61F1090	VT-242†	CL904N	15	10 meg		

Note: Series CL600's have all glass packages.

VT-300 125 mW (MAXIMUM POWER TO-5 HERMETICALLY SEALED)

Stock No.	Type	Clairex Equival.	2 Ft-CRes. in K Ohms	Min. Res. **	1-99	100-999
61F1092	VT-30L*	.....	1.8	100 K		
61F1093	VT-301*	CL705L	3	200 K	1.50	1.15
61F1096	VT-302	.....	16	5 meg		
61F1097	VT-303L	CL705HL	32	10 meg		
61F1098	VT-303	.....	70	10 meg		
61F1099	VT-304	CL705	144	50 meg		
61F1101	VT-311L*	CL703L	2.1	500 K		
61F1102	VT-312H	CL703M	30	50 meg	1.50	1.15
61F1103	VT-313L	CL703A	60	100 meg		
61F1104	VT-314		140	200 meg		
61F1108	VT-333L*	.....	14	5 meg		
61F1109	VT-333*	CL705HL	28	10 meg	1.50	1.15
61F1110	VT-34L*	CL704L	.6	100 K		

VT-500 (500 mW MAXIMUM POWER. TO-8 HERMETICALLY SEALED.)

Stock No.	Type	Clairex Equival.	2 Ft-CRes. in K Ohms	Min. Res. **	1-99	100-999
61F1123	VT-50L*	CL505L	1.3	100 K		
61F1125	VT-502L	CL505	8	1 meg	1.50	1.15
61F1128	VT-512L	CL503	9.2	10 meg		
61F1129	VT-522L	CL502L	9	1 meg		
61F1131	VT-523L	CL502	36	10 meg		
61F1132	VT-54L*	CL5M4L	.25	100 K	1.50	1.15
61F1134	VT-542L	CL504	1.5	1 meg		

Note: CL504 and 502 have ½" all glass package.

DUAL ELEMENT CELLS—MAX. POWER: 50 mW EACH ½

Stock No.	Type	Clairex Equival.	2 Ft-CRes. in K Ohms	Min. Res. **	1-99	100-999
61F1117	VT-302 2*	CL702L/2	16	5 meg	2.20	1.70
61F1119	VT-312 2*	.....	5	1 meg		
61F1121	VT-34L 2*	CL704L/2	1.5	100 K		

VACTROL PHOTOCELL LAMP CONTROL MODULE

Package capable of circuit board mounting for electronic amplifier use. Epoxy sealed metal enclosure. .100" standard lead centers. Minimum off-res: 100 megohms. Min. off Resis on VT12002N is 1 meg. Dia. 9/16". VT-6005 equal to the Clairex CLM4006; VT10030 like the CML5012.

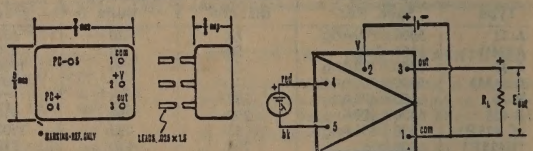
Stock No.	Type	Max.on Ohms	Rise	Max. LampV	1-49	50-99	100-499
61F1012	VT6005	50	60 ms	6	2.20	1.65	1.32
61F1013	VT10150	1.5K	115 ms	10	2.14	1.60	1.28
61F1014	VT10030	300	120 ms	10	2.14	1.60	1.28
61F1015	VT1.5040	400	130 ms	1.5	2.14	1.60	1.28
61F1150	VT12002N	200	8 ms	120	2.14	1.60	1.28
61F1151	VT120100N	1000	5 ms	120	2.14	1.60	1.28

ALL SOLID STATE VACTROL

The first light emitting diode/photoresistor control (LED-PC). The LED Vactrol utilizes a high efficiency light emitting diode to achieve high performance at a relatively low signal power. Operation with adequate resistance change down to 1 milliwatt of input power. Light-to-dark ratio of 1000:1 or greater. Operation at 75 milliwatts input power will permit a 40,000-hour life for the LED. No filaments to vibrate; high shock resistance. Available in TO-8 hermetically sealed enclosure or smaller axial configuration. Response time of photocell is proportional to input power. Vf for LED is 1.5 VDC. Hermetically sealed model VT-005-8) axial configuration model VT-030-18. Size: 61F1148—Mod. TO-8) 61F1149—.220 dia. x .250 axial.

Stk. No.	Type	Maximum signal current for 1 killiohm cell resistance	1-9	10-99
61F1148	VT-005-8	5 ma	15.50	13.70
61F1149	VT-030-18A	20 ma		

PHOTOCELL VOLTAGE MULTIPLIER



Model PVM-1. This amplifier when used with any of the special Vactec photocells, converts it to a constant current source. Combination of cell and PVM makes a solid state equivalent of gas or vacuum phototube. Large voltage changes can be readily obtained with high load resistances. Frequency response from DC to 15KHz available with small area cells. Low supply voltage and current drain make this unit ideal for battery operation. Input: 3-15VDC @ 200μA, Output 4μA/fc Inactive cell area, Response: up to 10 usec., Peak Spect. Range: 5750°A, Temp. range: —25°C to +65°C.

Stock No.	Type	1-9	10-99	100-999
61F1137	PVM-1	3.50	3.00	2.75

SELENIUM PHOTOVOLTAIC CELLS

Constructed of steel Selenium, molecular layers of CdS and CdO. #30AWG vinyl coated wire leads on unmounted cells. May tolerate 100°C. "L" in type indicates soldered leads. Type A—long lived, most resistant to chemical fumes, more sensitive to shorter wavelengths; Type B—for higher current output and less fatigue. * indicates 100 Ft-C, Ohms, 75"F, light source 2850ßK ** means Epoxy (clear). *** Hermetic, blass to metal case.

Stock No.	Type	Case	Output Min. Microamp	1-9	10-99	100-999
61F1001	R1LA	1.13 Diam	220	2.45	2.05	1.65
61F1002	S1LA	44 x 1.69	80	1.75	1.45	1.15
61F1003	S100LA	.89 x 1.69	360	2.60	2.15	1.75
61F1004	S100LB	.89 x 1.69	360	2.60	2.15	1.75
61F1007	R75EA**	2" Diam	400	15.00	12.00	10.00

PHOTOCELLS FOR USE WITH PVM-1

All cells furnished with 6" #30 AWG lead wires. Cells less than 0.045" thick and are coated with clear epoxy.
Other cell sizes available on request. Peak spectral response occurs at approx. 574 millimicrons of wavelength.

Stk. No.	Part #	Size	Active Area (in. sq.)	Prices 1-9	Prices 10-99
61F1138	ZRX5LB	.25"d	.05	1.82	1.49
61F1140	ZRX15LB	.500"d	.16	1.82	1.49
61F1141	ZRX80LB	1.0"d	.52	2.20	1.83
61F1142	ZR5LB	1.375"d	1.18	2.75	2.26
61F1145	ZS1LB	.44x.73"	0.31	1.93	1.60

GENERAL ELECTRIC

LOW-VOLTAGE ALPHANUMERIC READOUT DISPLAY TUBES

Perfectly suited for computer displays, counters, production and test equipment. Because these readout display tubes have a total power requirement less than 200 milliwatts, they can be driven by a wide variety of commercially available integrated circuit logic packages.

Fluorescent segments are mounted on a single substrate to eliminate viewing difficulties due to parallax and to assure extra durability which makes tubes particularly adapted to portable product applications. Blue-green characters provide 200 foot-lamberts illumination for viewing range in excess of 40 feet and parallax-free viewing angle of 150°. With appropriate filters, other colors can be obtained from the same readout.

Operate in the very high speed range through the use of phosphor segments energized by electrons emitted from a directly heated common cathode. Form numerals 0 through 9, plus letters A, C, E, F, G, H, I, J, L, O, P, S, U and Y. Filament operating temperature is very low compared to "conventional" tubes and lamps. Low power, low voltage and rigid construction assure reliable long-life operation.

Y-1938 displays measure 0.570 inches high by 0.360 inches wide. Enclosed in standard T-6½ glass bulb which has miniature 9-pin socket. Overall dimensions: 1.750 inches high by 0.845 inches diameter.

Y-1939 has the same configuration and specifications as Y-1938, with two exceptions: decimal point display and a 10-pin miniature socket.

Y-4075 is especially suited where space is at a premium. Character displays measure 0.430 inches high by 0.230 inches wide. Features decimal point display. Packaged in miniature T-3 glass bulb with 10-pin socket. Overall dimensions: 1.625 inches high by 0.400 inches diameter.

Y-1938. .....1-49.....5.30 each 50-99.....4.55 each

Y-1939. .....1-49.....5.75 each 50-99.....5.00 each

Y-4075. .....1-49.....5.15 each 50-99.....4.00 each

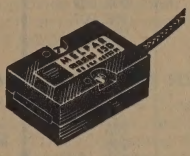
Y-1938

Y-1939

Y-4075

MELPAR, INC.

PHOTOELECTRIC READER



Consists of light source, lens and photocell. Utilizes the advantages of detection by reflected light. Lamp, 6v at 0.2 amp; dc recommended; nominal life 10,000 hr at 5.4v. Photocell; nominal input, 20vdc. Max. input, 300 vdc. 50 mv max. dissipation. Nom. response: 7250 angstroms, std. Maximum counting rate on std. unit; 300 counts per second. Versatile; counts, cues, sorts and inspects. Features small size (0.6 cu. in.), and insensitivity to ambient light.

Stk. No.	Description	1-3	4-9	10-24	25-49	50-Up
99F850	150 Reader	24.95	21.00	18.50	17.00	16.00

Replacement lamp for 150. **99F871**.....75

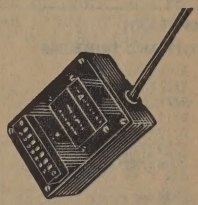
MODEL 200 PHOTOELECTRIC READER

Companion to the 150, designed for use in automatic control systems where target detection at ranges from 1" to 100' is required. See specifications above.

Stk. No.	Description	1-9	10-24	25-49	50-Up
99F851	200A Reader	36.95	32.95	29.95	28.95

Replacement lamp for 200. **99F872**.....1.50

PHOTOELECTRIC CONTROL UNITS



Transistorized photoelectric control units provide high reliability at low cost for automatic control systems using the companion photoelectric readers 150, and 200A. These control units feature long life, ease of maintenance and highly simplified installation. In one compact unit are contained a power supply, amplifier and controlled switching.

Model 155A. Control unit companion to the 150 photoelectric reader. Input power: 115V, 60HZ, 6W. The control relay is SPDT, 115V 1A non-inductive. The maximum operating rate is 1000/Min. Complete with 5' cord. Case size: 4" x 2⅞" x 1½".

Model 205A. Control unit companion to the 200A photoelectric reader. Input power: 115V, 60HZ, 17W. The control relay is SPDT, 115V 1A non-inductive. Maximum operating rate 1000/Min. 5' cord included. Case size: 6¼" x 3¾" x 2".

Stk. No.	Type	1-3	4-9	10-24	25-49	50-Up
99F852	155A	44.95	39.95	36.95	34.95	33.95
99F853	205A	49.95	43.95	39.95	37.95	36.95

SERIES LIGHT L10 CHOPPER

Economical light chopper used for light beam modulation, pulsing, scanning, sweeping, and control. Exclusive features: Compact size, jeweled bearing, lower power input, wide angle of excursion (up to 20°), optical quality, high reflectivity and replaceable mirror and bearings. Specifications: Input power: Sine wave, 1½ v. (typical). Power consumption: 25 milliwatts. Mirror finish: aluminized front surface or optical mirror. Mirror size, 1 Cm^2. Frequency to 500 Hz std. Size $1\frac{29}{32}$" x $1\frac{15}{32}$" x .8".

Stk. No	Description	1-3	4-9	10-24	25-49	50-Up
99F854	L10 Chopper	55.95	47.95	38.95	33.95	29.95

TUNING FORK OSCILLATORS

A combination of tuning fork and high gain amplifier circuit which generates a sq. wave output with the application of dc voltage. Accuracy; ±.1% @ 0 to 65°C std., —40° to +100° operational. Input voltage: 12VDC. Output: Square wave, approx. 50% p-p min. of output voltage into 10K external load. The terminals are solder hooks which can be cut off to pin for printed circuit mounting. Typical applications: lab. std., test equipment, motor control, timers, etc. Stable, rugged and reliable.

The 10HDN6 is $1\frac{29}{32}$" x $1\frac{15}{32}$" x $1\frac{21}{32}$". All others are $1\frac{29}{32}$" x $1\frac{15}{32}$" x .4".

* Divided to 60HZ from 480 HZ.

Stk. No.	Model	HZ	1-9	10-24	25-49	50-Up
99F855	10HDN6	60*	89.95	74.00	66.00	64.00
99F856	10N4	400	59.95	47.00	40.00	38.00
99F857	10N10	1000	59.95	47.00	40.00	38.00
99F858	10N24	2400	59.95	47.00	40.00	38.00

WHEREVER YOU ARE, THERE IS A NEWARK FACILITY
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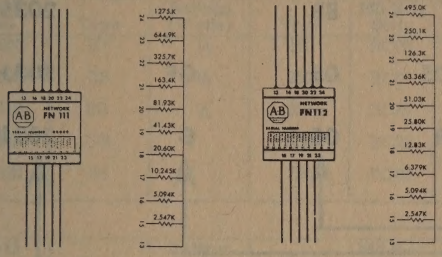
Allen Bradley Precision Resistor Networks

These thin film precision resistor networks are used in precision attenuators, voltage dividers, filter networks, measurement bridges, analog to digital converters, digital to analog converters, voice coding circuits and many other electronic circuits requiring close tolerance and low temperature coefficient resistors.
Provide tight absolute accuracies, low temperature coefficients of resistances and excellent tracking characteristics in a single, easily handled package. The excellent tracking characteristics of these networks are enhanced by depositing all resistors at the same time on selected glass substrates. Interconnections within each network are part of the deposited film, ensuring integrity and reliability in the circuit. Environmental protection is provided by use of multi-layer packaging techniques, including formulated proprietary encapsulants and epoxy boxes.

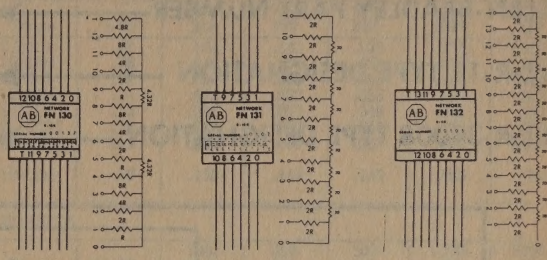


10 BIT BINARY ARRAY NETWORK

Precision Resistor Network specially designed for 10 bit binary operation with Fairchild's μA722 Integrated Circuit. Type FN111 is carefully trimmed, according to the Fairchild Semi-conductor μA722 Data Sheet, to provide network performance parameters necessary for 8 ± ½ bit system accuracy over the temperature range 0°C to +55°C. Size: ⅞"x⅞"x¹³⁄₆₄".

3 PLACE BCD ARRAY NETWORK

Precision Resistor Network designed for 3 place BCD operation (0-399) with Fairchild's μA722 Integrated Circuit. Type FN112 exhibits the network parameters necessary to provide 8 bit system accuracy (−20°C to +85°C) with ± ½ bit unit error of 400 ppm (0.04%) allocated to the resistors. Size: ⅞"x⅞"x.0205 max.



TYPE NO. FN131 & FN132

Designed for operation in H Panel D/A converter applications. Interconnections within network are a part of deposited film, ensuring integrity and reliability of circuit. Excellent tracking characteristics of networks are enhanced by depositing all resistors at one time on selected glass substrate. Environmental protection is provided by use of multilayer packaging techniques. Operating temp. range is −55°C to +125°C. Storage temp. range is −65°C to +125°C. Latter resistance tolerance is ±10% @ 25°C.
Type FN130, 12 bit network, 3 place BCD. Ladder resistance (R): 10K. Operating voltage: ±20 V Max. Network full scale accuracy: ± ½ LSB (±0.030%). Type FN131, 10 bit R/2R network. Ladder res. (R): 10K. Oper. volt: ±30 V Max. Network Accuracy: ± ½ LSB (0.048%). Type FN132, 13 bit R/2R network. Ladder res. (R): 5K. Oper. volt: ±20 V Max. Network accuracy: ± ½ LSB (0.006%).

ENDURANCE TESTS FOR THIN FILM NETWORKS

Temperature cycling, (per MIL-STD-202D, Method 102A, Test Condition C): 5 cycles from −65°C to +125°C. Load life, (per MIL-STD-202D, Method 108A, Test Condition D): rated load @ +125°C for 1000 hours. Humidity, (per MIL-STD-202D, Method 103B, Test Condition A): 90%-95% relative humidity, +40°C, load of less than 20% of rated load per resistor. Moisture resistance, (per MIL-STD-202D, Method 106C, except final measurements shall be made at room ambient conditions): insulation resistance greater than 10^6 ohms. Vibration, (per MIL-STD-204B, Test Condition B): 15G peak. Shock, (per MIL-STD-202D, Method 205D, Test Condition B): 30G peak, 11 milliseconds. Resistance to solder heat, (per MIL-STD-202D, Method 210, Test Condition B): 10 seconds @ +260°C. Terminal strength, (per MIL-STD-202D, Method 211A, Test Condition A): 3 lb. weight. Dielectric withstanding voltage, (per MIL-STD-202D, Method 301, Barometric pressure per MIL-STD-202D, Method 105C, Test Condition B): 500 V, 300 V respectively. Insulation resistance, (per MIL-STD-202D, Mth Method 302, Test Condition A. Minimum value): 10^{12} ohms.

Stock No.	Type	1-9	10-24	25-49	50-99
10F1340	FN111	45.00	30.00	22.25	20.00
10F1341	FN112	41.50	27.75	20.50	18.50
10F1342	FN130	50.00	33.25	24.50	22.25
10F1343	FN131	38.00	25.50	18.75	17.00
10F1344	FN132	104.50	69.75	51.25	46.50

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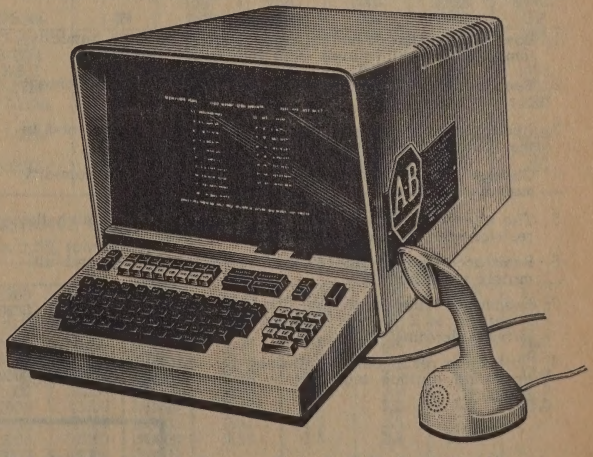
- Steady Product Flow Insures In-Stock Condition —Newark Can Fill Most Orders "Off the Shelf'
- Five Installations—Chicago, Minneapolis, Grand Rapids, Detroit and Cincinnati—Are Tied Into the Program



Newark has a direct computer line into Allen-Bradley's main order facility. Now with computer speed Newark can replenish its stock of Allen-Bradley components only three days from initial order rather than the usual three weeks. Newark has established this computer-age link with Allen-Bradley so that we can serve you better with faster service and greater reliability.

With its new IRIS (Instant Response Information System), Newark's purchasing department can 'talk' directly into Allen-Bradley's computer—thus eliminating the people-to-people paperwork normally required before computer processing.

This system—incorporating a cathode ray tube terminal at Newark feeding directly into Allen-Bradley's computer—is the first of its kind in any industry. Newark has adopted it because it will enable us to keep a full stock of Allen-Bradley components at all times and in all conditions of ordering volume.

Thus you can be assured that Newark has and will make every effort to keep our service to you outstanding by adopting the latest concepts and methods in delivering your order.

Allen-Bradley Resistors

EXPLANATION OF PART NUMBERS

All Allen-Bradley hot-molded fixed composition resistors are identified by a Type Number which will provide information as to the type of resistor, resistance value and tolerance. The Type Number is merely for identification on drawings, specifications and ordering, etc. where it is convenient to describe a particular resistor.

ALLEN-BRADLEY PART NUMBER →		BB		2035
MIL-R-11 TYPE DESIGNATION →	RC05	05	GF	203J
MIL-R-39008 TYPE DESIGNATION →	RCR	05	G	203JS

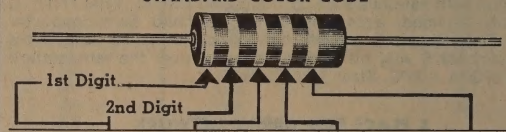
Type
Fixed Composition Resistors, Insulated, Established Reliability

AB	II	39008	Style
BB	05	05	1/8 watt at 70°C
CB	07	07	1/4 watt at 70°C
EB	20	20	1/2 watt at 70°C
GB	32	32	1 watt at 70°C
HB	42	....	2 watts at 70°C

CHARACTERISTIC

Symbol	Max. ambient operating temp. 00% rated watt	Resistance-temperature characteristic: Nominal resistance (ohms)	Max. allowable change in resistance from resistance at ambient temp. of 25°C: At —55°C	At +105°C
G or GF	70°C	1,000 and under	±6.5%	±5%
		1,100 to 10,000	±10%	±6%
		11,000 to 0.1 M	±13%	±7.5%
		0.11 M to 1.0 M	±15%	±10%

STANDARD COLOR CODE

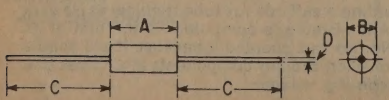


Color	Digit	Multiplier	Tolerances	Symbol AB	Symbol MIL	Relativity Level (Percent Per 1000 Hrs.)
Silver	.....	.....	±10%	1	K	.....
Gold	.....	0.1	± 5%	5	J	.....
Black	0	1	.....	....	....	.....
Brown	1	10	.....	....	....	M = 1.0%
Red	2	100	.....	....	....	P - 0.1%
Orange	3	1000	.....	....	....	R - 0.1%
Yellow	4	10,000	.....	....	....	S - 0.001%
Green	5	100,000	.....	....	....	.....
Blue	6	1,000,000	.....	....	....	.....
Violet	7	.....	.....	....	....	.....
Gray	8	.....	.....	....	....	.....
White	9	.....	.....	....	....	.....

APPLICATION INFORMATION

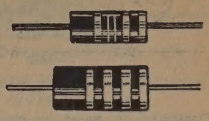
This information is pertinent to the everyday application of Allen-Bradley hot-molded resistors. The information given should be helpful in evaluating the use of all types of A-B hot-molded resistors in broad general terms, and are not to be interpreted as precise.

1. Low-value resistors exhibit less change due to humidity, temperature and voltage than high-value resistors.
2. Resistance changes due to increase in moisture content are always positive.
3. Resistance changes due to humidity are temporary, and in the case of Allen-Bradley resistors are reversible.
4. Change of resistance which has occurred due to humidity may be essentially eliminated by drying at 100°C.
5. The effects of humidity may be minimized by operating the resistor with as little as 1/10 rated wattage load.
6. Resistance change due to load life is permanent and ultimately negative.
7. Resistance change due to load life can be minimized — 1 percent to 2 percent in many thousands of hours by 50 percent derating.
8. This same result can be attained by limiting the maximum operating surface temperature of the resistor under load to 100°C.
9. Resistance change due to soldering is positive and may be permanent if the resistor has moisture present in its body. It can be minimized if resistors are dry at the time of soldering.
10. The temperature characteristic of the Allen-Bradley resistor is positive above and below room temperature—room temperature is considered to be between 10°C and 30°C.
11. The temperature characteristic of the Allen-Bradley resistor is negligible from —10°C to +80°C.
12. The voltage characteristic (negative) and the temperature characteristic (positive) tend to cancel one another in an Allen-Bradley resistor under average operating conditions, where both significant voltage and elevated temperature are present.
13. Heat sink to which a resistor is connected affects its rating. Resistors operated in series or parallel should be derated unless an adequate heat sink is provided.
14. The quality and reliability of Allen-Bradley resistors is the same for, and independent of, any resistance tolerances shown on the resistor.



Watts	Allen-Bradley Type No.	MIL-R-11 Designation	MIL-R-39008 Designation	Dimensions In Inches: A	B	C	D
1/8	BB	RC05	RCR05	0.145 ±0.0015	0.062 ±0.004	1 +1/8	0.015 ±0.003
1/4	CB	RC07	RCR07	0.250 ±0.015	0.090 ±0.008	1 1/2 ±1/8	0.025 ±0.002
1/2	EB	RC20	RCR20	0.375 ±0.031	0.140 ±0.008	1 1/2 ±1/8	0.033 ±0.002
1	GB	RC32	RCR32	0.562 ±0.031	0.225 ±0.008	1 1/2 ±1/8	0.041 ±0.002
2	HB	RC42	RCR42	0.688 ±0.031	0.312 ±0.008	1 1/2 ±1/8	0.045 ±0.003

INDUSTRIAL GRADE MIL-R-11 STYLE RC



Hot molded fixed composition resistors are high quality, intended for general purpose use in the electronics industry. Because of their small size, uniformity, ruggedness and moderate cost, they are equally at home in military, industrial, and consumer product applications. Molded composition resistors meet all requirements for MIL-R-11, except minimum resistance under MIL spec is 2.7 ohms for ¼ and ½ watt and 10 ohms for ⅛ and 2 watt. Meets salt water and high humidity requirements. Unexcelled for low noise level. Dissipate heat rapidly—can be used at their full wattage ratings at 158 F. ambient temp. 1½" leads. Wt. 2 oz .

5% TOLERANCE

Stock No.	Type	Ratings (Watts)	Volts	Mil-R-11 Style	Size	Ohms	1-99	100-249	250-499	500-999	1000-4999	5000-UP
10F300	BB	⅛	150	RC05	.145" x .062"	2.7-9.1	.31	.154	.143	.132	.105	.102
						10-22M	.28	.140	.130	.120	.095	.093
10F305	CB	¼	250	RC07	.25" x .090"	2.7-9.1	.11	.080	.069	.058	.041	.035
						10-22M	.10	.073	.063	.053	.037	.032
10F310	EB	½	350	RC20	.375" x .140"	1.0-2.4	.13	.065	.057	.048	.042	.041
						2.7-22M	.12	.059	.052	.044	.038	.037
10F315	GB	1	500	RC32	.562" x .225"	2.7-22M	.18	.084	.077	.069	.062	.059
10F320	HB	2	750	RC42	.688" x .312"	10-22M	.30	.150	.143	.135	.100	.094

10% TOLERANCE

Stock No.	Type	Ratings (Watts)	Volts	Mil-R-11 Style	Size	Ohms	1-99	100-249	250-499	500-999	1000-4999	5000-UP
10F325	BB	⅛	150	RC05	.145" x .062"	2.7-8.2	.22	.108	.097	.086	.075	.073
						10-22M	.20	.098	.088	.078	.068	.066
10F330	CB	¼	250	RC07	.25" x .090"	2.7-8.2	.07	.055	.044	.033	.022	.020
						10-22M	.06	.050	.040	.030	.020	.019
10F335	EB	½	350	RC20	.375" x .140"	1.0-2.2	.07	.044	.036	.028	.021	.020
						2.7-22M	.06	.040	.033	.025	.019	.018
10F340	GB	1	500	RC32	.562" x .225"	2.7-22M	.09	.053	.046	.038	.031	.029
10F345	HB	2	750	RC42	.688" x .312"	10-22M	.19	.096	.089	.081	.052	.049

MIL-R-39008 STYLE RCR

Molded fixed composition resistors to meet all requirements for Mil-R-39008. Style RCR have established reliability to the "S" level or 0.001% failure rate per 1000 hours. The failure rate level is symbolized on the resistor by means of a 5th color band "S" = yellow. Can be used at their full wattage ratings at 158° F. ambient temperature. 1½" leads. Wt. 2 oz.

5% TOLERANCE

Stock No.	Style	Rating (Watts)	Volts	Size	Ohms	1-99	100-249	250-499	500-999	1000-4999	5000-UP
10F350	RCR05	⅛	150	.145" x .062"	2.7-9.1	.32	.160	.147	.136	.108	.106
					10-22M						
10F355	RCR07	¼	250	.25" x .090"	2.7-9.1	.29	.145	.134	.124	.098	.096
					10-22M	.11	.083	.071	.061	.042	.036
10F360	RCR20	½	350	.375" x .140"	2.7-22M	.10	.075	.065	.055	.038	.033
10F365	RCR32	1	500	.562" x .225"	2.7-22M	.12	.061	.054	.045	.039	.038
						.19	.087	.079	.071	.064	.061
10F390	RCR42	2	750	.688" x .312"	10-22M	.31	.155	.147	.139	.103	.097

10% TOLERANCE

Stock No.	Type	Rating (Watts)	Volts	Size	Ohms	1-99	100-249	250-499	500-999	1000-4999	5000-UP
10F370	RCR05	⅛	150	.145" x .062"	2.7-9.1	.23	.110	.100	.088	.077	.075
					10-22M						
10F375	RCR07	¼	250	.25" x .090"	2.7-8.2	.21	.101	.091	.080	.070	.068
					10-22M	.07	.060	.045	.034	.023	.022
10F380	RCR20	½	350	.375" x .140"	2.7-22M	.06	.052	.041	.031	.021	.020
10F385	RCR32	1	500	.562" x .225"	2.7-22M	.06	.041	.034	.026	.020	.019
						.09	.055	.047	.039	.032	.030
10F395	RCR42	2	750	.688" x .312"	10-22M	.20	.099	.092	.083	.054	.050

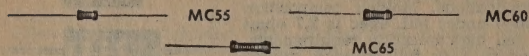
STANDARD NOMINAL RESISTANCE VALUES (OHMS)

Figures in large bold type are ±10% values. All values available in ±5% tolerance.

Ohms										Megohms				
1.0	3.6	**12**	43	**150**	510	**1800**	6200	**22000**	75000	0.24	0.62	1.6	4.3	11.0
1.1	**3.9**	13	**47**	160	**560**	2000	**6800**	24000	**82000**	**0.27**	**0.68**	**1.8**	**4.7**	**12.0**
1.2	4.3	**15**	51	**180**	620	**2200**	7500	**27000**	91000	0.30	0.75	2.0	5.1	13.0
1.3	**4.7**	16	**56**	200	**680**	2400	**8200**	30000	**100000**	**0.33**	**0.82**	**2.2**	**5.6**	**15.0**
1.5	5.1	**18**	62	**220**	750	**2700**	9100	**33000**	110000	0.36	0.91	2.4	6.2	16.0
1.6	**5.6**	20	**68**	240	**820**	3000	**10000**	36000	**120000**	**0.39**	**1.0**	**2.7**	**6.8**	**18.0**
1.8	6.2	**22**	75	**270**	910	**3300**	11000	**39000**	130000	0.43	1.1	3.0	7.5	20.0
2.0	**6.8**	24	**82**	300	**1000**	3600	**12000**	43000	**150000**	**0.47**	**1.2**	**3.3**	**8.2**	**22.0**
2.2	7.5	**27**	91	**330**	1100	**3900**	13000	**47000**	160000	0.51	1.3	3.6	9.1	
2.4	**8.2**	30	**100**	360	**1200**	4300	**15000**	51000	**180000**	**0.56**	**1.5**	**3.9**	**10.0**	
2.7	9.1	**33**	110	**390**	1300	**4700**	16000	**56000**	200000					
3.0	**10**	36	**120**	430	**1500**	5100	**18000**	62000	**220000**					
3.3	11	**39**	130	**470**	1600	**5600**	20000	**68000**						

DEPEND ON NEWARK FOR EVERYTHING IN INDUSTRIAL ELECTRONICS
FAST — DEPENDABLE SERVICE

Texas Instruments Resistors



Designed to meet or exceed all requirements of specification MIL-R-10509F for characteristic C and D. Load rated for 125°C or 70°C applications. High degree of stability and reliability. Precision resistance tolerances. Rugged cap and lead construction. Temperature coefficient for D series ±100ppm for C series ±50ppm. Epoxy coated, and fully insulated. All units are MIL marked.

Test Per Applicable MIL-R-10509 E and MIL-R-10509F Procedure	MIL-R-10509 E Limits	MIL-R-10509F Char D Limits	Characteristic C
1000-Hour Load Life	±0.50% max.	±1.0%	+0.15% avg.
Moisture Resistance	±0.50% max.	±1.5%	+0.17% avg.
Low-Temp. Oper.	±0.25% max.	±0.50%	<±0.05%
Temperature Cycling	±0.25% max.	±0.50%	<±0.05%
Short-Time Overload	±0.25% max.	±0.50%	<±0.05%
Effect of Soldering	±0.10% max.	±0.50%	<±0.05%
Insulation Resistance	>10^{10} Ω	>10^{10} Ω	>10^{12} Ω
Shock	±0.25% max.	±0.50%	<±0.05%
Vibration	±0.25% max.	±0.50%	<±0.05%

Stk. No.	Type	Power Rating @125°C	Power Rating @125 C	Mil Type	Ohms Range	Volts	1-24	25-99	100-249	250-499	500-999	1000-Up
58F001	MC55D	⅛W	¼W	RN55D	10-301K	250	.90	.44	.21	.14	.135	.10
58F002	MC60D	¼W	⅜W	RN60D	10-499K	300	.90	.44	.21	.14	.135	.10
58F003	MC65D	½W	1W	RN65D	10-1MEG	350	.90	.44	.21	.14	.135	.10
58F004	MC50C	1/20W	1/10W	RN50C	49.9-100K	200	1.90	1.01	.60	.55	.51	.48
58F005	MC55C	1/10W	⅛W	RN55C	49.9-100K	250	1.14	.58	.30	.17	.16	.135
58F006	MC60C	⅛W	¼W	RN60C	49.9-499K	300	1.14	.58	.30	.17	.16	.135
58F007	MC65C	¼W	½W	RN65C	49.9-1MEG	350	1.14	.58	.30	.17	.16	.135

MIL LINE CARBON FILM RESISTORS

Meet or exceed all requirements of MIL-R-10509. High degree of stability ±1% resistance tolerance. Full rated load at 70° C. Insulation resistance greater than 50,000 megohms. Negligibl¹ noise level.

Stock No.	Type	Mil Type	Resistance Range	Watts	1-24	25-99	100-249	250-499	500-999	1000-4999
12F080	CD½MR	RN20X	10 ohms-100-ohms	½	1.10	.50	.30	.22	.188	.143
			102 ohms-4.99 meg	½	.95	.40	.24	.15	.125	.095
			5.11 meg-10 meg	½	2.20	1.30	.98	.84	.75	.68

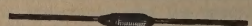
STANDARD RESISTANCE VALUES FOR METAL & CARBON FILM RESISTORS

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Meg	Meg
10.0	22.1	48.7	107	237	523	1150	2550	5620	12.4K	27.4K	60.4K	133K	294K	649K	1.37	3.01
10.2	22.6	49.9	110	243	536	1180	2610	5760	12.7K	28.0K	61.9K	137K	301K	665K	1.40	3.09
10.5	23.2	51.1	113	249	549	1210	2670	5900	13.0K	28.7K	63.4K	140K	309K	681K	1.43	3.16
10.7	23.7	52.3	115	255	562	1240	2740	6040	13.3K	29.4K	64.9K	143K	316K	698K	1.47	3.24
11.0	24.3	53.6	118	261	576	1270	2800	6190	13.7K	30.1K	66.5K	147K	324K	715K	1.50	3.32
11.3	24.9	54.9	121	267	590	1300	2870	6340	14.0K	30.9K	68.1K	150K	332K	732K	1.54	3.40
11.5	25.5	56.2	124	274	604	1330	2940	6490	14.3K	31.6K	69.8K	154K	340K	750K	1.58	3.48
11.8	26.1	57.6	127	280	619	1370	3010	6650	14.7K	32.4K	71.5K	158K	348K	768K	1.62	3.57
12.1	26.7	59.0	130	287	634	1400	3090	6810	15.0K	33.2K	73.2K	162K	357K	787K	1.65	3.65
12.4	27.4	60.4	133	294	649	1430	3160	6980	15.4K	34.0K	75.0K	165K	365K	806K	1.69	3.74
12.7	28.0	61.9	137	301	665	1470	3240	7150	15.8K	34.8K	76.8K	169K	374K	825K	1.74	3.83
13.0	28.7	63.4	140	309	681	1500	3320	7320	16.2K	35.7K	78.7K	174K	383K	845K	1.78	3.92
13.3	29.4	64.9	143	316	698	1540	3400	7500	16.5K	36.5K	80.6K	178K	392K	866K	1.82	4.02
13.7	30.1	66.5	147	324	715	1580	3480	7680	16.9K	37.4K	82.5K	182K	402K	887K	1.87	4.12
14.0	30.9	68.1	150	332	732	1620	3570	7870	17.4K	38.3K	84.5K	187K	412K	909K	1.91	4.22
14.3	31.6	69.8	154	340	750	1650	3650	8060	17.8K	39.2K	86.6K	191K	422K	931K	1.96	4.32
14.7	32.4	71.5	158	348	768	1690	3740	8250	18.2K	40.2K	88.7K	196K	432K	953K	2.00	4.42
15.0	33.2	73.2	162	357	787	1740	3830	8450	18.7K	41.2K	90.9K	200K	442K	976K	2.05	4.53
15.4	34.0	75.0	165	365	806	1780	3920	8660	19.1K	42.2K	93.1K	205K	453K	Meg	2.10	4.64
15.8	34.8	76.8	169	374	825	1820	4020	8870	19.6K	43.2K	95.3K	210K	464K		2.15	4.75
16.2	35.7	78.7	174	383	845	1870	4120	9090	20.0K	44.2K	97.6K	215K	475K	1.00	2.21	4.87
16.5	36.5	80.6	178	392	866	1910	4220	9310	20.5K	45.3K	100K	221K	487K	1.02	2.26	4.99
16.9	37.4	82.5	182	402	887	1960	4320	9530	21.0K	46.4K	102K	226K	499K	1.05	2.32	5.00
17.4	38.3	84.5	187	412	909	2000	4420	9760	21.5K	47.5K	105K	232K	511K	1.07	2.37	5.00
17.8	39.2	86.6	191	422	931	2050	4530	10.0K	22.1K	48.7K	107K	237K	523K	1.10	2.43	5.00
18.2	40.2	88.7	196	432	957	2100	4640	10.2K	22.6K	49.9K	110K	243K	536K	1.13	2.49	5.00
18.7	41.2	90.9	200	442	976	2150	4750	10.5K	23.2K	51.1K	113K	249K	549K	1.15	2.55	5.00
19.1	42.2	93.1	205	453	1000	2210	4870	10.7K	23.7K	52.3K	115K	255K	562K	1.18	2.61	5.00
19.6	43.2	95.3	210	464	1020	2260	4990	11.0K	24.3K	53.6K	118K	261K	576K	1.21	2.67	5.00
20.0	44.2	97.6	215	475	1050	2320	5110	11.3K	24.9K	54.9K	121K	267K	590K	1.24	2.74	5.00
20.5	45.3	100	221	487	1070	2370	5230	11.5K	25.5K	56.2K	124K	274K	604K	1.27	2.80	5.00
21.0	46.4	102	226	499	1100	2430	5360	11.8K	26.1K	57.6K	127K	280K	619K	1.30	2.87	5.00
21.5	47.5	105	232	511	1130	2490	5490	12.1K	26.7K	59.0K	130K	287K	634K	1.33	2.94	5.00

TEXAS INSTRUMENTS SENSISTOR® SILICON RESISTORS

TM⅛

TM¼


TG⅛

Solid state temp. sensing resistors. Temp. compensating. Positive temp. coefficient thermistors. **TM¼, TM-⅛** feature large positive temp. coefficient of resistance (approx. 0.7°/C). **TM-¼ & TM-⅛.** Molded case. Tolerance of ±10%. Axial leads, full lead at 100°C. Derated linearly to 150°C. Size: ¼" dia. x ½" length. **TG⅛.** Round welded case. Glass-to-metal hermetic seal between case and leads. ±10% tolerance. Full load at 125°C. Derated Linearly to 200°C. Size: ⅜" dia. x ¼" Ht. **TG-⅛.** Hermetically sealed. Meet all electrical requirements on MIL-T-23648A for pos.—TC thermistors ±10% tolerance. Ambient and Storage Temp. Range: —65°C to 150°C. Power dis. (at 25°C) —250 mW; at 100°C—125mW. Wt. 1 oz.

Stock No	Type	Watts	Resistance Range	1-49	50-249	250-499	500-999
12F055	TM-¼	¼	10 ohms to 10 K	4.00	3.50	3.00	2.50
12F052	TM-⅛	⅛	10 ohms to 10 K	5.00	4.50	4.00	3.20
12F075	TG-⅛	⅛	10 ohms to 8.2 K	2.00	1.65	1.35	1.15

RESISTANCE TABLE FOR SENSISTORS

10	27	68	180	470	1000	2700	5600
12	33	82	220	500	1200	3300	6800
15	39	100	270	560	1500	3900	8200
18	47	120	330	680	1800	4700	10000
22	56	150	390	820	2200	5000	

EXPLANATION OF MIL CODES

(A) (B) (C) (D) (E)
RN60 D 249 4 F
A) Identifies size and wattage
B) Identifies characteristic
C) Identifies ohms. First 3 digits are significant
D) Additional figure indicates number of zeros that follow.
E) Identifies resistance tolerance. In this case ±1%.

CHARACTERISTICS

Code	Max. Ambient at Rated Watts	Max. Change Due to Moisture Resistance Test
B, D	70-C	‡3% wet, ‡1.5% dry
X	40-C	‡4% wet

ESTABLISHED RELIABILITY TYPES RNR AND RNC TO MEET MIL-R-55182

Dale manufactures a broad line of ultra-precision, high stability resistors which feature improvements in all performance parameters. Temperature coefficient (TC) in table below is given in ppm/°C. MIL-R-10509 METAL FILM RESISTORS. Meet or exceed requirements for Characteristic E (±25PPM/°C) metal film resistors as set forth in MIL-R-10509. Available in just two weeks.

RNR55

MIL-R-55182 ESTABLISHED RELIABILITY RESISTORS. Supersedes MIL-R-10509. 1% tolerance. Minimum order 10 pieces.

Stk. No.	Mil Type	TC	Values (Ω)	1-24	25-99	100-249	250-499	500-999	1M-9M	Stk. No.	Mil Type	TC	Values (Ω)	1-24	25-99	100-249	250-499	500-999	1M-9M
12F9500	RNR55J	25	49.9-100K	2.51	1.81	1.43	1.14	.95	.88	12F9506	RNR60H	50	49.9-499K	2.17	1.45	1.05	.86	.77	.71
12F9501	RNC55J	25	49.9-100K	2.51	1.81	1.43	1.14	.95	.88	12F9507	RNC60H	50	49.9-499K	2.17	1.45	1.05	.86	.77	.71
12F9502	RNR55H	50	49.9-100K	2.28	1.50	1.12	.88	.79	.72	12F9508	RNR65J	25	49.9-1 meg.	2.34	1.66	1.33	.95	.89	.85
12F9503	RNC55H	50	49.9-100K	2.28	1.50	1.12	.88	.79	.72	12F9509	RNC65J	25	49.9-1 meg	2.34	1.66	1.33	.95	.89	.85
12F9504	RNR60J	25	49.9-499K	2.34	1.66	1.33	.95	.89	.85	12F9510	RNR65H	50	49.9-1 meg.	2.17	1.45	1.05	.86	.77	.71
12F9505	RNC60J	25	49.9-499K	2.34	1.66	1.33	.95	.89	.85	12F9511	RNC65H	50	49.9-1 meg.	2.17	1.45	1.05	.86	.77	.71

NOMENCLATURE FOR MIL-R-55182C

(A)	(B)	(C)	(D)	(E)	(F)	(G)
RN	R	55	J	49R9	B	(R)

(A) **Style**
(B) **Lead Type:** R=Solderable, C=Weldable, Solderable.
(C) **Wattage Designator.**
(D) **Temperature Coefficient/°C.** H=±50 ppm, J=±25 ppm.
(E) **Resistance Value:** 49R9=49.9 ohms, 1001=1K, 1002=10K, 1003=100K.
(F) **Resistance Tolerance:** B=±.1%, D=.5%, F=±1%.
(G) **Failure Rate Designator:** R=1%, (failure rate/1000 hr. @ 60% confidence level).

MIL-R-55182C QUICK REFERENCE CHART

MIL Specified Characteristic	H (Non-hermetically sealed)	J (Non-hermetically sealed)
Maximum resistance-temperature characteristic Temperature Coefficient or T.C.	±0.005% or ±50 PPM/°C	±.010% or ±25 PPM/°C
Maximum ambient temperature at rated wattage	125°C	125°C
Maximum ambient temperature at zero wattage derating	175°C	175°C

MOLDED METAL FILM RESISTORS

Stock No.	Type	Mil Type	TC Code	1-24	25-99	100-249	250-499	500-999	1M-9M
12F149	MF-1/10	RN-55D	T-1 0±100 ppm/°C 49.9 Ω — 499K	.95	.44	.22	.16	.14	.11
12F151	MF-1/8	RN-60D	T-1 0±100 ppm/°C 30 Ω — 499K	.95	.44	.22	.16	.14	.11
12F156	MF-1/10	RN-55C	T-2 0±50 ppm/°C 100 Ω — 200K	1.31	.60	.29	.18	.17	.14
12F161	MF-1/8	RN-60C	T-2 0±50 ppm/°C 49.9 Ω — 499K	1.31	.60	.29	.18	.17	.14

Meet a variety of industrial and military applications. Vacuum deposited metal film resistors have inherently good RF characteristics and low noise level. Epoxy-molded construction protects other severe environmental factors. 1% tolerance.

Type MF. Epoxy molded. Meets MIL-R-10509.

EXPLANATION OF MIL-NUMBERS

(A)	(B)	(C)	(D)	(E)
RN60	D	249	4	F

(A) Identifies size and wattage.

(B) Identifies characteristic.

(C) Identifies ohms. First 3 digits are significant.

(D) An additional figure indicates number of zeroes that follow. If an R follows, it represents decimal point for values under 100 ohms or fractional values. Digits following R become significant, as 24.9=24R9.

(E) Identifies resistance tolerance. In this case, ±1%.

CHARACTERISTICS

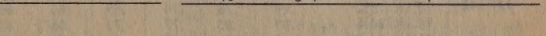
Code	Max. Ambient at Rated Watts	Max. Change Due to Moisture Resistance
B, D	70°C	±3% wet, ±1.5% dry
C	125°C	±0.5%, wet or dry
X	40°C	±4% wet

MIL-R-10509 REFERENCE CHART

MIL Specified Characteristic	C	D
Maximum resistance-temperature characteristic.	±0.005% or ±50 PPM/°C	+0.02% —0.05% or +200 PPM/°C —500 PPM/°C
Temp. limits for linear wattage derating from 100% loading	175°C	165°C

CARBON-FILM PRECISION RESISTORS

Stock No.	Range Resist.	Type	Watt	1-24	25-99	100-499	500-999	1M-9M
13F148	10 ohm—2 meg.	DC-1/4	1/4	1.07	.41	.16	.13	.12
	2.01 meg.-5 meg.	(RN-10X)		1.60	.69	.46	.28	.24
13F152	10-2.49 meg.	DCS-1/2 (RN-20X)	1/2	1.07	.41	.16	.13	.12
	2.5-5 meg.			1.60	.69	.46	.25	.20



Type DC and DCS. Low cost miniature resistors designed for excellent protection from moisture, salt spray and other environmental conditions. Ideal for applications requiring high stability and accuracy combined with long reliable load life. Pure crystalline carbon film (no binder or filler). Excellent high frequency characteristics. Tolerance 1%. Full power to 70°C, derating at 0 at 165° C. Sizes: DC-1/4—Dia. .109 x Lt. .468 DCS1/2 Dia. .171 x Lt. .562.

TABLE A. DECADE TABLE DETERMINING MIL-BELL STANDARD RESISTANCE VALUES

Standard Resistance Values are obtained from the Decade Table by multiplying by multiples of 10.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.00	1.21	1.47	1.78	2.15	2.61	3.16	3.83	4.64	5.62	6.81	8.25
1.02	1.24	1.50	1.82	2.21	2.67	3.24	3.92	4.75	5.76	6.98	8.45
1.05	1.27	1.54	1.87	2.26	2.74	3.32	4.02	4.87	5.90	7.15	8.66
1.07	1.30	1.58	1.91	2.32	2.80	3.40	4.12	4.99	6.04	7.32	8.87
1.10	1.33	1.62	1.96	2.37	2.87	3.48	4.22	5.11	6.19	7.50	9.09
1.13	1.37	1.65	2.00	2.43	2.94	3.57	4.32	5.23	6.34	7.68	9.31
1.15	1.40	1.69	2.05	2.49	3.01	3.65	4.42	5.36	6.49	7.87	9.53
1.18	1.43	1.74	2.10	2.55	3.09	3.74	4.53	5.49	6.65	8.06	9.76

DALE Precision Resistors

TYPE RH-MIL-R-18546

Resistors are wire wound type with special resistance-temperature characteristics and housing configurations designed to meet MIL-R-18546 specifications. Constructed to provide a flat surface and recommended for chassis mounting to assure proper heat dissipation. Molded construction in a die-cast, gold anodized-radiator finned aluminum housing. 100% impervious to moisture and salt spray. Heavy duty leads.

RH-5 ±1% - 7.5 WATT MIL. NO. REGO
RH-10 ±1%—12.5 WATT MIL. NO. RE65

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
RH-5 13F1878	1.0-1K	2.00	1.60	1.50	1.40	1.30	1.22
	1-1K-5K	2.10	1.68	1.58	1.47	1.36	1.32
	5.1K-10K	2.29	1.83	1.72	1.60	1.49	1.41
RH-10 13F139	10.1K-12K	2.51	2.00	1.88	1.75	1.62	1.55
	12.1K-15K	2.73	2.18	2.05	1.92	1.77	1.68
	15.1K-25K	2.93	2.68	2.44	2.18	1.92	1.84
	25.1K-40K	3.25	2.97	2.70	2.43	2.16	2.02
	40.1K-50K	3.57	3.26	2.96	2.71	2.36	2.22

RH-25±1%—25 WATT MIL. NO. RE70

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F140	1.0-1K	2.00	1.60	1.50	1.40	1.30	1.22
	1.1K-5K	2.10	1.68	1.58	1.47	1.36	1.32
	5.1K-10K	2.29	1.83	1.72	1.60	1.49	1.44
	10.1K-12K	2.51	2.00	1.88	1.75	1.62	1.55
	12.1K-15K	2.73	2.18	2.05	1.92	1.77	1.68
	15.1K-25K	2.93	2.68	2.44	2.18	1.92	1.84
	25.1K-40K	3.25	2.97	2.70	2.43	2.16	2.02
	40.1K-50K	3.57	3.26	2.96	2.71	2.36	2.22
	50.1K-60K	3.90	2.55	3.21	2.84	2.53	2.45
	60.1K-75K	4.24	3.86	3.47	3.09	2.78	2.70
	75.1K-95.2K	4.67	4.24	3.82	3.44	3.06	2.97

RH-50 ±1%—50 WATT MIL. NO. RE75

Stock No.	Resis. Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F141	1.0-5.9	2.73	2.48	2.20	2.02	1.89	1.80
	6.0-1K	2.45	1.96	1.84	1.72	1.60	1.52
	1.1K-5K	2.56	2.06	1.94	1.80	1.67	1.58
	5.1K-10K	2.78	2.22	2.08	1.95	1.80	1.71
	10.1K-20K	3.08	2.46	2.31	2.16	1.99	1.88
	20.1K-55K	3.36	2.68	2.51	2.35	2.18	2.07
	55.1K-75K	3.65	2.92	2.73	2.55	2.36	2.29
	75.1K-100K	3.92	3.12	2.95	2.74	2.55	2.46
	100.1K-125K	4.26	3.40	3.19	2.98	2.75	2.70
	125.1K-150K	4.58	3.67	3.44	3.20	2.98	2.88
	150.1K-175K	4.91	3.92	3.68	3.44	3.19	3.09
	175.1K-225K	5.21	4.11	3.94	3.62	3.41	3.32
	225.1K-267K	5.62	4.41	4.25	3.86	3.67	3.57

STANDARD RESISTANCE VALUES—RH & RS ONLY

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	15	65	330	900	4.2K	14K	70K
1.5	16	70	350	950	4.3K	15K	75K
2	17.5	75	375	1K	4.5K	15.5K	80K
2.5	20	80	390	1.1K	4.7K	17.5K	90K
3	21	85	400	1.2K	5K	20K	100K
4	22.5	90	425	1.25K	5.3K	22.5K	110K
4.5	25	100	450	1.3K	6K	25K	120K
5	27.5	110	470	1.4K	6.2K	27.5K	130K
5.5	30	125	500	1.5K	6.3K	30K	140K
6	31	130	510	1.6K	6.8K	35K	150K
7	33	150	560	1.75K	7K	40K	160K
7.5	35	160	600	1.8K	7.5K	42K	170K
8	37	175	620	2K	8K	45K	175K
9	40	180	650	2.2K	8.2K	46K	182K
10	42	200	700	2.5K	9K	47K	191K
11	45	220	725	3K	10K	50K	200K
12	47	225	750	3.1K	11K	55K	221K
12.5	50	250	760	3.5K	12K	60K	232K
13	55	270	800	3.75K	12.5K	65K	243K
14	60	300	850	4K	13K	68K	267K

TYPE RS—MIL—R-26 MIL-R-23379

Type RS. These should be specified when space is at a premium and when precision and power are needed. They are of the conventional type with pigtail mounting leads. They are completely protected and silicone sealed. Surpasses MIL-R-26.

RS-1B ±1%—1 WATT

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F137	1-1K	1.08	.85	.80	.75	.69	.65
	1.1K-4K	1.19	.95	.89	.83	.76	.72
	4.1K-15K	1.36	1.06	1.01	.93	.86	.81

RS-2B ±1%— 3 WATT

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F142	1-1K	.83	.65	.62	.57	.53	.50
	1.1K-5K	.91	.73	.68	.63	.58	.55
	5.1K-10K	.95	.75	.70	.65	.62	.58
	10.1K-15K	.99	.78	.74	.69	.64	.60
	15.1K-20K	1.03	.83	.77	.73	.66	.63
	20.1K-24.5K	1.10	.87	.83	.76	.72	.67

Resistance values not listed are available. $7.50 minimum order. Prices as listed below:
For ±0.5% tolerance add 100% to listed prices.
For 0.25% tolerance add 150% to listed prices.
For ±0.10% tolerance add 200% to listed prices.
For 0.05% tolerance add 300% to listed prices.

RS-5 ±1%—5 WATTMIL. NO. RW-67 & RWP-21

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F143	1-1K	.83	.65	.62	.57	.53	.50
	1.1K-5K	.91	.73	.68	.63	.58	.55
	5.1K-10K	.95	.75	.70	.65	.62	.58
	10.1K-15K	.99	.78	.74	.69	.64	.60
	15-1K-20K	1.03	.83	.77	.73	.66	.63
	20.1K-40K	1.10	.87	.83	.76	.72	.67
	40.1K-55K	1.18	.95	.88	.83	.76	.72
	55.1K-75K	1.30	1.03	.97	.91	.84	.82
	75.1K-95.2K	1.43	1.14	1.08	1.00	.93	.90

RS-10 ±1%—10 WATT—MIL. NO. RW-68 & RWP-23

Meets precision power req. in advanced electronic circuits where space is at a premium. Silicon coating maintains stable performance under adverse environmental conditions.

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F136	1-1K	.83	.65	.62	.57	.53	.50
	1.1K-5K	.91	.73	.68	.63	.58	.55
	5.1K-10K	.95	.75	.70	.65	.62	.58
	10.1K-15K	.99	.78	.74	.69	.64	.60
	15.1K-20K	1.03	.83	.77	.73	.66	.63
	20.1K-40K	1.10	.87	.83	.76	.72	.67
	40.1K-55K	1.18	.95	.88	.83	.76	.72
	55.1K-75K	1.30	1.03	.97	.91	.84	.82
	75.1K-100K	1.43	1.14	1.08	1.00	.93	.90
	100.1K-125K	1.57	1.29	1.18	1.10	1.02	.99
	125.1K-150K	1.71	1.36	1.28	1.20	1.11	1.08
	150.1K-175K	1.87	1.49	1.40	1.31	1.22	1.18
	175.1K-225K	2.04	1.64	1.53	1.44	1.34	1.30
	225.1K-273K	2.24	1.80	1.69	1.59	1.49	1.42

Newark Solves Your Resistor Problems By

- Close Tolerance testing to 0.1%
- Pre-Testing
- Part Marking
- Reliability Testing
- Matched Units
- Temperature Cycling
- Reel Tape and Packaging

TYPE 200 "BROWN DEVIL" RESISTORS

High quality, compact wire-wound resistors for voltage-dropping, bias units, bleeders, etc. Extra-sturdy all-ceramic vitreous enameled. Protected against shock, vibration, heat and humidity. Have standard resistance tolerance of ±5%. 8-watt units have 1x5/16" cores: 12-watt units, 1¾x5/16" cores; 20-watt units, 2x7/16" cores. All have 1½" leads. Average shipping weight, 3 ounces.

13F150—8 WATT "BROWN DEVIL" RESISTORS—STYLE 200-8

Type	Ohms	1-9	10-24	25-99	100-249	250-499	500-999
1500	1	.60	.51	.42	.36	.30	.28
1500B	1.5						
1501	2						
1502	3						
1503	4						
1504	5						
1505	7.5						
1506	10						
1507	12						
1508	15						
1509	20						
1510	25						
1511	30						
1512	35						
1513	40						
1514	50						
1515	75						
1516	100						
1517	125						
1518	150						
1519	200	.60	.51	.42	.36	.30	.28
1520	225						
1521	250						
1522	300						
1523	350						
1524	400						
1525	450						
1526	500						
1527	600						
1528	700						
1529	750	.63	.54	.44	.38	.32	.30
1530	800						
1531	900						
1532	1,000						
1533	1,100						
1534	1,200						
1535	1,250						
1536	1,500						
1537	1,750						
1538	2,000						
1539	2,250	.63	.54	.44	.38	.32	.30
1540	2,500						
1541	3,000						
1542	3,500						
1543	4,000						
1544	4,500						
1545	5,000						
1546	6,000	.66	.56	.46	.40	.33	.31
1547	7,000						
1548	7,500						
1549	8,000						
1550	9,000						
1551	10,000						
1552	12,500	.73	.62	.51	.44	.37	.34
1553	15,000						
1554	17,500						
1555	20,000						
1556	22,500	.77	.65	.54	.46	.39	.36
1557	25,000						

13F155—12 WATT "BROWN DEVIL" RESISTORS—STYLE 200-12

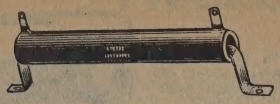
Type	Ohms	1-9	10-24	25-99	100-249	250-499	500-999
1701	1	.65	.55	.46	.40	.33	.31
1704	1.5						
1705	2						
1706	3						
1707	4						
1708	5						
1709	7.5						
1710	10						
1711	12						
1712	15						
1713	20						
1714	25						
1715	30						
1716	35						
1717	40						
1718	50						
1719	75						
1720	100						
1721	125						
1722	150						
1723	200						
1724	225						
1725	250						
1726	300	.65	.55	.46	.40	.33	.31
1727	350						
1728	400						
1729	450						
1730	500						
1731	600						
1732	700						
1733	750						
1734	800						
1735	900						
1736	1,000						
1737	1,100	.69	.59	.48	.41	.35	.32
1738	1,200						
1739	1,250						
1740	1,500						
1741	1,750						
1742	2,000						
1743	2,250						
1744	2,500						
1745	3,000						
1746	3,500						
1747	4,000						
1748	4,500						
1749	5,000	.69	.59	.48	.41	.35	.32
1750	6,000						
1751	7,000						
1752	7,500						
1753	8,000	.80	.68	.56	.48	.40	.38
1754	8,500						
1754A	9,000						
1755	10,000						
1756	11,000						
1757	12,000						
1758	12,500						
1759	13,500						
1761	15,000	.90	.77	.63	.54	.45	.42
1762	16,000						
1763	17,500						
1764	18,000						
1765	20,000						
1766	22,500						
1767	25,000						
1768	30,000	.94	.80	.66	.56	.47	.44
1769	35,000						
1770	40,000						
1771	45,000	1.10	.94	.77	.66	.55	.52
1772	50,000						

13F160—20 WATT "BROWN DEVIL" RESISTORS—STYLE 200-20

Type	Ohms	1-9	10-24	25-99	100-249	250-499	500-999
1802A	1	.77	.65	.54	.46	.39	.36
1802B	2						
1802C	3						
1802D	4						
1803	5						
1804	10						
1805	25						
1806	50						
1807	75						
1808	100						
1809	150						
1810	200						
1811	250						
1812	300						
1813	350						
1814	400						
1815	500						
1816	650						
1817	700						
1818	750						
1819	800	.77	.65	.54	.46	.39	.36
1820A	900						
1821	1,000						
1822	1,200	.80	.68	.56	.48	.40	.38
1823	1,250						
1824	1,500						
1825	1,750						
1827	2,000						
1828	2,250						
1830	2,500						
1831	2,750						
1832	3,000						
1833	3,500						
1834	4,000						
1835	4,500						
1836	5,000						
1837	6,000	.94	.80	.66	.56	.47	.44
1838	7,000						
1839	7,500						
1840	8,000						
1840A	9,000	.94	.80	.66	.56	.47	.44
1841	10,000						
1842	12,500	.96	.82	.67	.58	.48	.45
1843	15,000						
1844	20,000						
1845	25,000	1.15	.98	.81	.69	.58	.54
1846	30,000						
1847	35,000						
1848	40,000						
1849	45,000	1.30	1.11	.91	.78	.65	.61
1850	50,000						
1851	55,000						
1852	60,000						
1853	65,000	1.55	1.32	1.09	.93	.78	.73
1854	70,000						
1855	75,000						
1856	80,000						
1857	85,000	1.80	1.53	1.26	1.08	.96	.85
1858	90,000						
1859	95,000						
1860	100,000						

Newark provides Extra Service Procurement so we can meet our customers' needs in the shortest possible time. We can normally furnish on seven days notice special resistor groups to fit your special requirements. Newark will fill from our stocks resistor oders requiring close tolerance testing to 0.1%, parts marking, matched units, pretesting, reel tape and packaging, reliability testing or temperature cycling. Contact your Newark representative for detailed information and price quotation.

OHMITE Fixed Resistors



Lug type, wire-wound with vitreous enamel. Wire of the finest alloy and largest possible size is used for each resistance. The original uniform close spacing of the turns is maintained by the anchoring effect of the vitreous enamel. The wire is securely welded to the terminal lugs. Tolerance: 5%. Shpg. wt: 10-50 watts, 4.0 oz.; 100-225 watts, 1 lb.

STYLE 270-12
12 WATT—1¾" x 5/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249	250-499	500-999
13F1200	3723	.51	4.86						
13F1201	3730	1.0	3.46						
13F1202	3734	1.5	2.83						
13F1204	3742	3.3	1.91						
13F1205	3746	4.7	1.60						
13F1206	3750	6.8	1.33						
13F1207	3754	10	1.10						
13F1208	3756	12	1.00						
13F1209	3758	15	.89						
13F1211	3762	22	.74						
13F1212	3764	27	.67						
13F1214	3768	39	.55						
13F1215	3770	47	.53						
13F1216	3772	56	.46						
13F1217	3774	68	.42						
13F1218	3776	82	.38	.66	.56	.46	.40	.33	.31
13F1219	3778	100	.35						
13F1221	3782	150	.28						
13F1222	3784	180	.26						
13F1224	3788	270	.21						
13F1225	3790	330	.19						
13F1226	3792	390	.18						
13F1227	3794	470	.16						
13F1228	3796	560	.15						
13F1229	3798	680	.13						
13F1230	3800	820	.12						
13F1231	3802	1,000	.11						
13F1232	3804	1,200	.10						
13F1233	3806	1,500	.089						
13F1235	3810	2,200	.074						
13F1236	3812	2,700	.067	.70	.60	.49	.42	.35	.33
13F1237	3814	3,300	.060						
13F1238	3816	3,900	.055						
13F1239	3818	4,700	.053						
13F1240	3820	5,600	.046						
13F1241	3822	6,800	.042						
13F1242	3824	8,200	.038	.81	.69	.57	.49	.41	.38
13F1243	3826	10,000	.035						
13F1244	3828	12,000	.032	.90	.77	.63	.54	.45	.42
13F1245	3830	15,000	.028	.90	.77	.63	.54	.45	.42
13F1247	3834	22,000	.023	.95	.81	.67	.57	.48	.45
13F1250	3840	39,000	.018	.95	.81	.67	.57	.48	.45
13F1251	3842	47,000	.016	1.10	.94	.77	.66	.55	.52
13F1252	3843	51,000	.015	1.10	.94	.77	.66	.55	.52

STYLE 270-25
25 WATT—2"x 5/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249	250-499	500-999
13F720	0200J	1	5.00						
13F721	0200K	2	3.54						
13F722	0200L	3	2.88						
13F723	0200A	5	2.24						
13F724	0200B	10	1.58						
13F725	0200R	15	1.29						
13F726	0200C	25	1.00						
13F727	0200D	50	.71						
13F728	0200E	75	.58	.83	.71	.58	.50	.42	.39
13F729	0200F	100	.50						
13F730	0200G	150	.41						
13F731	0200H	200	.35						
13F732	0201	250	.32						
13F733	0202	500	.22						
13F734	0203	750	.18						
13F735	0204	800	.17						
13F736	0205	1,000	.16						
13F737	0206	1,500	.13						
13F738	0207	2,000	.12						
13F739	0208	2,500	.10						
13F740	0209	3,000	.091	.86	.73	.60	.52	.43	.40
13F741	0210	3,500	.084						
13F742	0211	4,000	.079						
13F743	0212	5,000	.070						
13F744	0213	6,000	.064						
13F745	0214	7,500	.057	.97	.82	.68	.58	.49	.46
13F746	0215	10,000	.050						
13F747	0216	12,000	.042						
13F748	0217	15,000	.036	1.05	.89	.74	.63	.53	.49
13F749	0218	20,000	.031						
13F750	0219	25,000	.028						
13F754	0220	30,000	.026						
13F755	0221	35,000	.024	1.20	1.02	.84	.72	.60	.56
13F752	0222	40,000	.022						
13F752	0224	50,000	.020	1.40	1.19	.98	.84	.70	.66
13F756	0226	70,000	.014	1.60	1.36	1.12	.96	.80	.75
13F753	0229	100,000	.010	1.85	1.57	1.30	1.11	.93	.87

STYLE 270-50
50 WATT—4"x 5/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249
13F760	0400A	5	3.16				
13F761	0400B	10	2.23				
13F762	0400C	25	1.41				
13F763	0400D	50	1.00				
13F764	0400E	75	.82				
13F765	0400F	100	.71				
13F766	0400G	150	.58				
13F767	0400H	200	.50	1.30	1.11	.91	.78
13F768	0401	250	.45				
13F769	0402	500	.32				
13F789	0404	800	.25				
13F771	0405	1,000	.22				
13F772	0406	1,500	.18				
13F773	0407	2,000	.16				
13F774	0408	2,500	.14	1.20	1.02	.84	.72
13F775	0409	3,000	.13				
13F776	0410	4,000	.11				
13F777	0411	5,000	.10				
13F779	0413	8,000	.079	1.40	1.19	.98	.84
13F780	0414	10,000	.071	1.40	1.19	.98	.84
13F782	0416	15,000	.057	1.55	1.32	1.09	.93
13F783	0417	20,000	.050	1.55	1.32	1.09	.93
13F784	0418	25,000	.045	1.75	1.49	1.23	1.05
13F785	0419	35,000	.032	1.75	1.49	1.23	1.05
13F786	0420	50,000	.026	2.00	1.70	1.40	1.20
13F787	0421	75,000	.021	2.25	1.91	1.58	1.35
13F788	0422	100,000	.018	2.45	2.08	1.72	1.47

STYLE 270-100
100 WATT—6½"x¾"

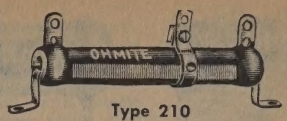
Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249
13F800	0600A	5	4.47				
13F801	0600B	10	3.16				
13F802	0601	25	2.00				
13F803	0602	50	1.41				
13F804	0603	75	1.15				
13F805	0604	100	1.00	1.75	1.49	1.23	1.05
13F806	0605	150	.82				
13F807	0606	250	.63				
13F808	0607	500	.45				
13F810	0609	1,000	.32				
13F812	0611	2,000	.22				
13F813	0612	2,500	.20				
13F814	0613	3,000	.18	1.80	1.53	1.26	1.08
13F815	0614	5,000	.14				
13F817	0616	10,000	.10	1.95	1.66	1.37	1.17
13F819	0618	20,000	.071	2.10	1.79	1.47	1.26
13F820	0619	25,000	.063	2.40	2.04	1.68	1.44
13F823	0622	50,000	.045	2.50	2.13	1.75	1.50
13F825	0624	75,000	.032	2.75	2.34	1.93	1.65
13F826	0625	100,000	.028	3.10	2.64	2.17	1.86

STYLE 270-225
225 WATT—10½"x1⅛"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249
13F830	0900A	5	6.72	3.90	3.32	2.73	2.34
13F831	0900B	10	4.74				
13F832	0901	25	3.00				
13F833	0902	50	2.12				
13F834	0903	75	1.73				
13F835	0904	100	1.50	2.75	2.34	1.93	1.65
13F836	0905	150	1.25				
13F837	0906	250	.95				
13F838	0907	500	.67				
13F839	0908	750	.55				
13F840	0909	1,000	.47				
13F841	0910	1,500	.39				
13F842	0911	2,000	.34				
13F843	0912	2,500	.30	2.85	2.42	2.00	1.71
13F844	0913	3,000	.27				
13F845	0914	5,000	.21				
13F847	0916	10,000	.15	3.05	2.59	2.14	1.83
13F848	0917	15,000	.13	3.25	2.76	2.28	1.95
13F849	0918	20,000	.11	3.25	2.76	2.28	1.95
13F850	0919	25,000	.095	3.35	2.85	2.35	2.01
13F851	0920	30,000	.087	3.35	2.85	2.35	2.01
13F852	0921	40,000	.075	3.35	2.85	2.35	2.01
13F853	0922	50,000	.067	3.45	2.93	2.42	2.07
13F854	0923	60,000	.061	3.45	2.93	2.42	2.07
13F855	0924	75,000	.055	3.65	3.10	2.56	2.19
13F856	0925	100,000	.047	3.90	3.32	2.73	2.35

Adjustable Dividohm® OHMITE

"Dividohm" Vitreous Enameled Resistors make ideal voltage dividers for original equipment and replacement in transmitters, rectifiers and other apparatus. Handy for obtaining odd resistance values, for adjusting circuits and for use on equipment which must be set to meet various line voltages. Resistance is changed by moving the adjustable lug. Contact can be made to any wire along the length of the resistor making voltages lower than rated voltage available. Stated wattage rating applies only when the entire resistance is in the circuit. Tolerance: 10%. Avg. Shipping wt. 12-50 Watts, 4.0 oz.; 100-225 Watts, 1 lb.



Type 210

STYLE 210-12—12 WATT—1¾"x⅝"

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-24	25-99	100-249	250-499	500-999
13F500	1001	1	3.46						
13F501	1002	2	2.45						
13F502	1003	3	2.00						
13F503	1004	5	1.54						
13F504	1005	7.5	1.26						
13F505	1006	10	1.09	1.30	1.11	.91	.78	.65	.61
13F506	1007	15	.89						
13F507	1008	20	.77						
13F508	1009	25	.69						
13F509	1010	50	.49						
13F510	1011	75	.40						
13F511	1012	100	.34						
13F512	1013	150	.28						
13F513	1014	200	.24						
13F514	1015	250	.22						
13F515	1016	300	.20						

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249	250-499	500-999
13F517	1018	400	.17						
13F518	1019	500	.15	1.30	1.11	.91	.78	.65	.61
13F520	1021	750	.13						
13F522	1023	1K	.11						
13F523	1024	1.25K	.098						
13F524	1025	1.5K	.089						
13F525	1026	2K	.077						
13F527	1028	2.5K	.069	1.35	1.15	.95	.81	.68	.63
13F528	1029	3K	.063						
13F530	1031	4K	.055						
13F532	1033	5K	.049						
13F533	1034	6K	.045						
13F534	1035	7K	.042						
13F535	1036	7.5K	.040	1.45	1.23	1.02	.87	.73	.68
13F539	1040	10K	.035						

STYLE 210-25—25 WATT—2"x ⅝"

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-24	25-99	100-249	250-499	500-999
13F550	0360	1	5.00						
13F551	0360B	2	3.54						
13F552	0361	3	2.88						
13F553	0362	5	2.24						
13F554	0362B	7.5	1.82						
13F555	0363	10	1.58						
13F556	0364	15	1.29						
13F557	0364B	20	1.12	1.45	1.23	1.02	.87	.73	.68
13F558	0365	25	1.00						
13F559	0366	50	71						
13F560	0367	75	.58						
13F561	0368	100	.50						
13F562	0369	150	.41						
13F563	0370	200	.35						
13F564	0371	250	.32						
13F565	0371B	300	.29						
13F566	0371C	400	.25						

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-24	25-99	100-249	250-499	500-999
13F567	0372	500	.22						
13F568	0373	750	.18	1.45	1.23	1.02	.87	.73	.68
13F570	0375	1K	.16						
13F571	0375B	1.25K	.14						
13F572	0376	1.5K	.13						
13F573	0377	2K	.12						
13F574	0377B	2.25K	.11						
13F575	0378	2.5K	.10	1.50	1.28	1.05	.90	.75	.71
13F576	0379	3K	.091						
13F578	0381	4K	.079						
13F580	0382	5K	.070						
13F581	0383	6K	.064						
13F582	0383B	7K	.060	1.60	1.36	1.12	.96	.80	.75
13F584	0384	7.5K	.057						
13F587	0385	10K	.050						
13F590	0388	20K	.031	1.65	1.40	1.16	.99	.83	.78
13F591	0389	25K	.028	1.80	1.53	1.26	1.08	.90	.85

STYLE 210-50—50 WATT—4" x ⅝"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249
13F600	0560	5	3.16				
13F601	0561	10	2.23				
13F602	0562	25	1.41				
13F603	0563	50	1.00				
13F604	0564	75	.82				
13F605	0565	100	71				
13F606	0566	150	58				
13F607	0567	200	50	1.90	1.62	1.33	1.14
13F608	0568	250	.45				
13F609	0568B	300	.41				
13F610	0568C	400	.35				
13F611	0569	500	.32				
13F612	0570	750	.26				
13F639	0571	800	.25				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249
13F613	0572	1K	.22	1.90	1.62	1.33	1.14
13F615	0573	1.5K	.18				
13F616	0574	2K	.16	2.00	1.70	1.40	1.20
13F617	0575	2.5K	.14				
13F620	0577	4K	.11				
13F622	0578	5K	.10				
13F623	0578B	6K	.091	2.10	1.79	1.47	1.26
13F628	0581	10K	.071	2.10	1.79	1.47	1.26
13F630	0583	15K	.057	2.20	1.87	1.54	1.32
13F631	0584	20K	.050	2.20	1.87	1.54	1.32
13F632	0585	25K	.045	2.45	2.08	1.72	1.47
13F633	0586	30K	.036	2.45	2.08	1.72	1.47
13F635	0588	50K	.026	2.60	2.21	1.82	1.56
13F638	0591	100K	.018	3.10	2.64	2.17	1.86

STYLE 210-100—100 WATT—6½"x¾"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-24	25-99	100-249
13F670	0956A	1	10.0	3.05	2.59	2.14	1.83
13F671	0956B	2	7.07				
13F672	0956C	3	5.77				
13F673	0956D	4	5.00				
13F650	0956	5	4.47				
13F651	0957	10	3.16				
13F652	0958	25	2.00	2.40	2.14	1.68	1.44
13F653	0959	50	1.41				
13F654	0960	100	1.00				
13F655	0969B	250	.63				

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-24	25 99	100-249
13F656	0961	500	.45	2.40	2.04	1.68	1.44
13F657	0962	1,000	.32	2.40	2.04	1.68	1.44
13F658	0962B	1,500	.26				
13F659	0963	2,500	.20	2.45	2.08	1.72	1.47
13F660	0964	5,000	.14				
13F661	0965	10,000	.10	2.60	2.21	1.82	1.56
13F663	0967	20,000	.071	2.75	2.34	1.93	1.65
13F664	0968	25,000	.063	3.05	2.59	2.14	1.83
13F667	0971	50,000	.045	3.10	2.64	2.17	1.86
13F669	0973	100,000	.028	3.70	3.15	2.59	2.22

ADJUSTABLE LUGS

For Dividohms—Bakelite knob type

Stock No.	Type	Description	1-9	10-24	25-99
13F710	2122	For 25, 50 Watt	.35	.30	.25
13F711	2126	For 100 Watt	.35	.30	.25
13F712	2134	For 225 Watt	.44	.37	.31

For Dividohms—Screw driver type

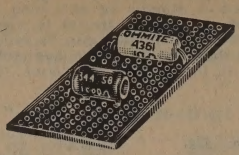
Stock No.	Type	Description	1-9	10-24	25-99
13F713	2115	For 12 Watt	.16	.14	.11
13F714	2121	For 25, 50 Watt	.16	.14	.11
13F715	2125	For 100 Watt	.16	.14	.11
13F716	2133	For 225 Watt	.25	.21	.18

OHMITE Resistors

CLASS PC-58 RADIAL LEAD WIREWOUND RESISTORS

3 watt

5 watt



Radial leads eliminate cutting, bending and forming of leads and reduce total length compared to axial leads, thus effecting labor savings and increasing packaging density. Built-in standoffs provide correct spacing between resistor and PC board. Fit standard 0.1" matrix boards with .046" dia. holes. T.C.: under 260 ppm/°C. 3-watt resistors under 3300 ohms and 5-watt resistors under 6800 ohms are coated with vitreous enamel; all others coated with Ohmicone Type 470 silicone-ceramic. Size (LxD): 3-watt types, .300x.335"; 5-watt types, .500x.375".

STOCK RESISTANCE—OHMS

1.0	20	120	500	1800	5600
1.5	.....	150	.....	2000	.....
2.0	.....	.....	560	.....	.....
.....	30	200	600	2500	.....
3.0	.....	.....	.....	.....	7500
4.0	50	250	750	3000	.....
5.0	.....	270	800	.....	9000
.....	56	300	.....	.....	10000
.....	68	330	1000	4000	.....
10.0	.....	.....	1200	.....	.....
15.0	82	400	.....	.....	.....
.....	100	.....	.....	5000	.....

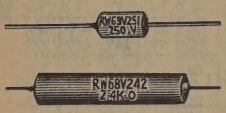
3 WATTS — ±5% TOL.

Stk. No.	Stock res. in ohms	NET EACH 1-9	10-24	25-99	100-249	250-499	500-999
13F1700	1 to 1K	.54	.46	.38	.32	.27	.25
	1.2K to 5K	.58	.49	.41	.35	.29	.27
	5.6K to 10K	.61	.52	.43	.37	.31	.29

5¼ WATTS — ±5% TOL.

Stk. No.	Stock res. in ohms	NET EACH 1-9	10-24	25-99	100-249	250-499	500-999
13F1701	1 to 1K	.58	.49	.41	.35	.29	.27
	1.2K to 5K	.61	.52	.43	.37	.31	.29
	5.6K to 10K	.64	.54	.45	.38	.32	.30

OHMITE MOLDED VITREOUS ENAMELED RESISTORS — SERIES 99
TYPE 991 MILITARY AXIAL LEAD POWER RESISTORS



Meets the requirements of MIL-R-26E insulated styles RW67V, RW68V, RW69V. Tolerance ±5% 1000 VAC insl. brkdwn. Vitrified, permanent markings. Leads 1½ in. long. Resistors utilize a single layer winding of high grade resistance alloy on a ceramic core. Axial type terminal leads and the resistance wire are both welded to metal end-caps which fit snugly over the core ends. Tough, moisture-resistant, vitreous enamel material is molded around the resistor. Provides a uniformly thick, dense, smooth covering. Av. Shpg. wt., 4 oz.

Stock Resistances—Ohms

1.0	18	36	68	180	360	680	1300	2700	5100
2.0	20	39	75	200	390	750	1500	3000	5600
3.0	22	43	82	220	430	820	1600	3300	6200
5.1	24	47	91	240	470	910	1800	3600	6800
10	27	51	100	270	510	1000	2000	3900	7500
12	30	56	120	300	560	1100	2200	4300	8200
15	33	62	150	330	620	1200	2400	4700	

TYPE RW69V—3 WATTS

To substitute RW59V and RW59G. OHMITE STYLE 991-3. Size: 0.203 in. Dia. by 0.547 in. L.

Stk. No.	Stock res. in ohms	NET EACH 1-9	10-24	25-99	100-249
13F310	1.0 to 910	.77	.65	.54	.46

TYPE RW67V—6.5 WATTS

To substitute RW57V and RW57G. OHMITE STYLE 991-6.5. Size: 0.313 in. dia. x 0.922 in. L.

13F311	1.0 to 1000	.80	.68	.56	.48
	1100 to 3600	.85	.72	.60	.51

TYPE RW68V—11 WATTS

To substitute RW58V, RW58G, RW55V, RW55G and RW56G. OHMITE STYLE 991-11. Size: 0.313 in. dia. by 1.781 in. L.

13F312	1.0 to 1000	.88	.75	.62	.53
	1100 to 4700	.84	.80	.66	.56
	5100 to 8200	1.05	.89	.74	.63

TYPE 995 "MOLDED VITREOUS" AXIAL-LEAD RESISTORS

All welded vitreous enamel resistor with 1000VAC insulation. Resists chipping, breaking, and protects against moisture, salt spray, and salt immersion. Vitrified markings resist high temperatures, solvents, and abrasions. Standard resistance tolerance: ±5%. Leads tinned, 1½"L. All sizes 20 gauge except 1½ w.: 24 gauge. Leads can be bent sharply at the body. Uniform dimensions permit use in automated assembly insertion equipment.

RESISTOR SIZE

1½ Watt: 0.422" L. x 0.125" D. **3¼ Watt:** 0.547" L. x 0.203 D. **2¼ Watt:** 0.375" L. x 0.188 D. **5 Watt:** 0.938" L. x 0.203" D. **11 Watt:** 1.781" L. x 0.313" D.

Stock Resistance—Ohms

1.0	22	82	400	1200	5000	18000
1.5	25	100	470	1500	5600	20000
2.0	27	120	500	1800	6000	22000
3.0	30	150	560	2000	6800	25000
4.0	33	180	600	2200	7000	27000
5.0	39	200	680	2500	7500	30000
7.5	40	220	700	2700	8000	33000
10	47	250	750	3000	8200	39000
12	50	270	800	3300	9000	40000
15	56	300	820	3900	10000	47000
18	68	330	900	4000	12000	50000
20	75	390	1000	4700	15000	

Specify Stock No. and Resistance when ordering.

1½ WATT UNITS—STYLE 995-1A

Stk. No.	Value in Ohms	1-9	10-24	25-99	100-249	250-499	500-999
13F168	1 to 1,000	.66	.56	.46	.40	.33	.31
	1,100 to 3,000	.70	.60	.49	.42	.35	.32

2¼ WATT UNITS—STYLE 995-2A

13F169	1 to 1,000	.64	.54	.45	.38	.32	.30
	1,100 to 3,000	.68	.58	.48	.41	.34	.32

3¼ WATT UNITS—STYLE 995-3A

13F145	1 to 1,000	.63	.54	.44	.38	.32	.30
	1,200 to 5,000	.66	.56	.46	.40	.33	.31
	5,600 to 10,000	.70	.60	.49	.42	.35	.33

5 WATT UNITS—STYLE 995-5B

13F146	1 to 1,000	.66	.56	.46	.40	.33	.31
	1,200 to 5,000	.70	.60	.49	.42	.35	.33
	5,600 to 10,000	.75	.64	.53	.45	.38	.35
	12,000 to 20,000	.84	.71	.59	.50	.42	.39
	22,000 and 25,000	.88	.75	.62	.53	.44	.41

11 WATT UNITS—STYLE 995-10A

13F147	1 to 1,000	.72	.61	.50	.43	.36	.34
	1,200 to 5,000	.79	.67	.55	.47	.40	.37
	5,600 to 10,000	.90	.77	.63	.54	.45	.42
	12,000 to 20,000	1.00	.85	.70	.60	.50	.47
	22,000 to 40,000	1.05	.89	.74	.63	.53	.49
	47,000 and 50,000	1.20	1.02	.84	.72	.60	.56

DEPEND ON NEWARK FOR EVERYTHING IN INDUSTRIAL ELECTRONICS

- **OEM Factory Prices**
- **Shipment from On-the-Shelf Stocks**
- **To Serve You Better — Stocking Warehouses Coast-to-Coast**

SELECTED RESISTOR ASSORTMENTS

5% TOLERANCE

Stk. No.	Wattage Size	No. Resistors	NET
99F1203	⅛	1000	225.00
99F1204	¼	1500	210.00
99F1205	½	1500	180.00
99F1206	1	900	160.00

10% TOLERANCE

99F1207	¼	1000	70.00
99F1201	½	1000	60.00
99F1202	1	600	54.00

Seven engineering prototype lab assortments of composition resistors in handy cabinets. Resistance values from 2.7 ohms to 22 megohms. Each drawer has 8 sections individually marked with ohmic values. Quantities per ohmic value vary between 5 each and 30 each, depending on the popularity of the value. The ±5% assortments have 160 different ohmic values while the ±10% assortments have 80 values. Cabinet mounts on wall or stands on bench.

SELECTED RESISTOR KITS

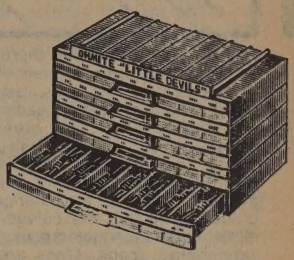
Quantities				Quantities			
AB-4	AB-10	AB-2 AB-3	Ohms	AB-4	AB-10	AB-2 AB-3	Ohms
....	1	1	10	3	3	1	33,000
....	1	1	15	3	5	5	39,000
....	1	1	27	5	10	10	47,000
5	1	1	47	3	3	1	68,000
5	5	1	100	2	1	1	82,000
1	1	1	150	10	10	10	.1 meg
3	3	1	270	3	5	5	.15 meg
1	1	1	330	3	3	1	.22 meg
3	3	1	470	3	10	10	.27 meg
1	1	1	680	3	3	1	.33 meg
10	5	3	1,000	5	10	10	.47 meg
5	1	1	1,500	1	1	1	.68 meg
10	1	1	2,200	10	10	10	1.0 meg
5	3	3	2,700	1	1	1	1.5 meg
10	10	5	4,700	1	1	1	2.2 meg
5	1	1	6,800	1	3	1	2.7 meg
10	10	10	10,000	1	1	1	3.9 meg
5	3	3	15,000	1	1	1	4.7 meg
5	5	5	22,000	1	1	1	6.8 meg
5	10	10	27,000	1	1	1	10.0 meg

POCKET SIZE COLOR CODER

Handy pocket size color code guide reads EIA color code. Easy to use, lets you read resistance directly from guide setting. Also gives Military Specifications (MIL) equivalents, and includes a convenient chart showing availability of various resistance values. Shipping weight, 2 oz.

51F989. NET ..... 10¢

Most commonly used resistors with a plastic cabinet included at no extra cost. Cabinet has 5 drawers and 40 compartments. 9x4¾x5¼". Wt., 7 lbs.



¼ watt ±10% assortment with 150 resistors in values below.
13F164. NET 19.50

½-watt ±10% assortment with 150 resistors in values listed below.
13F165. NET 18.00

1-watt ±10% assortment with 125 resistors in values below.
13F166. NET 22.50

2-watt ±10% assortment with 125 resistors in values below.
13F167. NET 30.00

OHM'S LAW CALCULATOR

Easy-to-use rapid calculator. Solve electrical problems involving various applications of Ohm's Law—has a parallel-resistance calculator. Made of vinyl. Slide-rule scales. Size: 9x3". Shpg. wt., 3 oz.

51F992. NET 1.50

As above, but on cardboard. Shpg. wt., 2 oz.

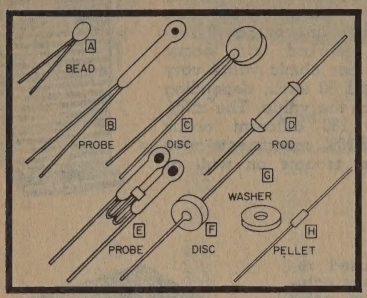
51F993. NET ..... 25¢

NEWARK Electronics proudly announces availability of special resistor services:

- *Close tolerance testing to 0.1%*
- *Parts marking per your specifications*
- *Matching units for close tolerance work*
- *Pretesting for high reliability*
- *Special packaging per your specifications*
- *Cutting and forming of leads*
- *Temperature cycling*

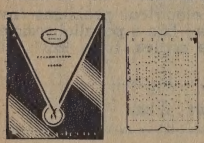
NEWARK service is as close as your phone

Thermistors



High-reliability precision thermal resistors with high negative coefficient of resistance. As temperature increases, resistance goes down. Use glass coated beads for compact size, fast response, and where temperatures go to 600°. Medium-small glass probes similar to beads, but are more rugged, mount more easily and are useful in liquid media. *Iso-Curve interchangeable glass probe thermistors are curved-matched to close resistance tolerances over large temperature spans. Discs are useful for medium power and time response applications. Rods and washers are used where high power dissipation is required. Discs, washers and rods operate at temperatures to +150°C. See Thermistor Engineering Package, below. Av. Shpg. wt. 2 oz.

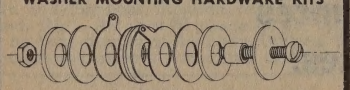
THERMISTOR ENGINEERING PACKAGE



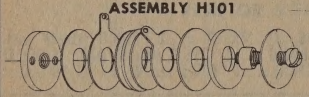
Includes a 5 x 8" resistance-temperature calculator and a thermistor manual that gives the specifications of over 500 thermistors. Serves as a step-by-step primer and handy guide. Shpg. wt. 4 oz.

30F1783..... **1.00**

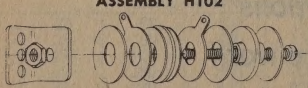
WASHER MOUNTING HARDWARE KITS



ASSEMBLY H101



ASSEMBLY H102



ASSEMBLY H103

Include bakelite, steel and lead washers plus terminals, sleeves, screws and nuts for thermistor mounting. H101 uses 10-32 screw and hex nut. H102 uses 10-32 screw and tapped aluminum mounting base with two 8-32 mtg. holes. H103 uses 10-32 screw and steel mounting bracket with 10-32 hex nut.

30F1717. Kit H101. Wt. 3 oz. 1-9. .Ea. **1.25** 10-24.....Each **1.00** 25-99.....Ea. **.82**

30F1718. Kit H102. Wt. 3 oz. 1-9. .Ea. **1.25** 10-24.....Each **1.00** 25-99.....Ea. **.82**

30F1719. Kit H103. Wt. 3 oz. 1-9. .Ea. **1.25** 10-24.....Each **1.00** 25-99.....Ea. **.82**

30F1720. Kit H100 (One each of H101, 2 and 3 above.) 1-9. Ea. **2.50** 10-24. Ea. **2.00** 25-99. Ea. **1.63**

GLASS COATED BEADS

Stock No.	Mfrs. Type	Fig.	Ohms @ 25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1721	GD25J1	A	500	20	5.1:1	.7	2	.043	3.24	2.60	2.11
30F1722	GB31J1	A	1000	20	7.3:1	.7	2	.043	2.70	2.16	1.76
30F1723	GB32J2	A	2000	20	7.3:1	.7	2	.043	1.96	1.57	1.28
30F1724	GB35J1	A	5000	20	7.3:1	.7	2	.043	3.24	2.60	2.11
30F1725	GB41J1	A	10 K	20	7.5:1	.7	2	.043	3.24	2.60	2.11
30F1726	GA42J16	A	15 K	20	9.1:1	.7	2	.043	3.24	2.60	2.11
30F1728	GA45J1	A	50 K	20	9.1:1	.7	2	.043	2.67	2.14	1.74
30F1729	GA51J1	A	100 K	15	10.3:1	.7	2	.043	1.96	1.57	1.28
30F1730	GA52J16	A	150 K	20	10.3:1	.7	2	.043	2.70	2.16	1.76
30F1731	GA52J2	A	200 K	20	10.9:1	.7	2	.043	2.70	2.16	1.76
30F1732	GA55J1	A	500 K	20	11.8:1	.7	2	.043	3.24	2.60	2.11
30F1733	GA61J1	A	1000 K	20	14.1:1	.7	2	.043	3.78	3.03	2.46

GLASS PROBES

30F1765	GB31P2	B	1000	20	7.3:1	1	25	.1	2.00	1.60	1.30
30F1766	GB32P2	B	2000	20	7.3:1	1	25	.1	2.00	1.60	1.30
30F1767	GB32P8	B	2000	20	7.3:1	1	25	.1	2.35	1.88	1.53
30F1768	GB34P2	B	4000	20	7.3:1	1	25	.1	2.00	1.60	1.30
30F1769	GB34P92	E*	4000	2	7.04:1	1.9	25	.180	40.00	32.00	26.00
30F1770	GB41P2	B	10 K	20	7.5:1	1	25	.1	2.40	1.92	1.56
30F1771	GB42P2	B	20 K	20	7.5:1	1	25	.1	2.40	1.92	1.56
30F1772	GA41P8	B	10 K	20	9.1:1	1	25	.1	3.24	2.60	2.11
30F1773	GA42P18	B	15 K	20	9.1:1	1	25	.1	3.29	2.64	2.14
30F1774	GA45P2	B	50 K	20	9.1:1	1	25	.1	2.20	1.76	1.43
30F1775	GA45P48	B	50 K	20	9.1:1	1	25	.1	2.59	2.08	1.69
30F1776	GA51P8	B	100 K	15	10.3:1	1	25	.1	2.35	1.88	1.53
30F1777	GA52P48	B	150 K	20	10.3:1	1	25	.1	2.60	2.08	1.69
30F1778	GA52P2	B	200 K	20	10.9:1	1	25	.1	2.00	1.60	1.30
30F1779	GA55P2	B	500 K	20	11.8:1	1	25	.1	2.40	1.92	1.56
30F1780	GA55P8	B	500 K	20	11.8:1	1	25	.1	2.82	2.26	1.84
30F1781	GA61P2	B	1000 K	20	14.0:1	1	25	.1	2.80	2.24	1.82
30F1782	GA61P8	B	1000 K	20	14.1:1	1	25	.1	3.29	2.64	2.14

GLASS DIODE CLOSURES (Pellets)

30F1744	PB32D1	H	2 K	10	6.9:1	2	8	.07	1.80	1.44	1.17
30F1745	PB35D1	H	5 K	10	6.9:1	2	8	.07	1.80	1.44	1.17
30F1746	PB41D1	H	10 K	10	6.9:1	2	8	.07	1.80	1.44	1.17
30F1747	PA45D1	H	50 K	10	9.1:1	2	8	.07	1.80	1.44	1.17
30F1748	PA51D1	H	100 K	10	9.1:1	2	8	.07	1.80	1.44	1.17
30F1749	PP55D1	H	500 K	10	11.6:1	2	8	.07	1.80	1.44	1.17
30F1750	PP61D1	H	1 meg	10	11.6:1	2	8	.07	1.80	1.44	1.17

DISCS

30F1751	FB31J1	C	1 K	10	6.9:1	2	3	.05			
30F1752	FB32J1	C	2 K	10	6.9:1	2	4	.05			
30F1753	FA41J1	C	10 K	10	9.1:1	2	3.5	.05	1.45	1.16	.95
30F1754	FA42J1	C	20 K	10	9.1:1	2	4.5	.05			
30F1755	FP52J1	C	200 K	10	11.6:1	2	4.5	.05			
30F1756	JD12J4	C	15	10	4.8:1	3	10	.1			
30F1757	JD21J1	C	100	10	4.8:1	4	10	.1			
30F1758	JB25J1	C	500	10	6.9:1	3	10	.1	1.00	.80	.65
30F1759	JB31J1	C	1000	10	6.9:1	4	10	.1			
30F1760	JA33J1	C	3000	10	9.1:1	3	10	.1			
30F1761	JA35J1	C	5000	10	9.1:1	4	10	.1			
30F1762	JA38J1	C	8000	10	9.1:1	4	10	.1			
30F1763	JA41J1	C	10 K	10	9.1:1	4	10	.1	1.00	.80	.65
30F1764	JP43J2	C	25 K	10	11.6:1	3	10	.1			
30F1700	JP45J2	C	50 K	10	11.6:1	4	8	.1			
30F1701	JP51J1	C	100 K	10	11.6:1	4	15	.1	1.00	.80	.65
30F1702	KD05J1	C	5	10	4.8:1	4	16	.2	.85	.68	.56
30F1703	KD11J1	C	10	10	4.8:1	4	16	.2	.85	.68	.56
30F1704	KD13J3	C	30	10	4.8:1	8	28	.2	.85	.68	.56
30F1705	KD14J1	C	40	10	4.8:1	6	50	.2	.85	.68	.56
30F1706	KB21J1	C	100	10	6.9:1	4	16	.2			
30F1707	KB22J1	C	200	10	6.9:1	5	18	.2			
30F1708	KB23J1	C	300	10	6.9:1	6	20	.2	.85	.68	.56
30F1709	KB25J1	C	500	10	6.9:1	6	25	.2			
30F1710	KA31L1	F	1000	10	9.1:1	6	20	.2			
30F1711	KA33J1	C	3000	10	9.1:1	6	22	.2			
30F1712	KA35J3	C	5000	10	9.1:1	7	35	.2			
30F1713	KP41J2	C	10 K	10	11.6:1	4	20	.2	.85	.68	.56
30F1714	KP45J1	C	50 K	10	11.6:1	6	50	.2			
30F1715	CB13J2	C	30	10	6.9:1	8	28	.3			
30F1716	CB31J1	C	100	10	6.9:1	8.5	42	.3			
30F1734	CB23J1	C	300	10	6.9:1	9	70	.3			
30F1735	CA31J1	C	1000	10	9.1:1	8	48	.3	.85	.68	.56
30F1736	CA33J1	C	3000	10	9.1:1	9	85	.3			
30F1737	LD01J1	C	1	10	4.8:1	8	40	.4			
30F1738	LD03J5	C	2.5	10	4.8:1	14	25	.4	.85	.68	.56
30F1739	LD11J1	C	10	10	4.8:1	10	150	.4	.85	.68	.56
30F1740	LB12J2	C	18.6	10	6.9:1	6	26	.4	.97	.78	.64
30F1741	LB15J1	C	50	10	6.9:1	7	40	.4	.85	.68	.56
30F1784	LB21J1	C	100	10	6.9:1	8	65	.4			
30F1742	LB22J5	C	200	10	6.9:1	11	110	.4	.85	.68	.56
30F1743	LA23J2	C	250	10	9.1:1	6	40	.4			

DISCS (Continued)

Stock No.	Mfrs. Type	Fig.	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1828	LA25L2	C	500	10	9.1:1	8	60	.4	.85	.68	.56
30F1829	LA31J1	C	1000	10	9.1:1	10	70	.4			
30F1830	LP32J2	C	2000	10	11.6:1	8	40	.4			
30F1831	LP33J1	C	2500	10	11.6:1	14	35	.4			
30F1832	LP42J2	C	15K	10	11.6:1	10	150	.4	.85	.68	.56
30F1833	DD05J1	C	5	10	4.8:1	15.5	70	.5			
30F1834	DB11J1	C	10	10	6.9:1	17.5	120	.5			
30F1835	DB15J1	C	50	10	6.9:1	15.5	70	.5			
30F1836	DB21J1	C	100	10	6.9:1	17.5	120	.5	.85	.68	.56
30F1837	DA25J3	C	500	10	9.1:1	16.5	90	.5			
30F1838	DP35J1	C	5K	10	11.6:1	16.5	90	.5			
30F1839	MB13J1	C	25	10	6.9:1	25	85	.6			
30F1840	ND01J1	C	1	10	4.8:1	15	180	.77	.85	.68	.56
30F1841	NB11J1	C	10	10	6.9:1	20	90	.77			
30F1842	NA21J1	C	100	10	9.1:1	16	100	.77			
30F1843	NA22J1	C	250	10	9.1:1	30	140	.77			
30F1844	NP31J2	C	1000	10	11.6:1	15	180	.77	.85	.68	.56
30F1845	NP34J1	C	4000	10	11.6:1	20	300	.77	.85	.68	.56
30F1846	ZB11J1	C	10	10	6.9:1	30	140	1.0	1.25	1.00	.82
30F1847	ZA22J3	C	250	10	9.1:1	37	260	1.0	1.25	1.00	.82

RODS

30F1808	QB41J1	D	10K	10	7.1:1	2.5	20	.053	1.25	1.00	.82
30F1809	QA51J1	D	100K	10	9.1:1	2.5	20	.053	1.25	1.00	.82
30F1810	RB34J1	D	4300	10	6.9:1	6	50	.11	1.20	.96	.78
30F1811	RB41J1	D	10K	5	7.1:1	8	90	.11	1.20	.96	.78
30F1812	RA41L1	D	10K	10	9.1:1	6	90	.112	1.20	.96	.78
30F1813	RA43L1	D	31.5K	10	9.1:1	4	70	.11	1.20	.96	.78
30F1814	RA51J1	D	100K	10	9.1:1	10	70	.11	1.20	.96	.78
30F1815	TB35J1	D	5K	10	6.9:1	15	120	.173	1.35	1.08	.88
30F1816	RA42J1	D	20K	10	9.1:1	13	80	.173	1.20	.96	.78
30F1817	TA45J1	D	50K	10	9.1:1	18	120	.173	1.60	1.28	1.04

WASHER

30F1818	WB11W1	G	10	10	6.9:1	860	12	.77	1.25	1.00	.82
30F1819	WB13W1	G	31.5	10	6.9:1	500	16	.77			
30F1820	WB14W3	G	36.5	10	6.9:1	500	16	.77			
30F1821	WA21W1	G	100	10	9.1:1	800	13	.77			
30F1822	WA23W1	G	315	10	6.9:1	350	18	.77			
30F1823	WA24W1	G	415	10	9.1:1	300	18	.77			

ISO-CURVE GLASS COATED INTERCHANGEABLE THERMISTORS

Iso-Curve interchangeable glass coated thermistors are curved-matched to close resistance tolerance over large temperature spans. Resistance tolerance over temperature range, ±2 percent. See table, below, for specific temperature ranges. Bead style, .1 inch diameter with ⅜ inch leads. Miniprobe style, .12" x ⅛ inch with 1⅜ inch leads. Standard Probe style, .18" x ⅛ inch with 2-inch leads. Average shpg. wt., 3 oz.

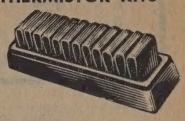
Stock No.	Mfrs. Type	Style	Ohms @25°C	Temp. Range °F	Diss. Const. mW/°C	Time Const. (Secs)	EACH 1-9	EACH 10-24	EACH 25-99
30F1824	GD24JM1	Bead	370	−50 to +150	0.8	2	30.00	24.00	19.50
30F1825	GB32JM1	Bead	2000	0 to +250	0.8	2			
30F1826	GB42JM1	Bead	15K	+50 to +450	0.8	2			
30F1827	GA51JM1	Bead	100K	+150 to +600	0.8	2			
30F1788	GD24MM2	Miniprobe	370	−50 to +150	1.4	16	30.00	24.00	19.50
30F1789	GB32MM2	Miniprobe	2000	0 to +250	1.4	16			
30F1790	GB42MM2	Miniprobe	15 K	+50 to +450	1.4	16			
30F1791	GA51MM2	Miniprobe	100 K	+150 to +600	1.4	16			
30F1792	GD24PM2	Std. probe	370	−50 to +150	1.9	25	30.00	24.00	19.50
30F1793	GB32PM2	Std. probe	2000	0 to +250	1.9	25			
30F1794	GB42PM2	Std. probe	15 K	+50 to +450	1.9	25			
30F1795	GA51PM2	Std. probe	100 K	+150 to +600	1.9	25			

UNI-CURVE RT CURVE-MATCHED INTERCHANGEABLE THERMISTORS

Uni-curve thermistors completely interchangeable electrically. For temperature control and compensation. Resistance tolerance over temperature range, ±2%. 2 oz.

Stock No.	Mfrs. Type	Ohms @25°C	Temp. Range °C	Diss. Const. mW/°C	Time Const. (Secs)	Lead Lgth. in.	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1796	UUA32J3	2252	0°C to 70°C	2	10	3	.095	4.50	3.80	3.09
30F1797	UUA33J1	3 K	0°C to 70°C	2	10	3	.095			
30F1798	UUA35J1	5 K	0°C to 70°C	2	10	3	.095			
30F1799	UUA41J1	10 K	0°C to 70°C	2	10	3	.095			
30F1800	UUT43J1	30 K	0°C to 70°C	2	10	3	.095			
30F1801	UUT45J1	50 K	0°C to 70°C	2	10	3	.095	4.50	3.80	3.09
30F1802	UUT51J1	100 K	0°C to 70°C	2	10	3	.095	4.50	3.80	3.09
30F1803	UUA32J4	2252	0°C to 100°C	2	10	3	.095	7.50	6.34	5.16
30F1849	UUA33J4	3 K	0°C to 100°C	2	10	3	.095	7.50	6.34	5.16
30F1850	UUA35J3	5 K	0°C to 100°C	2	10	3	.095	7.50	6.34	5.16

EXPERIMENTER'S THERMISTOR KITS



Model G-200 Contains 2 glass probes, 3 beads, 2 discs, 3 rods, 2 washers packed with specification sheets. Shpg. wt., 1 lb.
30F1804. NET..... **19.95**

Model G-700 Includes four glass beads and probes, manual, and computer for a variety of applications. Shpg. wt. 1 lb.
30F1805. NET..... **4.95**

Model G-701 Includes 10 glass beads and probes, manual, and computer for a wider range of applications than G-700.
30F1806. NET..... **9.95**

Model G-500 Uni-Curve Kit. Contains 6 standard RT curve-matched interchangeable thermistors (3K, 5K, 10K, 30K, 50K, 100K). Includes complete data sheets with full specifications and DC, TC listings. Shpg wt. 1 lb.
30F1807. NET..... **19.95**

EXPERIMENTER'S THERMISTOR PROBE

Thermistor mounted on card, with instructions and schematic for use as a remote temperature indicator, liquid level-control, or time-delay relay. Rated 135K at 25°C; 1 mW/°C diss. constant, 25 s; still-air time constant 0.3s in rapidly stirred water. Shpg. wt., 2 oz.
30F1848. NET..... **1.00**

THERMISTOR ASSEMBLIES

Matched assemblies for use in thermal conductivity gas analysis instruments. Each bead is mounted in a special hermetically-sealed stem. For maximum sensitivity, the higher resistance units should be used as higher ambient temperatures. 8 oz.

Type G126. Ro at 25°C, 2000 ohms ±25%; Ro at 0°C (approx.), 4900 ohms Ro at 50°C (approx.), 890 ohms; ratio of Ro 0°/50°C, 4.95-6.95; Ro at max. op. temp., 88 ohms; pair matched Ro at 25°C, 5%. Beta nom. at 25°C, 3000°K. Temp. coef. at 25° C, −3.4%/°C. TC, still air, 1s. DC, still air, 0.16 mW/°C; DC helium, 0.5 mW/°C. Pwr. rating, air, 15 mW; pwr. rating, helium, 60 mW.

Type G112. Ro at 25°C, 8000 ohms ±20%. Ro at 0°C (approx.), 23,200 ohms; Ro at 50°C (approx.), 3,200 ohms; ratio of Ro 0°/50°C, 6.56-7.99; Ro at max. op. temp., 25 ohms; pair matched Ro at 25°C, 2%. Beta nom. at 25°C, 3495°K. Temp. coef. at 25°C, −3.4%/°C. TC still air, 1 s. DC, still air, 0.16 mW/°C; DC helium, 0.5 mW/°C. Pwr. rating, air, 45 mW; pwr. rating, helium 140 mW.

Type G128. Ro at 25°C, 100,000 ohms ±20%; Ro at 0°C (approx.), 355,000 ohms; Ro at 50°C (approx.), 34,000 ohms; ratio of Ro 0°/50°C, 9.45-11.20; Ro at max. op. temp., 110 ohms; pair matched Ro at 25°C, 5%. Beta nom. at 25°C, 4115°K, Temp. coef. at 26°C, −4.6%/°C. TC, still air, 1 s. DC, still air, 0.16 mW/°C; DC, helium, 0.5 mW/°C. Pwr. rating, air, 45 mW; pwr. rating, helium, 140 mW.

Stock No.	Mfr's Type	Description	EACH 1-9	EACH 10-Up
30F1785	G126	2-GC32L3	14.42	11.54
30F1786	G112	2-GC38L1	26.00	20.80
30F1787	G128	2-GA51L2	33.00	26.40

Thermistors

NATIONAL LEAD

PRICE LOCATOR CHART

Key	1-9	10-24	25-49	50-99	100-499	500-999
A	3.20	1.65	1.30	1.20	1.00	.95
B	3.00	1.34	1.07	1.02	.89	.81
C	2.24	1.01	.83	.74	.63	.57
D	2.20	1.00	.80	.70	.68	.65
E	6.30	3.94	3.15	2.36	1.97	1.82

BEAD

Glass coated bead Thermistors feature small size, fast response, improved high-temperature stability to 400°C. Leads, fired-in platinum- iridium ± 10% to 1.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Price Key
30F1100	81B105	1000K	51.5	.7	2 (Sec)	A
30F1101	81B504	500K	46.5	.7	2 (Sec)	A
30F1102	81B154	150K	39.7	.7	2 (Sec)	A
30F1103	81B503	50K	35.0	.7	2 (Sec)	A
30F1104	81B153	15K	29.85	.7	2 (Sec)	A
30F1105	81B103	10K	29.85	.7	2 (Sec)	A
30F1106	81B202	2K	19.8	.7	2 (Sec)	A

BEAD PROBES

Glass coated bead in the tip of a glass probe. Rugged construction, Tinned Dumet leads. Max. Temp. 400°C ± 20% Tol.

30F1107	82G105	1000K	51.5	1	25 (Sec)	A
30F1108	82G504	500K	46.5	1	25 (Sec)	A
30F1109	82G154	150K	39.7	1	25 (Sec)	A
30F1110	82G503	50K	35.0	1	25 (Sec)	A
30F1111	82G153	15K	29.85	1	25 (Sec)	A
30F1112	82G103	10K	29.85	1	25 (Sec)	A
30F1113	82G202	2K	19.8	1	25 (Sec)	A

DISKS

Large size Thermistors with close electrical tolerances. For temperature compensation circuits, reduces self-heating effect. Pieces especially suited for current inrush suppression and time delay application.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Dia. In.	Price Key
30F1115	4D101	100K	48.78	4	12	.1	C
30F1116	4D103	50K	48.78	4	8	.1	C
30F1117	4D201	30K	48.78	8	34	.2	C
30F1118	1D051	20K	29.85	2	4.5	.05	B
30F1120	1D101	10K	29.85	4	12	.1	C
30F1121	1D103	5K	29.85	4	8	.1	C
30F1123	1D201	3K	29.85	8	34	.2	C
30F1124	1D301	3K	29.85	11.5	85	.3	C
30F1126	2D052	2K	19.80	2	4	.05	B
30F1127	1D203	1K	29.85	7.5	19	.2	C
30F1128	1D303	1K	29.85	9	48	.3	C
44F347	1D501	1K	...	19	140	.5	C
30F1129	1D401	1K	29.85	15.5	80	.4	C
30F1130	2D054	1K	19.80	2	3	.05	B
30F1131	2D102	1K	19.80	4	10	.1	C
30F1134	2D104	500	19.80	4	6	.1	C
30F1135	2D202	300	19.80	8	24	.2	C
30F1136	2D302	300	19.80	10.5	75	.3	C
44F346	1D403	250	...	14	35	.4	C
30F1139	2D204	100	19.80	7.5	16	.2	C
30F1140	2D304	100	19.80	8.5	38	.3	C
30F1141	2D502	100	19.80	17.5	120	.5	C
30F1142	3D102	100	12.95	4	10	.1	C
44F348	3D054	100	...	2	3	.05	B
44F345	2D402		...	15.5	70	.4	C
30F1143	2D504	50	19.80	15.5	70	.5	C
44F342	3D104	50	...	4	6	.1	C
30F1144	3D202	30	12.95	8	28	.2	C
30F1145	3D302	30	12.95	10.5	75	.3	C
44F344	3D304	10	...	8.5	38	.3	C
30F1148	3D204	10	12.95	7.5	16	.2	C
30F1149	3D402	10	12.95	15.5	70	.4	C
30F1150	3D502	10	12.95	17.5	120	.5	C
44F343	2D404	25	...	14	25	.4	C
30F1151	3D504	5	12.95	15.5	70	.5	C
30F1152	3D404	2.5	12.95	14	25	.4	C

WASHERS

Washer types to meet special mounting needs of chassis or heat sink mounting. Maximum temperature 150°C. Tolerance: ±10%. Dia. 75 In.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Price Key
30F1174	1W753	315	29.85	D
30F1175	1W755	100	29.85	D
30F1176	2W752	41.5	19.80	D

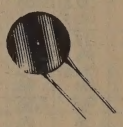
THE COMPLETE NATIONAL LEAD POSITIVE TEMPERATURE COEFFICIENT THERMISTORS AVAILABLE THRU NEWARK.

WASHER ASSEMBLIES

Assemblies meet requirements for large mass sensing with long time constants for compensation. Maximum temperature 150°C. Tolerance: ±10%. Dia. .75 In.

Stock No.	Type	Ohms@ 25°C	Dis. Const. CMW/°C	Price Key
30F1179	9RT1A1	415	29.85	E
30F1180	9RT1A3	315	29.85	E
30F1181	9RT1A5	100	29.85	E
30F1182	9RT1A2	41.5	19.80	E
30F1183	9RT1A4	31.5	19.80	E
30F1184	9RT1A6	10	19.80	E

VARISTOR DISKS



Varistors protect circuits and components from inductive voltage surges by limiting peak discharge voltage, when AC or DC magnetic or inductive current is suddenly interrupted. Black Glyptal coated after moisure protection with Silicone Impregnation. Max. Temp. 110°C.

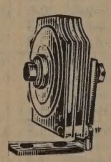
Stock No.	Type	DC Volts	Power Watts	1-9	10-24	25-49	50-99	100-499
30F1221	70D-5010	150	0.25					
30F1222	68D-5010	60	0.25	2.00	1.27	1.00	.77	.63
30F1223	67D-5010	30	0.25					
30F1224	65D-5010	15	0.25					
30F1225	71D-7000	150	0.75					
30F1226	68D-7000	60	0.75	3.40	2.12	1.70	1.27	1.05
30F1227	66D-7000	30	0.75					
30F1228	63D-7000	15	0.75					
30F1229	71D-10000	300	1.50					
30F1230	68D-10000	150	1.50	4.00	2.55	2.00	1.53	1.25
30F1231	66D-10000	60	1.50					
30F1232	63D-10000	30	1.50					

VARISTOR WASHERS

Varistors protect circuits and components from inductive voltage surges by limiting peak discharge voltage, when AC or DC magnetic or inductive current is suddenly interrupted. Silicone Impregnation provided to insure protection against moisture. ±20% Tolerance, short-time body temp. 150°C, continuous body temp. 110°C. 3" Dia. except (*) 6".

Stock No.	Type	DC Volts	Power Watts	1-9	10-24	25-49	50-99	100-499
30F1233	71W-30100	1500	3.5					
30F1234	69W-30100	300	3.0	11.00	8.30	6.60	5.00	4.40
30F1235	68W-30100	150	3.0					
30F1236	67W-30100	60	3.0					
30F1237	66W-30100	30	3.0	6.00	4.50	3.60	2.70	2.40
30F1238	63W-30100	15	3.0					
30F1239	62W-30100	7	3.0					
30F1240	69W-60100*	275	10.0					
30F1241	68W-60200*	200	10.0	12.50	10.61	9.03	7.82	6.88
30F1242	68W-60100*	150	10.0					

VARISTOR ASSEMBLIES



Protect circuits and components from inductive voltage surges. Assemblies have one or more Thyrite® washers bracket-mounted with spring lock washer for contact pressure. Washer insulated from central bolt and mounting brackets. Connections made to terminals shown. Bracket mounted assemblies available for stud mounting. Substitute "C" for "A" or "B" in type number. Varistors moisture protected with Silicone Inpregnation. AC voltage rating 90% of DC voltage rating. Continuous body temp. —110°C.

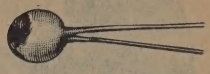
Stock No.	Type	Disks	DC Oper. Volts	Watts	1-4	5-9	10-24	25-49
30F1252	9RV3A10	4	50	12	24.63	21.00	18.07	15.95
30F1254	9RV3A12	1	150	3	12.62	10.80	9.34	8.18
30F1255	9RV3A14	1	300	3	12.62	10.80	9.34	8.18
30F1256	9RV3A15	2	600	6	18.56	15.50	13.64	12.00
30F1258	9RV3A52	2	3000	7	18.14	15.52	13.34	11.76
30F1259	9RV3A53	3	4500	10.5	24.98	21.30	18.32	16.13
30F1268	9RV6A1	1	150	10	23.00	19.65	16.92	14.85
30F1269	9RV6A2	2	150	20	38.81	33.18	28.57	25.17
30F1273	9RV6A6	1	275	10	23.00	19.65	16.92	14.85
30F1274	9RV6A7	2	275	20	38.81	33.18	28.57	24.00
30F1275	9RV6A8	3	275	30	54.22	46.27	39.91	35.17
30F1276	9RV6A9	4	275	40	67.31	57.37	49.48	41.54

Yellow Springs Instruments Thermistors

PRECISION THERMISTORS

Thermistors which match a published resistance-temperature curve and thus each other to ±1% not only at 25°C but over most of their useable range of —80°C to +150°C. Each thermistor is provided with resistance-temperature data for each degree C and with tolerance curves both in resistance variation and temperature sensing interchangeability. Base resistance from 100 ohms to 1 Megohm at 25°C available to ease circuit design impedance matching problems. Useful as transducers for measurement and control circuits where precision of YSI thermistors allow interchanging of transducers and multiple monitoring from single circuits. In control circuitry direct dialing of set points is possible as is trigger action at a specific temperature since resistance at any usable temperature is known to close tolerances. Also useful as temperature compensating devices for transistors, meters, circuits, etc. Physical size: .095" maximum dimension #32 solid tinned copper leads, 3" long. Thermistors are epoxy encapsulated for ruggedness and long life. Each thermistor supplied with data and with dissipation information, time constant and instructions. Rated at 25°C.

- **Low Cost Precision Thermistors**
- **Matches Standard Curves—80°C to 150°C**

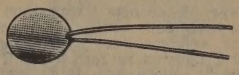


Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F200	44001	100	1.0%	.3°C			
29F201	44002	300	1.0%	.3°C			
29F202	44003	1K	1.0%	.3°C			
29F229	44004	2.252K	1.0%	.2°C			
29F203	44005	3K	.8%	.2°C	4.90	4.15	3.50
29F256	44007	5K	.8%	.2°C			
29F204	44006	10K	.8%	.2°C			
29F205	44008	30K	.8%	.2°C			
29F206	44011	100K	.8%	.2°C			
29F214	44014	300K	1.0%	.2°C			
29F215	44015	1 Meg	1.0%	.2°C			

½% PRECISION THEMISTORS

Specifically designed to match published and provided curves to within ±½% over exceptionally wide range! Units can be interchanged in measuring circuitry with a maximum 0.1°C error. Resistance tolerance data provided with each thermistor for each degree centigrade and its corresponding resistance shown from —40° to +100°C. Physical size: .095" diameter. #32 solid tinned copper leads, 3" long. Thermistors are epoxy encapsulated for ruggedness and extremely long life. Individually packaged with dissipation information, time constant data, and instructions. Rated at 25°C.

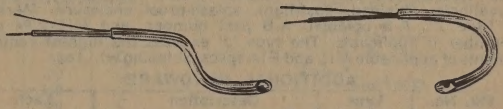
- **Twice the Precision over Previous YSI Devices**
- **Interchangeablity—0.1°C**
- **-40° to +100°C**



Stock No.	Type	Ohms	Res. Tol.	1-9	10-29	30-99
29F223	44030	3K	.4%			
29F224	44031	10K	.4%			
29F225	44032	30K	.4%	9.90	8.90	7.75
29F228	44033	2.252K	.4%			
29F257	44034	5K	.4%			

TEFLON PRECISION THERMISTOR PROBES

YSI interchangeable thermistors in chemically impervious form for sensing or control use. The interchangeable precision thermistors listed above, but additionally encased in a 2" length of chemically impervious Teflon. 3" leads extend 1" beyond the probe for convenience in attaching leads. Leads are insulated from each other by a smaller Teflon tube around one lead. Probes can be used straight or can be bent by finger pressure to exact configuration required for placing the thermistor where you want it. 0.11" max. in diameter. **Can be assorted for quantity prices.**



- **Precision—±1% at 25°C.**
- **Easily bent to required shape**
- **Chemically impervious Teflon casing**

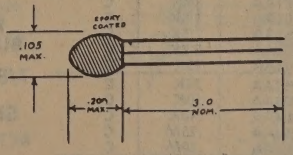
Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F207	44101	100	1.0%	.3°C			
29F208	44102	300	1.0%	.3°C			
29F209	44103	1K	1.0%	.3°C	9.90	8.90	7.75
29F210	44105	3K	.8%	.2°C			
29F258	44107	5K	.8%	.2°C			

Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F211	44106	10K	.8%	.2°C			
29F212	44108	30K	.8%	.2°C			
29F213	44111	100K	.8%	.2°C	9.90	8.90	7.75
29F216	44114	300K	1.0%	.2°C			
29F217	44115	1 Meg	1.0%	.2°C			

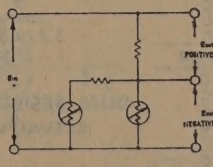
THERMILINEAR® THERMISTOR DEVICES

Linear Output Thermistor Networks

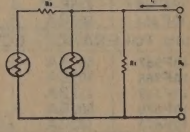
A composite precision thermistor device which, in conjunction with the precision resistors supplied, provides linear voltage output or linear resistance, change with change of temperature. Sensitivities of 20 mv/°C. and more are common, 400 times the sensitivity of an IC thermocouple. Linearity deviation is as little as 2 parts in 1000 from 0 to 100°C. Combined absolute accuracy, linearity and interchangeability specifications of as little as 3 parts in 1000 from 0 to 100°C. Greater accuracies, interchangeabilities, and linearities available for shorter standard ranges. Parts guaranteed to stay within tolerances for three years. Useful for direct digital temperature indication with DVM or linear recorder. Provides linear temperature compensation with thermistor sensitivity. Time constant: 1 second, in well-stirred oil bath. Parts consist of composite thermistor and resistor assembly. Thermistor composites are manufactured to absolute accuracy tolerances of $7x0.15°C from —30 to +100°C. For complete information and technical data, write Newark. Type 44018 and type 44019; additional thermistor composites for replacement or multiple input work.



Thermistor Composite



Linear Voltage vs. Temperature



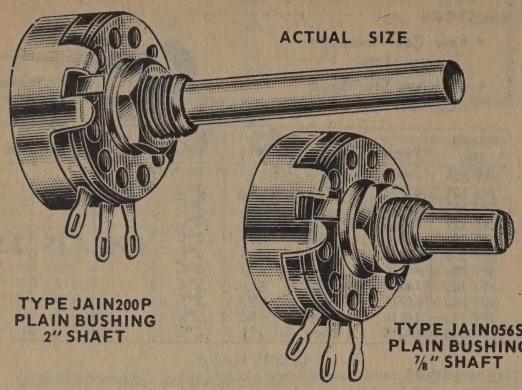
Linear Resistance vs. Temperature

Stk. No.	Type	Range	Linearity	1-9	10-29	30-99
29F218	44201	0° to 100°C	±0.2°C			
29F219	44202	—5 to —45°C	±0.1°C			
29F220	44203	—30 to —50°C	±0.2°C	10.50	9.80	9.10
29F221	44204	+30 to 100°C	±0.075°F			
29F226	44211	—55 to 85°C	1.1°C			
29F222	44018	see text	.....	7.50	6.90	6.30
29F227	44019	—55 to 85°C	1.1°C	7.50	6.90	6.30

Refer to page 658 for a complete listing of YSI Thermovolt Thermometers

Allen-Bradley Potentiometers

TYPE J-STYLE RV4N VARIABLE POTENTIOMETERS



ACTUAL SIZE

TYPE JAIN200P
PLAIN BUSHING
2" SHAFT

TYPE JAIN056S
PLAIN BUSHING
⅞" SHAFT

Type 'J' carbon composition with potentiometers have a uniform smooth resistance track which means low noise levels and stepless linear or exponential tapers. Rated: 2¼ watt @ 70°C derated to zero @ 120°C with entire resistance element in circuit. —55°C to +120°C. 350 volts max. cont. voltage 50 Ohms to 5.0 Megohms. Less than 10% resistance change due to moisture. Infinite resolution. Less than 2% resistance change and less than 5% setting change with vibration or shock. Less than 10% change resistance change after 1000 hrs. at rated load. ⅞" slotted or 2" plain shafts. Total rotation 312° ±3° without switch with switch 333° ±3°. Effective rotation 312° ±3° in all cases. Torque 1 to 6 in. oz. single control. Locating lug provided to prevent movement. Available with SPST snap action switch which turns on at start of clockwise rotation. Switch UL rating 2 amps 125 V. RMS 60 Hz. Also 10 amps 10 volts dc non-inductive. Switch not available for dual controls. Plain bushing potentiometers are supplied with one mounting nut M-2786, and one lock washer M-2898. Additional hardware available. Shielded, dust-tight, splash-proof enclosure. Marking "Type J", A-B octagon, A-B part number, and MIL-R-94 part number if applicable. The type 'J' exceeds the highest requirements of applicable MIL and EIA specs. Shipping wt., 4 oz.

ADDITIONAL HARDWARE

Stk. No.	Type	Description	Each
10F1953	M-2786	Mounting Nut	.05
10F1954	M-2898	Lock Washer	.10
10F1955	B-13750	Hex Locking Nut	.20
10F1956	M-3236	Acorn Locking Nut	.40
10F1957	M-3318	Knurled Locking Nut	.50

PRICE CODE

Code	1-9	10-24	25-49	50-99	100-249	250-499
A	1.95	1.75	1.70	1.62	1.26	.97
B	1.75	1.60	1.55	1.52	1.16	.90
C	2.25	2.02	1.97	1.87	1.26	.97

10% TOLERANCE—LINEAR TAPER

⅞" SHAFT Stk. No.	⅞" SHAFT Type JA1N056S	Mil. No. RV4NAY5D	2" SHAFT Stk. No.	2" SHAFT Type JA1N200P	Ohms	Price
10F453	500UA	500A	10F506	500UA	50	A
10F454	101UA	101A	10F507	101UA	100	A
10F455	151UA	151A	10F508	151UA	150	A
10F456	201UA	201A	10F509	201UA	200	A
10F457	251UA	251A	10F510	251UA	250	A
10F458	351UA	351A	10F511	351UA	350	A
10F459	501UA	501A	10F512	501UA	500	A
10F460	751UA	751A	10F513	751UA	750	A
10F461	102UA	102A	10F514	102UA	1.0K	A
10F462	152UA	152A	10F515	152UA	1.5K	A
10F463	202UA	202A	10F516	202UA	2.0K	A
10F464	252UA	252A	10F517	252UA	2.5K	A
10F465	352UA	352A	10F518	352UA	3.5K	A
10F466	502UA	502A	10F519	502UA	5.0K	A
10F467	752UA	752A	10F520	752UA	7.5K	A
10F468	103UA	103A	10F521	103UA	.10K	A
10F469	153UA	153A	10F522	153UA	15K	A
10F470	203UA	203A	10F523	203UA	20K	A
10F471	253UA	253A	10F524	253UA	25K	A
10F472	353UA	353A	10F525	353UA	35K	A
10F473	503UA	503A	10F526	503UA	50K	A
10F474	753UA	753A	10F527	753UA	75K	A
10F475	104UA	104A	10F528	104UA	.10M	A
10F476	154UA	154A	10F529	154UA	.15M	A
10F477	204UA	204A	10F530	204UA	.20M	A
10F478	254UA	254A	10F531	254UA	.25M	A
10F479	354UA	354A	10F532	354UA	.35M	A
10F480	504UA	504A	10F533	504UA	.50M	A

20% TOLERANCE—LINEAR TAPER

Stk. No.	Type JA1N056S	Mil. No. RV4NAY50	Stk. No.	Type JA1N200P	Ohms	Price
10F481	500MA	500B	10F534	500MA	50	B
10F482	101MA	101B	10F535	101MA	100	B
10F483	251MA	251B	10F536	251MA	250	B
10F484	501MA	501B	10F537	501MA	500	B
10F485	102MA	102B	10F538	102MA	1.0K	B
10F486	252MA	252B	10F539	252MA	2.5K	B
10F487	502MA	503A	10F540	502MA	5.0K	B
10F488	103MA	103B	10F541	103MA	10K	B
10F489	253MA	253B	10F542	253MA	25K	B
10F490	503MA	503B	10F543	503MA	50K	B
10F491	104MA	104B	10F544	104MA	.10M	B
10F492	254MA	254B	10F545	254MA	.25M	B
10F493	504MA	504B	10F546	504MA	.50M	B
10F494	754MA	754B	10F547	754MA	.75M	A
10F495	105MA	105B	10F548	105MA	1.0M	A
10F496	155MA	155B	10F549	155MA	1.5M	A
10F497	205MA	205B	10F550	205MA	2.0M	A
10F498	255MA	255B	10F551	255MA	2.5M	A
10F499	355MA	355B	10F552	355MA	3.5M	A
10F500	505MA	505B	10F553	505MA	5.0M	A

10% TOLERANCE—CW LOG TAPER

Stk. No.	Type JA1N200P	Ohms	Price
10F554	501AA	500	C
10F555	102AA	1.0K	C
10F556	252AA	2.5K	C
10F557	502AA	5.0K	C
10F558	103AA	10K	C
10F559	253AA	25K	C
10F560	503AA	50K	C
10F561	104AA	.10K	C
10F562	254AA	.25M	C
10F563	504AA	.50M	C

20% TOLERANCE—CW LOG TAPER

10F564	105RA	1.0M	C
10F565	255RA	2.5M	C
10F566	505RA	5.0M	C

10% TOLERANCE—CCW LOG TAPER

10F567	501BA	500	C
10F568	102BA	1.0K	C
10F569	252BA	2.5K	C
10F570	502BA	5.0K	C
10F571	103BA	10K	C
10F572	253BA	25K	C
10F573	503BA	50K	C
10F574	104BA	.10M	C
10F575	254BA	.25M	C
10F576	504BA	.50M	C

20% TOLERANCE—CCW LOG TAPER

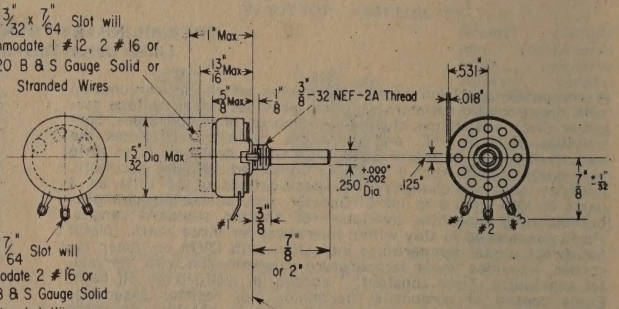
10F577	105TA	1.0M	C
10F578	255TA	2.5M	C
10F579	505TA	5.0M	C

PLAIN BUSHING

7/8" or 2"

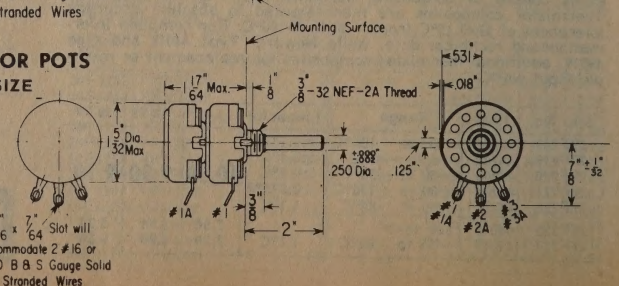
SHAFT

ACTUAL SIZE



DUAL RESISTOR POTS

ACTUAL SIZE



Allen-Bradley Potentiometers

TYPE J-STYLE RV4L AND DUAL RESISTOR

LINEAR TAPER 10% TOLERANCE

Stk. No	Type JAIL040S	Mil. No. RV4LAYSA	Ohms	Price
10F400	500UC	500A	50	A
10F401	101UC	101A	100	A
10F402	151UC	151A	150	A
10F403	201UC	201A	200	A
10F404	251UC	251A	250	A
10F405	351UC	351A	350	A
10F406	501UC	501A	500	A
10F407	751UC	751A	750	A
10F408	102UC	102A	1.0K	A
10F409	152UC	152A	1.5K	A
10F410	202UC	202A	2.0K	A
10F411	252UC	252A	2.5K	A
10F412	352UC	352A	3.5K	A
10F413	502UC	502A	5.0K	A
10F414	752UC	752A	7.5K	A
10F415	103UC	103A	10K	A
10F416	153UC	153A	15K	A
10F417	203UC	203A	20K	A
10F418	253UC	253A	25K	A
10F419	353UC	353A	35K	A
10F420	503UC	503A	50K	A
10F421	753UC	753A	75K	A
10F422	104UC	104A	.10M	A
10F423	154UC	154A	.15M	A
10F424	204UC	204A	.20M	A
10F425	254UC	254A	.25M	A
10F426	354UC	354A	.35M	A
10F427	504UC	504A	.50M	A

LINEAR TAPER 20% TOLERANCE

Stk. No.	Type JA1L040S	Mil. No. RV4LAYSA	Ohms	Price
10F428	500MC	500B	50	B
10F429	101MC	101B	100	B
10F430	251MC	251B	250	B
10F431	501MC	501B	500	B
10F432	102MC	102B	1.0K	B
10F433	252MC	252B	2.5K	B
10F434	502MC	502B	5.0K	B
10F435	103MC	103B	10K	B
10F436	253MC	253B	25K	B
10F437	503MC	503B	50K	B
10F438	104MC	104B	.10M	B
10F439	254MC	254B	.25M	B
10F440	504MC	504B	.50M	B
10F441	745MC	754B	.75M	A
10F442	105MC	105B	1.0M	A
10F443	155MC	155B	1.5M	A
10F444	205MC	205B	2.0M	A
10F445	255MC	255B	2.5M	A
10F446	355MC	355B	3.5M	A
10F447	505MC	505B	5.0M	A

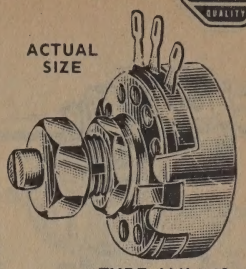
PRICE CODE

Code	1-9	10-24	25-49	50-99	100-249	250-499
A	2.55	2.29	2.24	2.12	1.41	1.09
B	2.35	2.14	2.09	2.02	1.31	1.01
C	5.85	5.26	5.20	5.06	3.20	2.47
D	.66	.62	.60	.59	.38	.29

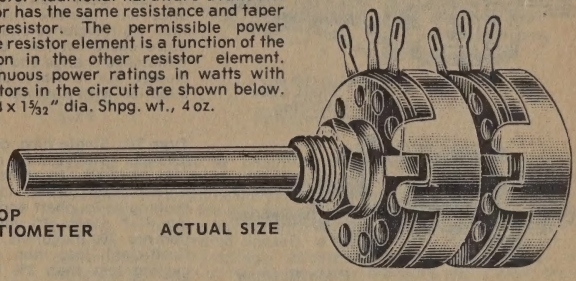
Type JAIL-hot molded composition potentiometer has a locking bushing. Linear taper, low noise, long life, infinite resolution. Enclosure is dust-tight and splash proof. After the locking nut has been tightened with a torque of 10 in. pounds the shaft will not turn with torques up to 40 in. ounces. Hardware included at no charge with order contains one mounting nut M-2786, one lock washer M-2898 and one lock nut B-13750. case size 5/8" x 1 5/32" dia. Shpg. wt., 4 oz. Additional hardware available.

Type JD dual controls are available in standard resistances from 50 ohms to .5 megohms with linear tapers. Maximum torque for dual controls is 9 in. oz.; minimum is 1 in. oz. Hardware included with order at no charge contains one mounting nut M-2786 and one lock washer M-2898. Additional hardware available. The panel resistor has the same resistance and taper as the rear resistor. The permissible power dissipation in one resistor element is a function of the power dissipation in the other resistor element. Maximum continuous power ratings in watts with both entire resistors in the circuit are shown below. case size: 1-17/74 x 1 5/32" dia. Shpg. wt., 4 oz.

ACTUAL SIZE



TYPE JAIL040S
LOCKING BUSHING
7/8" SHAFT



TYPE JOINZOOP
DUAL POTENTIOMETER
2" SHAFT

ACTUAL SIZE

WATTAGE TYPE JD										
Panel Resistor	2.25	2.0	1.75	1.5	1.25	1.0	0.75	0.5	0.25	0
Rear Resistor	0	0.83	1.13	1.34	1.49	1.61	1.7	1.75	1.79	1.8

DUAL LINEAR—10% TOLERANCE

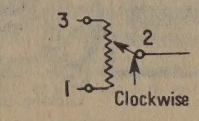
Stk. No.	Type JDIN200P	Ohms	Price
10F585	500UA	50	C
10F586	101UA	100	C
10F587	251UA	250	C
10F588	501UA	500	C
10F589	102UA	1.0K	C
10F590	252UA	2.5K	C
10F591	502UA	5.0K	C
10F592	103UA	10K	C
10F593	253UA	25K	C
10F594	503UA	50K	C
10F595	104UA	.10M	C
10F596	254UA	.25M	C
10F597	504UA	.50M	C

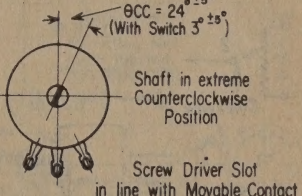
DUAL LINEAR—20% TOLERANCE

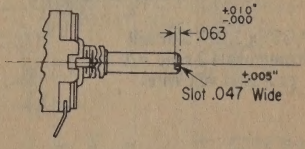
10F598	105MA	1.0M	C
10F599	255MA	2.5M	C
10F600	505MA	5.0M	C

SPST SWITCH

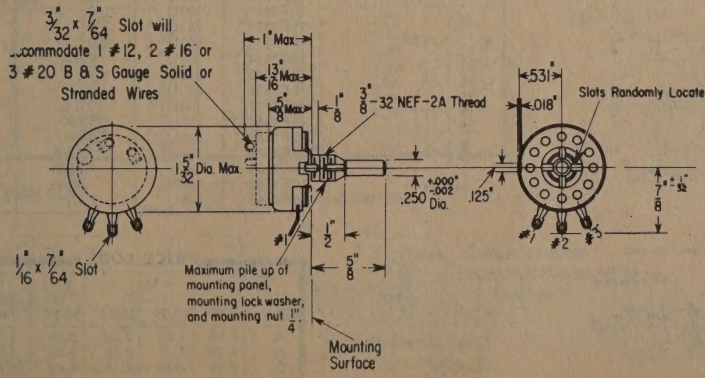
Stk. No.	Type	Price Code
10F605	JS-1	D

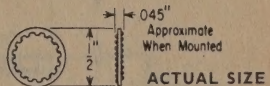






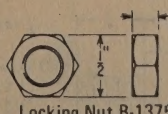
SHAFT LOCKING BUSHING





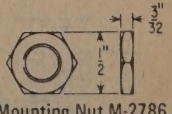
ACTUAL SIZE

Lock Washer M-2898



Locking Nut B-13750

ACTUAL SIZE

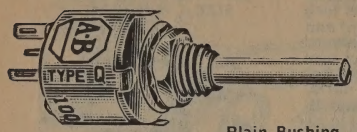


Mounting Nut M-2786

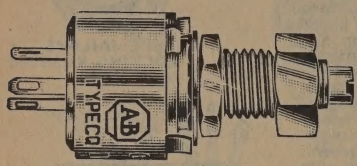
ACTUAL SIZE

Cermet Potentiometers

●NEW TYPE CQ & TYPE SP

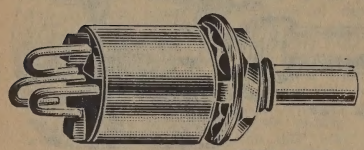


Plain Bushing

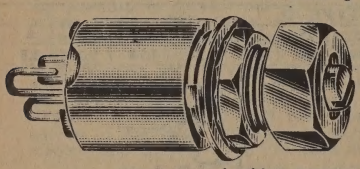


Shaft Lock Bushing

Type CQ, Cermet variable resistors are designed for use in severe environmental conditions in military and industrial equipment. Exceeds the highest requirements of applicable EIA and Mil. specifications. Rated ½ watt at 125°C derated to zero watts at 175°C. Temperature range -65°C to 175° with temp. coef. less than ±250 ppm/°C. Rotation 295°±5°. Dielectric withstanding voltage 750 volts RMS at sea level. Maximum continuous working voltage 350 volts RMS. Resistance 100 ohms to 5.0 megohms. Less than 3% permanent resistance change after 1000 hrs. load life. Less than 5% resistance change after 50,000 cycles on rotational life test. Less than 2% change in resistance on moisture resistance test. Less than 1% resistance change in low temperature operation test. Less than 2% total resistance change and less than 6% setting change dur to vibration and shock tests. Supplied with hardware.



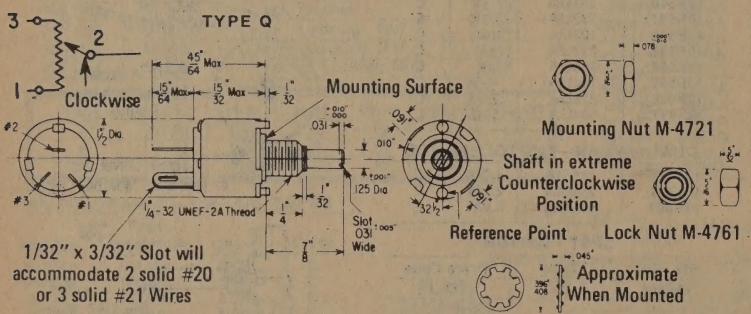
Plain Bushing



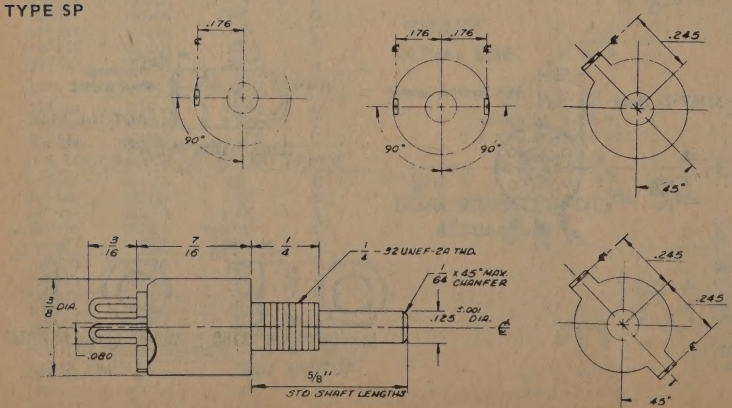
Locking Bushing

Type SP, Single turn cermet potentiometers are rated 1 watt at 70°C derated to zero at 150°C. 50 ohms to 1.0 megohms. Linear taper ±10% tolerance ¼" plain bushing ⅜ in. shaft and ⅜" locking bushing, 7/16" shaft. 300 volts MCWV. Insulation res. 100 megohms min. Temperature Coefficient, less than ±250 PPM. Temp cycling less than 3% res. change. Less than 2% resistance change due to moisture test. Vibration or shock less than 2% total resistance change. Less than 3% res. change due to temp. cycling. Rotation 280° ±5° mech. and elc. turning torque ½ to 5 in. oz. Less than 5% total res. change after 1000 hrs. load life at 1 watt 70°C. Marking A-B octagon, "type SP", A-B part number with nominal resistance. Supplied with hardware and mounting lugs.

TYPE Q



TYPE SP



¼" PLAIN BUSHING
⅞" SLOT SHAFT
10% TOLERANCE

Stock No.	Type CQ2G056S	Ohms	Price Code
10F1400	101U	100	A
10F1401	251U	250	A
10F1402	501U	500	A
10F1403	102U	1000	A
10F1404	252U	2500	A
10F1405	502U	5000	A
10F1406	103U	10000	A
10F1407	253U	25000	A
10F1408	503U	50000	A
10F1409	104U	.1 MEG	A
10F1410	254U	.25 MEG	A
10F1411	504U	.50 MEG	A
10F1412	105U	1.0 MEG	A
10F1413	205U	2.0 MEG	A
10F1414	255U	2.5 MEG	A
10F1415	505U	5.0 MEG	A

½" LOCKING BUSHING
⅝" SLOT SHAFT
10% TOLERANCE

Stock No.	Type CQ2L040S	Ohms	Price Code
10F1450	101U	100	B
10F1451	241U	250	B
10F1452	501U	500	B
10F1453	102U	1000	B
10F1454	252U	2500	B
10F1455	502U	5000	B
10F1456	103U	10000	B
10F1457	253U	25000	B
10F1458	503U	50000	B
10F1459	104U	.1 MEG	B
10F1460	254U	.25 MEG	B
10F1461	504U	.50 MEG	B
10F1462	105U	1.0 MEG	B
10F1463	205U	2.0 MEG	B
10F1464	255U	2.5 MEG	B
10F1465	505U	5.0 MEG	B

¼" PLAIN BUSHING
⅝" SLOTTED SHAFT
10% TOLERANCE

Stock No.	Type SPSG040S	Ohms	Price Code
10F1500	500U	50	C
10F1501	101U	100	C
10F1502	251U	250	C
10F1503	501U	500	C
10F1504	102U	1K	C
10F1505	252U	2.5K	C
10F1506	502U	5.0K	C
10F1507	103U	10.0K	C
10F1508	253U	25.0K	C
10F1509	503U	50.0K	C
10F1510	104U	.10M	C
10F1511	254U	.25M	C
10F1512	504U	.50M	C

⅜" LOCKING BUSHING
7/16" SLOT SHAFT
10% TOLERANCE

Stock No.	Type SPSM028S	Ohms	Price Code
10F1550	500U	50	D
10F1551	101U	100	D
10F1552	251U	250	D
10F1553	501U	500	D
10F1554	102U	1.0K	D
10F1555	252U	2.5K	D
10F1556	502U	5.0K	D
10F1557	103U	10.0K	D
10F1558	253U	25.0K	D
10F1559	503U	50.0K	D
10F1560	104U	.10M	D
10F1561	254U	.25M	D
10F1562	504U	.50M	D
10F1563	105U	1.0M	D

PRICE CODE

Code	1-9	10-24	25-49	50-99	100-249
A	6.00	4.00	3.40	3.20	2.90
B	6.30	4.15	3.60	3.35	3.05
C	8.80	7.30	6.45	6.00	5.50
D	9.10	7.50	6.65	6.20	5.70

Allen-Bradley Potentiometers

TYPE G AND W VARIABLE RESISTOR
STYLE RV6N AND RV6L

10% TOLERANCE

Stk. No.	Type GA2 L040S	MIL-R-94 RV6 LAYSA	Ohms	Price
10F660	101UC	101A	100	A
10F661	251UC	251A	250	A
10F662	501UC	501A	500	A
10F663	102UC	102A	1.0K	A
10F664	252UC	252A	2.5K	A
10F665	502UC	502A	5.0K	A
10F666	103UC	103A	10K	A
10F667	253UC	253A	25K	A
10F668	503UC	503A	50K	A
10F669	104UC	104A	.10M	A
10F670	254UC	254A	.25M	A
10F671	504UC	504A	.50M	A

20% TOLERANCE

Stk. No.	RV6LAYSA	Ohms	
10F672	105MC	105B	1.0M	B
10F673	255MC	255B	2.5M	B
10F674	505MC	505B	5.0M	B

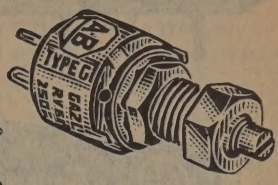
10% TOLERANCE

Stk. No.	WA2L040S	Ohms	Net
10F680	101UC	100	C
10F681	201UC	200	C
10F682	251UC	250	C
10F683	501UC	500	C
10F684	102UC	1.0K	C
10F685	202UC	2.0K	C
10F686	252UC	2.5K	C
10F687	502UC	50K	C
10F688	103UC	10K	C
10F689	203UC	20K	C
10F690	253UC	25K	C
10F691	503UC	50K	C
10F692	104UC	.10M	C
10F693	204UC	.20M	C
10F694	254UC	.25M	C
10F695	504UC	.50M	C

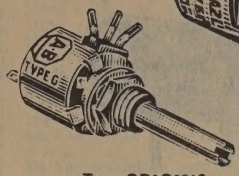
20% TOLERANCE

Stk. No.		Ohms	
10F696	105MC	1.0M	D
10F697	205MC	2.0M	D
10F698	255MC	2.5M	D
10F699	505MC	5.0M	D

Type GA2G056S and WA2G056S Plain Bushing



Type GA2L040S and WA2L040S Locking Bushing



ACTUAL SIZE

Type GD1G056S Dual Potentiometer

10% TOLERANCE

Stk. No.	Type GA2-G056S	Mil-R-94 RV6-NAYSD	Ohms	Net Price
10F636	101UA	101A	100	E
10F637	251UA	251A	250	E
10F638	501UA	501A	500	E
10F639	102UA	102A	1.0K	E
10F640	252UA	252A	2.5K	E
10F641	502UA	502A	5.0K	E
10F642	103UA	103A	10K	E
10F643	253UA	253A	25K	E
10F644	503UA	503A	50K	E
10F645	104UA	104A	.10M	E
10F646	254UA	254A	.25M	E
10F647	504UA	504A	.50M	E

10% TOLERANCE

Stk. No.	WA2G056S	Ohms	Net
10F705	101UA	100	G
10F706	201UA	200	G
10F707	251UA	250	G
10F708	501UA	500	G
10F709	102UA	1.0K	G
10F710	202UA	2.0K	G
10F711	252UA	2.5K	G
10F712	502UA	5.0K	G
10F713	103UA	10K	G
10F714	203UA	20K	G
10F715	253UA	25K	G
10F716	503UA	50K	G
10F717	104UA	.10M	G
10F718	204UA	.20M	G
10F719	254UA	.25M	G
10F720	504UA	.50M	G

20% TOLERANCE

10F648	105MA	105B	1.0M	F
10F649	205MA	205B	2.0M	F
10F650	255MA	255B	2.5M	F
10F651	505MA	505B	5.0M	F

20% TOLERANCE

10F721	105MA	1.0M	H
10F722	205MA	2.0M	H
10F723	255MA	2.5M	H
10F724	505MA	5.0M	H

10% TOLERANCE

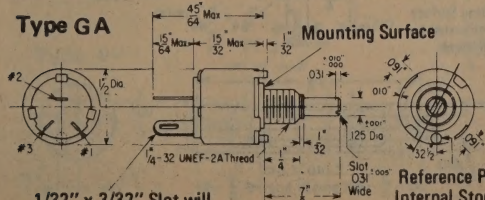
Stk. No.	Type GD1G056S	Ohms	Net Price
10F610	101UA	100	I
10F611	201UA	200	I
10F612	251UA	250	I
10F613	501UA	500	I
10F614	102UA	1.0K	I
10F615	202UA	2.0K	I
10F616	252UA	2.5K	I
10F617	502UA	5.0K	I
10F618	103UA	10K	I
10F619	203UA	20K	I

Stk. No.	Type GD1G056S	Ohms	Net
10F620	253UA	25K	I
10F621	503UA	50K	I
10F622	104UA	.10M	I
10F623	204UA	.20M	I
10F624	254UA	.25M	I
10F625	504UA	.50M	I
10F626	105UA	1.0M	I
10F627	205UA	2.0M	I
10F628	255UA	2.5M	I
10F629	505UA	5.0M	I

PRICE CODE

Code	1-9	10-24	25-49	50-99	100-249	250-499
A	5.10	4.59	4.50	4.23	2.72	2.09
B	4.70	4.29	4.20	3.84	2.44	1.88
C	4.66	3.91	3.29	2.62	1.33	1.20
D	4.46	3.70	3.10	2.41	1.23	1.15
E	4.87	4.37	4.29	4.03	2.56	1.98
F	4.47	4.07	3.99	3.64	2.30	1.77
G	4.41	3.67	3.06	2.45	1.22	1.12
H	4.21	3.47	2.86	2.24	1.12	1.03
I	10.14	7.46	6.70	5.60	4.63	4.32

Type GA



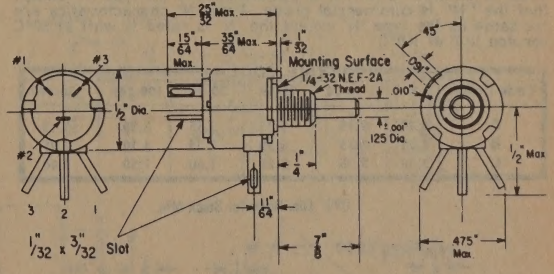
1/32" x 3/32" Slot will accommodate 2 solid #20 or 3 solid #21 Wires

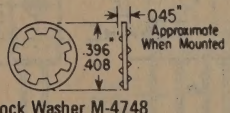
Type 'G' and type 'W' potentiometers are of the high quality hot molded carbon composition type. Type 'G' is approved under MIL-R-94 style RV6, while the type 'W' is similar in performance and characteristics to the 'G', but is a commercial grade. Both the 'G' and the 'W' have a temperature range of -55°C to +120°C, ½ watt rating at 70°C derated linearly to zero at 120°C, 350 v. maximum continuous working voltage, 100 ohms to 5 megohms. Less than 10% temporary change of resistance due to moisture test. Linear taper. Infinite resolution. Less than 2% total resistance change, less than 5% setting change with shock and vibration. Less than 10% change after 1000 hours load life. Total rotation 295° ±5°. Torque .5 to 3 in. oz. Plain bushing resistors are supplied with one mounting nut M-4721 and one lock washer M-4748. Resistors with shaft lock bushings also include one locknut M-4761. Additional hardware is available. These resistors have "O" ring seals between actuating shaft and bushing. They are water-tight at that point (0 to 30 ft. head of water, zero to 15 psi.) The resistors are immersion-proof. Marking is "Type G" or "Type W", A-B octagon, A-B part number with resistance for the 'W' or the A-B part number and MIL designation with resistance for the 'G'. Shipping wt., 4 oz.

ADDITIONAL HARDWARE

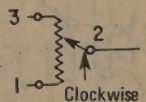
Stk. No.	Type	Description	Each
10F1950	M4721	Mounting Nut	.05
10F1951	M4748	Lock Washer	.05
10F1952	M4761	Hex Lock Nut	.10

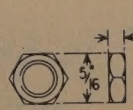
TYPE GD



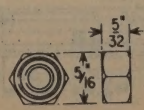


Lock Washer M-4748





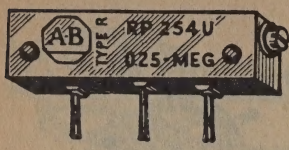
Mounting Nut M-4721



Lock Nut M-4761

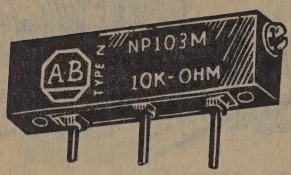
Allen-Bradley Trimmers

TYPE N, RP AND RS TRIMMERS



Type RP

Type RS



Type N

ACTUAL SIZE

- Designed for use on printed circuit boards
- Ideal for high frequency applications
- Hot molded composition material
- Temperature Range — 55°C +125°C
- Power—¼ watt at 70°C derated linearly to zero watt at 125°C
- Voltage—300 volts, maximum continuous working voltage (RMS or dc)
- Resistence—100 ohms to 2.5 mega ohms
- Essentially infinite resolution
- Either pin or lug type terminals, treated for easy soldering
- Reliable immersion proof performance
- Performance exceeds military and EIA spec.

Type 'R' hot molded carbon composition 25 turn variable resistors are intended primarily for trimmer applications and are MILR'' approved. Low inductance and small distributed capacitance make the type 'R' ideal for high frequency applications. —55°C to +125°C. ¼ watt at 70°C derated linearly to zero at 125°C. 300 volts max. continuous working voltage (rms or dc). 100 Ohms to 2.5 Megohms. Infinite resolution. Less than 10% temporary change due to moisture. Thermal shock less than 3% overall resistance change and less than 2% change in setting. Less than 10% overall resistance change or 2% setting change after 1000 hrs. at rated load. Less than 5% resistance change after 500 cycles (25,000 actuator turns). Torque .10 to 8 in. oz. Pin or lug terminals spaced on 0.1 in. grid system for printed circuit boards. Corrosion resistant non-magnetic materials. Sealed, molded, insulating enclosure with ''O'' ring equipped adjustment screw provides reliable immersion-proof performance. Can be encapsulated. Marking ''Type R'', A-B octagon, part number with resistance value. RJ11 also marked with MIL designation and circuit diagram if applicable.

Type 'N' trimmer is similar in performance to the type RP except that the ''N'' is commercial grade. Type 'N' characteristics are the same as the type 'R' except the 'N' is rated ⅓ watt at 50°C derated to 0 at 100°C.

PRICE CODE						
Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	4.20	3.95	3.75	3.55	3.30	3.10
B	4.00	3.75	3.55	3.35	3.10	2.95
C	3.30	2.75	2.25	1.60	1.50	1.40

10% TOLERANCE — 20% TOLERANCE

Stk. No.	Type	MIL-R-22097 RJ11AS	Ohms	Pr	Stk. No.	Type	Ohms	Pr
10F1135	RS101U	101	100	A	10F1154	RS101M	100	B
10F1136	RS201U	201	200	A	10F1155	RS201M	200	B
10F1137	RS251U	.....	250	A	10F1156	RS251M	250	B
10F1138	RS501U	501	500	A	10F1157	RS501M	500	B
10F1139	RS102U	102	1.0K	A	10F1158	RS102M	1.0K	B
10F1140	RS202U	202	2.0K	A	10F1159	RS202M	2.0K	B
10F1141	RS252U	.....	2.5K	A	10F1160	RS252M	2.5K	B
10F1142	RS502U	502	5.0K	A	10F1161	RS502M	5.0K	B
10F1143	RS103U	103	10K	A	10F1162	RS103M	10K	B
10F1144	RS203U	203	20K	A	10F1163	RS203M	20K	B
10F1145	RS253U	253	25K	A	10F1164	RS253M	25K	B
10F1146	RS503U	503	50K	A	10F1165	RS503M	50K	B
10F1147	RS104U	104	.10M	A	10F1166	RS104M	.10M	B
11F1148	RS204U	. . .	20MA	A	10F1167	RS204M	.20M	B
10F1149	RS254U	254	.25M	A	10F1168	RS254M	.25M	B
10F1150	RS504U	504	.50M	A	10F1169	RS504M	.50M	B
10F1151	RS10tU	105	1.0M	A	10F1170	RS105M	1.0M	B
10F1152	RS205U	. . .	2.0M	A	1'F1171	RS205M	2.0M	B
10F1153	RS225U	. . .	2.5M	A	10F1172	RS225M	2.5M	B

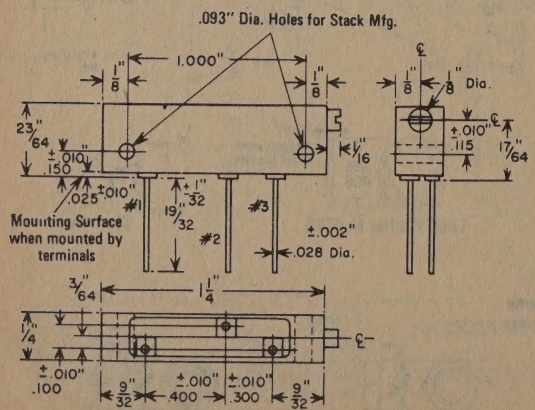
10% TOLERANCE — 20% TOLERANCE

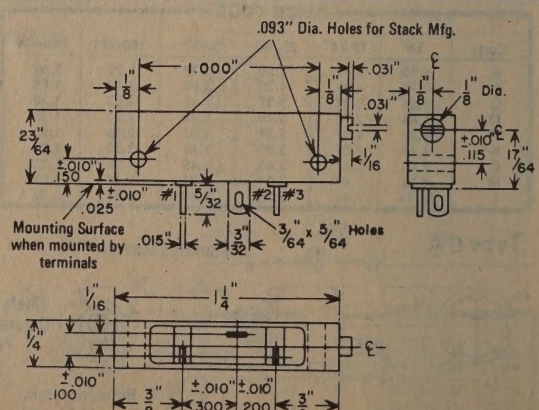
Stk. No.	Type	MIL-R-22097 RJ11AP	Ohms	Pr	Stk. No.	Type	Ohms	Pr
10F1090	RP101U	101	100	A	10F1109	RP101M	100	B
10F1091	RP201U	201	200	A	10F1110	RP201M	200	B
10F1092	RP251U	.....	250	A	10F1111	RP251M	250	B
10F1093	RP501U	501	500	A	10F1112	RP501M	500	B
10F1094	RP102U	102	1.0K	A	10F1113	RP102M	1.0K	B
10F1095	RP202U	202	2.0K	A	10F1114	RP202M	2.0K	B
10F1096	RP252U	.....	2.5K	A	10F1115	RP252M	2.5K	B
10F1097	RP502U	502	5.0K	A	10F1116	RP502M	5.0K	B
10F1098	RP103U	103	10K	A	10F1117	RP103M	10K	B
10F1099	RP203U	203	20K	A	10F1118	RP203M	20K	B
10F1100	RP253U	253	25K	A	10F1119	RP253M	25K	B
10F1101	RP503U	503	50K	A	10F1120	RP503M	50K	B
10F1102	RP104U	104	.10M	A	10F1121	RP104M	.10M	B
10F1103	RP204U	.....	.20M	A	10F1122	RP204M	.20M	B
10F1104	RP254U	254	.25M	A	10F1123	RP254M	.25M	B
10F1105	RP504U	504	.50M	A	10F1124	RP504M	.50M	B
10F1106	RP105U	105	1.0M	A	10F1125	RP105M	1.0M	B
10F1107	RP205U	.....	2.0M	A	10F1125	RP205M	2.0M	B
10F1108	RP225U	.....	2.5M	A	10F1127	RP255M	2.5M	B

20% TOLERANCE

Stk. No.	Type No.	Ohms	Price	Stk. No.	Type No.	Ohms	Price
10F1020	NP101M	100	C	10F1029	NP203M	20K	C
10F1021	NP201M	200	C	10F1030	NP253M	25K	C
10F1022	NP251M	250	C	10F1031	NP503M	50K	C
10F1023	NP501M	500	C	10F1032	NP104M	.10M	C
10F1024	NP102M	1.0K	C	10F1033	NP204M	.20M	C
10F1025	NP202M	2.0K	C	10F1034	NP254M	.25M	C
10F1026	NP252M	2.5K	C	10F1035	NP504M	.50M	C
10F1027	NP502M	5.0K	C	10F1036	NP105M	1.0M	C
10F1028	NP103M	10K	C	10F1037	NP205M	2.0M	C
.....	.....	....	..	10F1038	NP255M	2.5M	C

The Type N dimensions are similar to the RP except the Type N has no holes for stack manufacturing, and N slot depth is .035'' x .010-.005 instead of .031''.

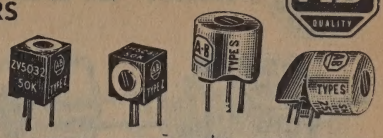




Allen Bradley Trimmers

TYPE Z AND TYPE S TRIMMERS

10% TOLERANCE					20% TOLERANCE				
ZV Stk. No.	ZA Stk. No.	ZV & ZA Type No.	Ohms	Price	ZV Stk. No.	ZA Stk. No.	ZV & ZA Type No.	Ohms	Price
10F960	10F1330	5001	50	A	10F990	10F1353	5002	50	B
10F961	10F1331	7501	75	A	10F991	10F1354	7502	75	B
10F962	10F1332	1011	100	A	10F992	10F1355	1012	100	B
10F963	10F1333	2011	200	A	10F993	10F1356	2012	200	B
10F964	10F1334	2511	250	A	10F994	10F1357	2512	250	B
10F965	10F1335	5011	500	A	10F995	10F1358	5012	500	B
10F966	10F1336	7511	750	A	10F996	10F1359	7512	750	B
10F967	10F1337	1021	1.0K	A	10F997	10F1360	1022	1.0K	B
10F968	10F1338	2021	2.0K	A	10F998	10F1361	2022	1.0K	B
10F969	10F1339	2521	2.5K	A	10F999	10F1362	2522	2.5K	B
10F970	10F1340	5021	2.0K	A	10F1000	10F1363	5022	5.0K	B
10F971	10F1341	7521	7.5K	A	10F1001	10F1364	7522	7.5K	B
10F972	10F1342	1031	10K	A	10F1002	10F1365	1032	10K	B
10F973	10F1343	2031	20K	A	10F1003	10F1366	2032	20K	B
10F974	10F1344	2531	25K	A	10F1004	10F1367	2532	25K	B
10F975	10F1345	5031	50K	A	10F1005	10F1368	5032	50K	B
10F976	10F1346	7531	75K	A	10F1006	10F1369	7532	75K	B
10F977	10F1347	1041	.10M	A	10F1007	10F1370	1042	.10M	B
10F978	10F1348	2041	.20M	A	10F1008	10F1371	2042	.20M	B
10F979	10F1349	2541	.25M	A	10F1009	10F1372	2542	.25M	B
10F980	10F1350	5041	.50M	A	10F1010	10F1373	5042	.50M	B
10F981	10F1351	7541	.75M	A	10F1011	10F1374	7542	.75M	B
10F982	10F1352	1051	1.0M	A	10F1012	10F1375	1052	1.0M	B



TYPE ZV TYPE ZH TYPE SV TYPE SH

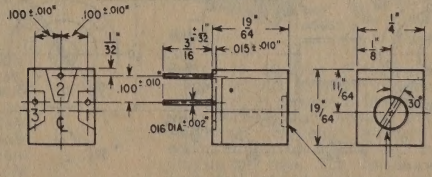
Cermet type Z and S trimmers have applications where severe environmental conditions exist. Temperature range -55 to 125°C. "Z" —65 to 150°C., "S". ½ watt at 70°C. derated to 0 at 150°C. "Z". ½ watt at 85°C. derated to 0 at 150°C. "S". Rotation 300° ± 15° "Z", 280° ± 10° "S". 50 ohms to 1.0 megohms, 300 volts maximum working volts. Less than 2% change due to moisture test. Temperature coefficient less than 250 PPM. Less than 2% change in resistance due to shock or vibration "Z", 1% "S". Less than 3% change after 1000 hours at rated load. End resistance less than 5 ohms "Z", 3 ohms "S". Torque-.5 to 6 in. oz. "S", .1 to 5 in oz. "Z". Pin terminals for mounting on .1 in. grid circuitboards. Type ZA is similar to Type zV except triangular pin spacing is same as a competitive trimmer. Marking "Type Z" or "Type S". A-B octagon, A-B part number with resistance value.

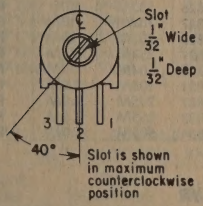
10% TOLERANCE				20% TOLERANCE				10% TOLERANCE				10% TOLERANCE			
Stk. No.	Type No.	Ohms	Price	Stk. No.	Type No.	Ohms	Price	Stk. No.	Type	Ohms	Price	Stk. No.	Type	Ohms	Price
10F900	ZH5001	50	A	10F930	ZH5002	50	B	10F870	SV5001	50	C	10F840	SH5001	50	D
10F901	ZH7501	75	A	10F931	ZH7502	75	B	10F871	SV7501	75	C	10F841	SH7501	75	D
10F902	ZH1011	100	A	10F932	ZH1012	100	B	10F872	SV1011	100	C	10F842	SH1011	100	D
10F903	ZH2011	200	A	10F933	ZH2012	200	B	10F873	SV2011	200	C	10F843	SH2011	200	D
10F904	ZH2511	250	A	10F934	ZH2512	250	B	10F874	SV2511	250	C	10F844	SH2511	250	D
10F905	ZH5011	500	A	10F935	ZH5012	500	B	10F875	SV5011	500	C	10F845	SH5011	500	D
10F906	zh7511	750	A	10F936	ZH7512	750	B	10F876	SV7511	750	C	10F846	SH7511	750	D
10F907	ZH1021	1.0K	A	10F937	ZH1022	1.0K	B	10F877	SV1021	1.0K	C	10F847	SH1021	1.0K	D
10F908	ZH2021	2.0K	A	10F938	ZH2022	2.0K	B	10F878	SV2021	2.0K	C	10F848	SH2021	2.0K	D
10F909	ZH2521	2.5K	A	10F939	ZH2522	2.5K	B	10F879	SV2521	2.5K	C	10F849	SH2521	2.5K	D
10F910	ZH5021	5.0K	A	10F940	ZH5022	5.0K	B	10F880	SV5021	5.0K	C	10F850	SH5021	5.0K	D
10F911	ZH7521	7.5K	A	10F941	ZH7522	7.5K	B	10F881	SV7521	7.5K	C	10F851	SH7521	7.5K	D
10F912	ZH1031	10K	A	10F942	ZH1032	10K	B	10F882	SV1031	10K	C	10F852	SH0131	10K	D
10F913	ZH2031	20K	A	10F943	ZH2032	20K	B	10F883	SV2031	20K	C	10F853	SH2031	20K	D
10F914	ZH2531	25K	A	10F944	ZH2532	25K	B	10F884	SV2531	25K	C	10F854	SH2531	25K	D
10F915	ZH5031	50K	A	10F945	ZH5032	50K	B	10F885	SV5031	50K	C	10F855	SH5031	50K	D
10F916	ZH7531	75K	A	10F946	ZH7532	75K	B	10F886	SV7531	75K	C	10F856	SH7531	75K	D
10F917	ZH1041	10M	A	10F947	ZH1042	.10M	B	10F887	SV1041	.10M	C	10F857	SH1041	.10M	D
10F918	ZH2041	.20M	A	10F948	ZH2042	.20M	B	10F888	SV2041	.20M	C	10F858	SH2041	.20M	D
10F919	ZH2541	.25M	A	10F949	ZH2542	.25M	B	10F889	SV2541	.25M	C	10F859	SH2541	.25M	D
10F920	ZH5041	.50M	A	10F950	ZH5042	.50M	B	10F890	SV5041	.50M	C	10F860	SH5041	.50M	D
10F921	ZH7541	.75M	A	10F951	ZH7542	.75M	B	10F891	SV7541	.75M	C	10F861	SH7541	.7.75M	D
10F922	ZH1051	1.0M	A	10F952	ZH1052	1.0M	B	10F892	SV1051	1.0M	C	10F862	SH1051	1.0M	D

Price Code

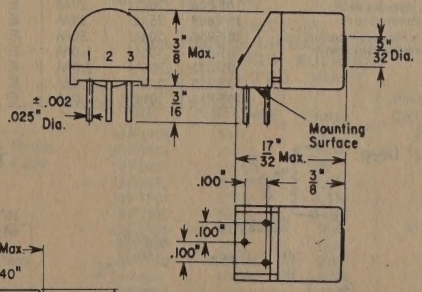
Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	2.00	1.88	1.76	1.70	1.54	1.44
B	1.90	1.80	1.70	1.65	1.50	1.40
C	3.25	2.25	1.60	1.50	1.40	1.30
D	3.75	2.75	2.00	1.75	1.65	1.55

Type ZV

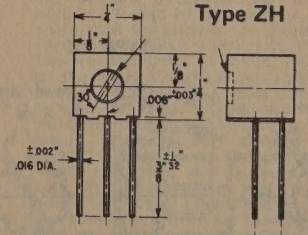




Type SH



Type ZH



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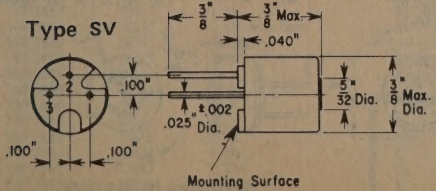
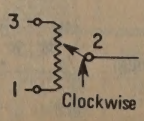
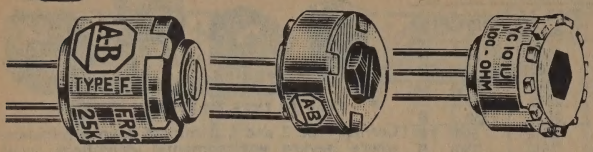




Allen-Bradley Trimmers



Type YR Type YC

ACTUAL SIZE

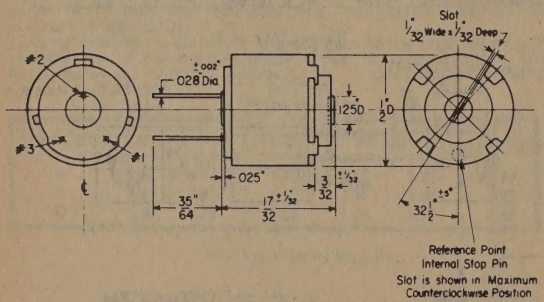
Type 'F' hot molded carbon composition single turn trimmers. Designed for demanding rehostat or potentiometer in applications electronic equipment. Small size (½ in. diameter) and the fact that they can be encapsulated make them ideal for subminiature assemblies and PC applications. Terminals fit 0.1 printed wiring board standard layout. -55°C to +120°C. ¼ watt at 70°C derated linearly to 0 watts at 120°C. 350 volts max. continuous working voltage. 100 to 5.0 Megohms. Less than 10% temporary change due to moisture test. Linear taper. Infinite resolution. Less than 10% change after 1000 hours load. Total rotation 295 ± 5°. Torque 25 in. oz. min, 3 in. oz. max. Stops will withstand greater than 10 in. oz. shaft torque. Essential non-magnetic materials. Resistors have "O" ring seals between shaft and faceplate. These resistors are immersion-proof and can be encapsulated. Shipping wt. 4 oz.

Type 'Y' is a ¼ watt hot molded carbon composition single-turn adjustable resistor for trimmer applications. The low profile design fits into the commonly used ⅜ in. printed circuit board stacking. The performance is similar to MIL specification resistors -55°C to 100°C. ¼ watt at 70°C derated linearly to 0 watts at 100°C 350 volts max. continuous working voltage (rms or dc). 100 Ohms to 5.0 Megohms. Less than 10% temporary humidity change. Linear taper. Infinite resolution. Less than 10% permanent change in resistance after 1000 hrs. Total rotation 295% ±5°. Torque .25 in. oz. min. 3 in. oz. max. Stops withstand more than 10 in. oz. shaft torque. Corrosion resistant essentially non-magnetic materials. Dust-tight splash proof. Marking is "Type Y, A-B octagon, and A-B part number with resistance value." Shipping wt. 4 oz.

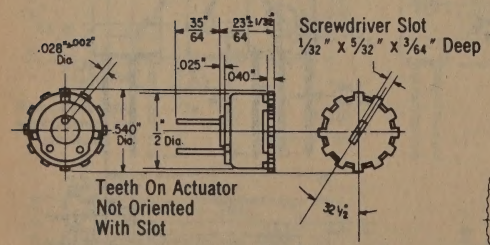
PRICE CODE

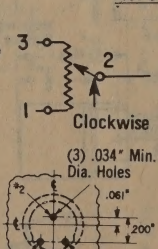
Code	1-9	10-24	25-49	50-99	100-249	250-499
A	3.20	2.20	1.70	1.60	1.50	1.40
B	3.00	2.00	1.50	1.40	1.30	1.20
C	3.35	2.35	1.85	1.75	1.65	1.55
D	3.15	2.15	1.65	1.55	1.45	1.35
E	3.10	2.10	1.60	1.50	1.40	1.30
F	2.90	1.90	1.40	1.30	1.20	1.10

TYPE F

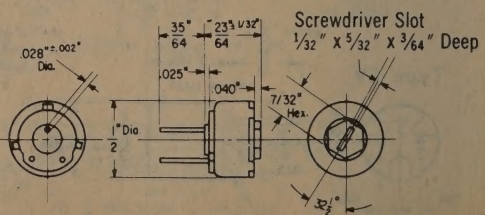


TYPE YC





TYPE YR



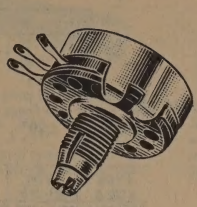
10% TOLERANCE Stk. No.	Type FR	Ohms	Price	20% TOLERANCE Stk. No.	Type FR	Ohms	Price
10F1045	101U	100	A	10F1065	101M	100	B
10F1046	201U	200	A	10F1066	201M	200	B
10F1047	251U	250	A	10F1067	251M	250	B
10F1048	501U	500	A	10F1068	501M	500	B
10F1049	102U	1.0K	A	10F1069	102M	1.0K	B
10F1050	202U	2.0K	A	10F1070	202M	2.0K	B
10F1051	252U	2.5K	A	10F1071	252M	2.5K	B
10F1052	502U	5.0K	A	10F1072	502M	5.0K	B
10F1053	103U	10K	A	10F1073	103M	10K	B
10F1054	203U	20K	A	10F1074	203M	20K	B
10F1055	253U	25K	A	10F1075	253M	25K	B
10F1056	503U	50K	A	10F1076	503M	50K	B
10F1057	104U	.10M	A	10F1077	104M	.10M	B
10F1058	204U	.20M	A	10F1078	204M	.20M	B
10F1059	254U	.25M	A	10F1079	254M	.25M	B
10F1060	504U	.50M	A	10F1080	504M	.50M	B
10F1061	105U	1.0M	A	10F1081	105M	1.0M	B
10F1062	205U	2.0M	A	10F1082	205M	2.0M	B
10F1063	255U	2.5M	A	10F1083	255M	2.5M	B
10F1064	505U	5.0M	A	10F1084	505M	5.0M	B

10% TOLERANCE Stk. No.	Type YC	Ohms	Price	20% TOLERANCE Stk. No.	Type YC	Ohms	Price
10F750	101U	100	C	10F770	101M	100	D
10F751	201U	200	C	10F771	201M	200	D
10F752	251U	250	C	10F772	251M	250	D
10F753	501U	500	C	10F773	501M	500	D
10F754	102U	1.0K	C	10F774	102M	1.0K	D
10F755	202U	2.0K	C	10F775	202M	2.0K	D
10F756	252U	2.5K	C	10F776	252M	2.5K	D
10F757	502U	5.0K	C	10F777	502M	5.0K	D
10F758	103U	10K	C	10F778	103M	10K	D
10F759	203U	20K	C	10F779	203M	20K	D
10F760	253U	25K	C	10F780	253M	25K	D
10F761	503U	50K	C	10F781	503M	50K	D
10F762	104U	.10M	C	10F782	104M	.10M	D
10F763	204U	.20M	C	10F783	204M	.20M	D
10F764	254U	.25M	C	10F784	254M	.25M	D
10F765	504U	.50M	C	10F785	504M	.50M	D
10F766	105U	1.0M	C	10F786	105M	1.0M	D
10F767	205U	2.0M	C	10F787	205M	2.0M	D
10F768	255U	2.5M	C	10F788	255M	2.5M	D
10F769	505U	5.0M	C	10F789	505M	5.0M	D

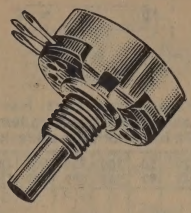
10% TOLERANCE Stk. No.	Type YR	Ohms	Price	20% TOLERANCE Stk. No.	Type YR	Ohms	Price
10F795	101U	100	E	10F815	101M	100	F
10F796	201U	200	E	10F816	201M	200	F
10F797	251U	250	E	10F817	251M	250	F
10F798	501U	500	E	10F818	501M	500	F
10F799	102U	1.0K	E	10F819	102M	1.0K	F
10F800	202U	2.0K	E	10F820	202M	2.0K	F
10F801	252U	2.5K	E	10F821	252M	2.5K	F
10F802	502U	5.0K	E	10F822	502M	5.0K	F
10F803	103U	10K	E	10F823	103M	10K	F
10F804	203U	20K	E	10F824	203M	20K	F
10F805	253U	25K	E	10F825	253M	25K	F
10F806	503U	50K	E	10F826	503M	50K	F
10F807	104U	.10M	E	10F827	104M	.10M	F
10F808	204U	.20M	E	10F828	204M	.20M	F
10F809	254U	.25M	E	10F829	254M	.25M	F
10F810	504U	.50M	E	10F830	504M	.50M	F
10F811	105U	1.0M	E	10F831	105M	1.0M	F
10F812	205U	2.0M	E	10F832	205M	2.0M	F
10F813	255U	2.5M	E	10F833	255M	2.5M	F
10F814	505U	5.0M	E	10F834	505M	5.0M	F

Cermet & Composition Potentiometers

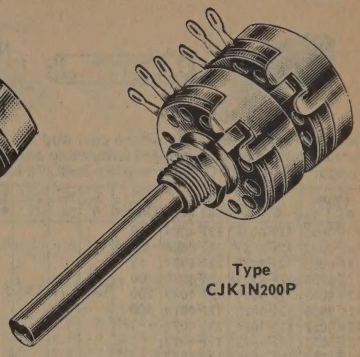
● NEW TYPE CJ



Type CJP1L040S



Type CJP1N056S



Type CJK1N200P

Type CJ cermet potentiometers are designed for severe environmental applications. The type CJ has a 5 watt rating at 85°C derated to zero at 150°C. Linear taper 10% tolerance. ½" locking bushing, ⅝" slotted shaft, ⅜" plain bushing with ⅞" slotted shaft. Temp. coef. ±250 ppm. -65°C to 150°C. Less than 3% resistance change due to temp. cycling. Less than 5% resistance change due to moisture per Mil-Std-202. Less than 5% permanent resistance change after 1000 hrs. Load life. Dimensions same as type J. Supplied with hardware.

½ LOCKING BUSHING ⅝" SLOTTED SHAFT TYPE CJP1L040S 10% TOLERANCE

Stock No.	Type CJP1L040S	Ohms	Price Code
10F1601	101UC	100	
10F1602	251UC	250	
10F1603	501UC	500	
10F1604	102UC	1K	
10F1605	252UC	2.5K	
10F1606	502UC	5K	A
10F1607	103UC	10K	
10F1608	253UC	25K	
10F1609	503UC	50K	
10F1610	104UC	.1M	
10F1611	254UC	.25M	
10F1612	504UC	.50M	
10F1613	105UC	1.0M	
10F1614	255UC	2.5M	
10F1615	505UC	5.0M	

⅜" PLAIN BUSHING ⅞" SLOTTED SHAFT TYPE CJP1N056S 10% TOLERANCE

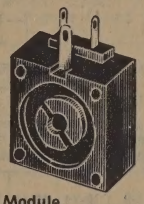
Stock No.	Type CJP1N056S	Ohms	Price Code
10F1651	101U	100	
10F1652	251U	250	
10F1653	501U	500	
10F1654	102U	1K	
10F1655	252U	2.5K	
10F1656	502U	5.0K	
10F1657	103U	10K	B
10F1658	253U	25K	
10F1659	503U	50K	
10F1660	104U	.10M	
10F1661	254U	.25M	
10F1662	504U	.50M	
10F1663	105U	1.0M	
10F1664	255U	2.5M	
10F1665	505U	5.0M	

TYPE CJK1N200P 10% TOLERANCE

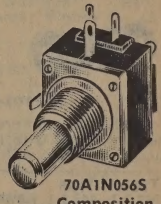
Stock No.	Type CJK1N200P	Ohms	Price Code
10F1700	500U	50	
10F1701	101U	100	
10F1702	251U	250	
10F1703	501U	500	
10F1704	102U	1K	
10F1705	252U	2.5K	
10F1706	502U	5.0K	
10F1707	103U	10K	C
10F1708	253U	25K	
10F1709	503U	50K	
10F1710	104U	100K	
10F1711	254U	250K	
10F1712	504U	500K	
10F1713	105U	1.0M	
10F1714	255U	2.5M	
10F1715	505U	5.0M	

PRICE CODE					
Code	1-9	10-24	25-49	50-99	100-249
A	5.60	5.10	4.55	4.15	3.65
B	4.90	4.40	4.10	3.60	3.20

● NEW SERIES 70 MODULAR POTENTIOMETERS



Module



70A1N056S Composition

Series 70 Modular Potentiometer is a unique solution to many variable resistor problems. It possesses tremendous flexibility because of its modular construction. Additional resistance sections may be added simply by adding additional modules up to 4 total. The resistance track in each deck can be either hot molded carbon composition or cermet. Numerous shaft, bushing and switch combinations are available. Because of the tremendous variety afforded by the modular concept, space does not allow a full display of all variations possible. Contact your nearest Newark distributor to obtain information on the many variations not shown. Supplied with hardware. Module dimensions: ⅝"x⅝"x⅜" deep. ¼" dia. bushing standard.Performance hot molded carbon element - 1 watt @ 70°C derated to zero @125°C. 50 ohms to 10 Meg -55°C to 120°C. Less than 10% res. change with load life, moisture and resistance rotational life. Less than 2% change with shock and vibration. Less than 3% change with temperature cycling or low temp. exposure. Performance cermet element - less than 250 ppm temp. characteristic. 2 watts at 70°C derated to zero @ 150°C. 100 ohms to 5.0 Meg 55°C to 150°C. Less than 5% change with load life and moisture resistance. Less than 10% change with rotational life. Less than 2% change with shock, vibration, and low temp. exposure. Less than 3% change with temperature cycling.

COMPOSITION 10% TOLERANCE-LINEAR TAPE ⅜" PLAIN BUSHING ⅞" SLOTTED SHAFT

Stock No.	Type 70A1N056S	Ohms	Price Code
10F1750	500U	50	
10F1751	101U	100	
10F1752	251U	250	
10F1753	501U	500	
10F1754	102U	1.0K	
10F1755	252U	2.5K	
10F1756	502U	5.0K	C
10F1757	103U	10K	
10F1758	253U	25K	
10F1759	503U	50K	
10F1760	104U	.10M	
10F1761	254U	.25M	
10F1762	504U	.50M	
10F1763	105U	1.0M	
10F1764	255U	2.5M	
10F1765	505U	5.0M	
10F1766	106U	10.0M	

CERMET-10% TOLERANCE-LINEAR TAPER. ⅜" PLAIN BUSHING ⅞" SLOTTED SHAFT

Stock No.	Type 70B1N056S	Ohms	Price Code
10F1800	101W	100	
10F1801	251W	250	
10F1802	501W	500	
10F1803	102W	1.0K	
10F1804	252W	2.5K	
10F1805	502W	5.0K	
10F1806	103W	10K	
10F1807	253W	25K	
10F1808	503W	50K	D
10F1809	104W	.10M	
10F1810	254W	.25M	
10F1811	504W	.50M	
10F1812	105W	1.0M	
10F1813	255W	2.5M	
10F1814	505W	5.0M	

½" LOCKING NUT ⅝" SLOTTED SHAFT

Stock No.	Type 70A1K040S	Ohms	Price Code
10F1850	500U	50	
10F1851	101U	100	
10F1852	251U	250	
10F1853	501U	500	
10F1854	102U	1.0K	
10F1855	252U	2.5K	
10F1856	502U	5.0K	
10F1857	103U	10K	
10F1858	253U	25K	E
10F1859	503U	50K	
10F1860	104U	100K	
10F1861	254U	250K	
10F1862	504U	500K	
10F1863	105U	1.0M	
10F1864	255U	2.5M	
10F1865	505U	5.0M	
10F1866	106U	10.0M	

CERMET-10% TOLERANCE-LINEAR TAPER ½" LOCKING BUSHING ⅝" SLOTTED SHAFT

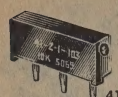
Stock No.	Type 70B1K040S	Ohms	Price Code
10F1900	101U	100	
10F1901	251U	250	
10F1902	501U	500	
10F1903	102U	1.0K	
10F1904	252U	2.5K	
10F1905	502U	5.0K	
10F1906	103U	10K	F
10F1907	253U	25K	
10F1908	503U	50K	
10F1909	104U	.10M	
10F1910	254U	.25M	
10F1911	504U	.50M	

PRICE CODE					
Code	1-9	10-24	25-49	50-99	100-249
C	2.65	2.05	1.79	1.58	1.32
D	2.95	2.50	2.14	1.83	1.57
E	2.88	2.25	1.95	1.71	1.43
F	3.28	2.70	2.30	1.96	1.68

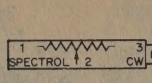
Spectrol Trimmers

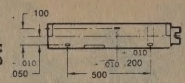
Cermet Resistance Elements For Infinite Resolution

MODEL 41



41-2-1

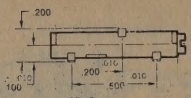




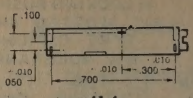
41-2

Designed for general use where cost and space are factors. Has 15 turn screw-driver adjustment with idling and stops. Operating temp. range: 65°C to 125°C. Fully sealed, suitable for automatic soldering.

Type 41-2-1	Type 41-3-1	Type 41-4-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999	1M Up
12F4051	12F4068	12F4085	10								
12F4052	12F4069	12F4086	20								
23F4053	12F4070	12F4087	50								
12F4054	12F4071	12F4088	100								
12F4055	12F4072	12F4089	200	1.85	1.75	1.65	1.55	1.44	1.35	1.30	1.25
12F4056	12F4073	12F4090	500								
12F4057	12F4074	12F4091	1K								
12F4058	12F4075	12F4092	2K								
12F4059	12F4076	12F4093	5K								



41-3

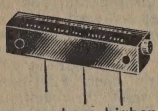


41-4

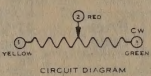
Wedge shaped pins make automatic Insertion practical. Choice of 3 pin grids perfrect for new or replacement purposes. Resistance tolerance: ±20%. ¾ watt @ 425C trimmer. Size: .750 x .310 x .160

Type 41-2-1	Type 41-3-1	Type 41-4-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999	1M Up
12F4060	12F4077	12F4094	10K								
12F4061	12F4078	12F4095	20K								
12F4062	12F4079	12F4096	50K								
12F4063	12F4080	12F4097	100K	1.85	1.75	1.65	1.55	1.44	1.35	1.30	1.25
12F4064	12F4081	12F4098	200K								
12F4065	12F4082	12F4099	250K								
12F4066	12F4083	12F4100	500K								
12F4067	12F4084	12F4101	1 Meg.								

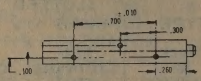
MODEL 78



78-2-1



78-1-1

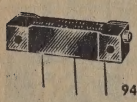


For use where higher operating wattage and temperature is desired. Resistant to humidity, shock and vibration. 22 turn screw-driver adjustment with idling end stops. Insulated wire lead or PC pin models. Body mounting holes: .093" on 1" centers. Operating temp. range is -25°C to 125°C. Tolerance: ±20%. ¾ watt @ 70°C. Size: 1.250 x .320 x .195. Net wt. 2.8 Gms. Nominal.

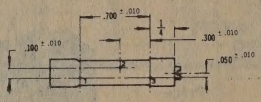
Type 78-1-1	Type 78-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F865	8F881	10							
8F866	8F882	20							
8F867	8F883	50							
8F868	8F884	100							
8F869	8F885	200	3.00	2.85	2.70	2.57	2.43	2.29	2.15
8F870	8F886	500							
8F871	8F887	1K							
8F872	8F888	2K							

Type 78-1-1	Type 78-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F873	8F889	5K							
8F874	8F890	10K							
8F875	8F891	20K							
8F876	8F892	50K							
8F877	8F893	100K	3.00	2.85	2.70	2.57	2.43	2.29	2.15
8F878	8F894	200K							
8F879	8F895	500K							
8F880	8F896	1 Meg.							

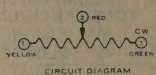
MODEL 949



949-2-1



949-1-1



For reliable commercial and industrial service. Screw adjustment. Has end stops with idling feature. Electrical adjustment: 22 ±5 turns. Available with either PC pins or insulated wire leads. Body mounting holes: 0.093" dia. placed on 1" centers. Operating temp. range: -25°C to 105°C. Resistance tolerance: ±20% ¾ watt @70°C. Size: 1.250 x .312 x .281 Net wt.: 4.5 Grams.

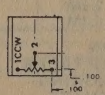
Type 949-1-1	Type 949-2-1	Ohms	1-9	10-24	25-49	50-99	100-149	250-499	500-999
12F2978	12F2990	100							
12F2979	12F2991	200							
12F2980	12F2992	500							
12F2981	12F2993	1K	3.03	2.76	2.58	2.40	2.31	2.14	2.05
12F2982	12F2994	2K							
12F2983	12F2995	5K							

Type 949-1-1	Type 949-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2984	12F2966	10K							
12F2985	12F2997	20K							
12F2986	12F2998	50K							
12F2987	12F2999	100K	3.03	2.76	2.58	2.40	2.31	2.14	2.05
12F2988	12F3000	500K							
12F2989	12F3001	1 Meg.							

MODEL 53

53-1-1

53-2-1

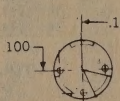


Single turn, PC mount trimmers meet environ sects. of MIL-R-22097. Fully sealed, suitable for automatic soldering. Stop strength of 10 oz. in. Oper. temp.: -65°C to 125°C. Tol.: ±20% ½watt @85°C. Size: .343 dia. Wt.: 1.5 GMs max.

Type 53-1-1	Type 53-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F3029	12F3045	10							
12F3030	12F3046	20							
12F3031	12F3047	50							
12F3032	12F3048	100							
12F3033	12F3049	200							
12F3034	12F3050	500							
12F3035	12F3051	1K							
12F3036	12F3052	2K	1.65	1.58	1.49	1.40	1.33	1.25	1.17
12F3037	12F3053	5K							
12F3038	12F3054	10K							
12F3039	12F3055	20K							
12F3040	12F3056	50K							
12F3041	12F3057	100K							
12F3042	12F3058	200K							
12F3043	12F3059	500K							
12F3044	12F3060	1 meg.							

MODEL 62

62-1-1



62-2-1

Single turn sub-miniature, PC mount trimmers meet MIL-R-22097 environ. specs. Fully sealed, suitable for automatic soldering. Elect. adjust.: 220° min. End stops 6.0 oz.-in. strength. Oper. temp.: -65°C to 125°C. ¾ Watt@250°C Size: .250. Wt.: 1.0 Gm. max.

Type 62-1-1	Type 62-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F4204	12F4220	10							
12F4205	12F4221	20							
12F4206	12F4222	50							
12F4207	12F4223	100							
12F4208	12F4224	200							
12F4209	12F4225	500							
12F4210	12F4226	1K	1.72	1.63	1.54	1.45	1.37	1.29	1.22
12F4211	12F4227	2K							
12F4212	12F4228	5K							
12F4213	12F4229	10K							
12F4214	12F4230	20K							
12F4215	12F4231	50K							
12F4216	12F4232	100K							
12F4217	12F4233	200K							
12F4218	12F4234	500K							
12F4219	12F4235	1 meg.							

WIRE WOUND RESIST. ELEMENTS FOR TEMP. STABILITY

MIL SPEC AND INDUSTRIAL TRIMMERS

FIG.-A

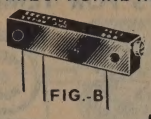
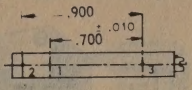
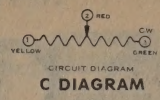


FIG.-B





C DIAGRAM

MODEL 42

For circuits where temp. stability is important. Has tempco of 50PPM/1°C max. and operating temp. range of -65°C to 175°C. Constructed with terminal strengths of 2 lbs. min and meets MIL-R-27208 specification for shock, vibration and moisture resistance. Screw-driver adjustment is 22 turns ±5. Slider idles at end stops without damage. Fig. A, 12" Teflon wire leads. Fig. B, PC pins. Body mounting holes 0.093" diameter on 1" centers. Tol.: ±5%. 1 watt @70°C. Size 1.250x0.315x0.190". Wt: Fig. A, 4.5 Gm; Fig. B, 3.5 Gm.

FIG. A. 42-1-1	FIG. B. 42-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2500	12F2511	50							
12F2501	12F2512	100							
12F2502	12F2513	200	5.75	5.24	4.90	4.56	4.39	4.06	3.89
12F2503	12F2514	500							
12F2504	12F2515	1K							
12F2505	12F2516	2K							
12F2506	12F2517	5K	5.75	5.24	4.90	4.56	4.39	4.06	3.89
12F2507	12F2518	10K							
12F2508	12F2519	20K	6.44	5.88	5.50	5.12	4.93	4.55	4.36
12F2509	12F2520	50K	6.95	6.34	5.93	5.52	5.32	4.91	4.70
12F2510	12F2521	100K	8.62	7.86	7.35	6.85	6.49	6.08	5.83

MIL. SPEC, RT 12

Built to Military standards per MIL-R-27208. Fig. A, 12" Teflon leads. Fig. B, PC pins. Screw turns 22 ±5 for full electrical travel. Tempco is 50 PPM/°C. Immersion 1 minute in 85°C water. Mounting holes 0.093" diameter on 1" centers. Operating range: -65°C to 175°C. Resistance tolerance: ±5%. 1.0 watt@70°C. Size: 1.250x0.315x0.190" Net weight: 4.5 Grams maximum.

FIG. A RT12C2L	FIG. B. RT12C2P	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2822	12F2831	50							
12F2823	12F2832	100							
12F2824	12F2833	200	5.38	4.98	4.62	4.34	4.03	3.77	3.52
12F2825	12F2834	500							
12F2826	12F2835	1K							
12F2827	12F2836	2K							
12F2828	12F2837	5K	5.38	4.98	4.62	4.34	4.03	3.77	3.52
12F2829	12F2838	10K							
12F2830	12F2839	20K	5.93	5.49	5.09	4.73	4.44	4.17	3.89

FIG. C

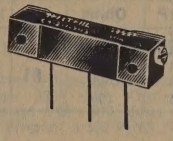
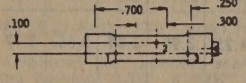
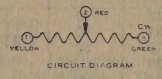


FIG. D





MODEL 44

Temperature stable trimmer for critical industrial applications. Tempco is 50 PPM/°C maximum. Operating temperature: -65°C to 175°C. Shock, vibration and moisture resistant. Solidly constructed. Screw adjust of 22 turns ±5 with idling end stops. Fig. C, has 12" Teflon leads. Fig. D, PC pins. Body mounting holes 0.093" diameter on 1" centers. Tolerance: ±5%. 1.0 watt@70°C. Size: 1.250x0.315x0.280". Weight: Figure C, 4.5 Grams; Figure D, 3.5 Grams maximum.

FIG. C 44-1-1	FIG. D 44-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500 999
12F2522	12F2533	50							
12F2523	12F2534	100							
12F2524	12F2535	200							
12F2525	12F2536	500	5.56	5.07	4.74	4.42	4.25	3.92	3.76
12F2526	12F2537	1K							
12F2527	12F2538	2K							
12F2528	12F2539	5K	5.56	5.07	4.74	4.42	4.25	3.92	3.76
12F2529	12F2540	10K							
12F2530	12F2541	20K	6.22	5.67	5.31	4.94	4.76	4.39	4.21
12F2531	12F2542	50K	6.73	6.14	5.74	5.35	5.15	4.75	4.55
12F2532	12F2543	100K	8.35	7.61	7.12	6.63	6.38	5.89	5.65

MIL. SPEC. RT 11

Designed and built to requirements of MIL-R-27208. Temperature stability is 50 PPM/°C. Operating temperature range is -65°C to 175°C. Screw-driver adjustment is 22 turns ±5 for full electrical travel. Has clutch feature at end stops. Figure C, has 12" Teflon leads. Figure D, PC pins. Body mounting holes of 0.093" diameter on 1" centers. Resistance tolerance: ±5%. 1.0 watt@70°C. Size: 1.250"x0.315"x0.280". Weight: 4.5 Grams maximum.

Fig. C RT11C2L	FIG. D RT11C2P	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2840	12F2849	50							
12F2841	12F2850	100							
12F2842	12F2851	200	5.38	4.98	4.62	4.34	4.03	3.77	3.52
12F2843	12F2852	500							
12F2844	12F2853	1K							
12F2845	12F2854	2K							
12F2846	12F2855	5K	5.38	4.98	4.62	4.34	4.03	3.77	3.52
12F2847	12F2856	10K							
12F2848	12F2857	20K							

MODEL 74

Designed for industrial service where extra reliability is needed. Many features meet MIL-R-27208 at less cost. Temperature coefficient is 50 PPM/°C. Operating temperature range is -65°C to 176°C. Screw adjustment is 22 turns ±5. Slider idles at stops. Figure C, 12" insulated leads. Figure D, PC pins. Body mounting holes 0.093" diameter on 1" centers. Resistance tolerance: ±10% 1.0 watt@70°C. Size: 1.250"x0.315"x0.280". Weight: 4.5 Grams maximum.

FIG. C 74-1-1	FIG. D 74-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2554	12F2565	50							
12F2555	12F2566	100							
12F2556	12F2567	200							
12F2557	12F2568	500	4.93	4.50	4.21	3.92	3.77	3.48	3.34
12F2558	12F2569	1K							
12F2559	12F2570	2K							
12F2560	12F2571	5K	4.93	4.50	4.21	3.92	3.77	3.48	3.34
12F2561	12F2572	10K							
12F2562	12F2573	20K	5.53	5.04	4.71	4.39	4.23	3.90	3.74
12F2563	12F2574	50K	5.97	5.44	5.09	4.74	4.56	4.21	4.04

MODEL 94

For industrial and commercial service where cost is a factor. Selected materials to meet highest industrial standards. Tempco of resistance: 100 PPM/°C max. Operating range -65°C to 105°C. Screw adjustment of 22 turns ±5 and wiper assembly idles at stops. Has 0.093" dia. mounting holes on 1" centers. Figure C, 12" insulated wire leads. Figure D, PC pins. Res. tol.: ±10%. ½ watt @ 70°C. Size: 1.250 x 0.315 x 0.280". Weight: 4.5 Grams maximum.

FIG. C 94-1-1	FIG. D 94-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2576	12F2584	50							
12F2577	12F2585	100							
12F2578	12F2586	200	3.15	2.87	2.68	2.50	2.41	2.22	2.13
12F2579	12F2587	500							
12F2580	12F2588	1K							
12F2581	12F2589	2K							
12F2582	12F2590	5K	3.15	2.87	2.68	2.50	2.41	2.22	2.13
12F2583	12F2591	10K							
12F3002	12F3003	20K	3.52	3.21	3.00	2.80	2.69	2.49	2.38

WIREWOUND RES. ELEMENTS FOR TEMP. STABILITY

FIG. A

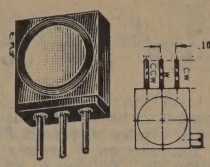


FIG. B

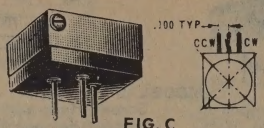


FIG. C

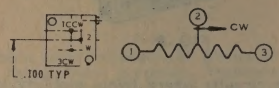


FIG. D

MODEL 50

Features an exceptional size/power factor for industrial service where space is limited. Can be integrated into almost any layout. See 4 mounting arrangements illustrated above. Screw adjustment of 23 turns ±2. Continuous rotation. Tempco is 50 PPM/°C. Figure A has 6" Teflon leads and 0.075" diameter mounting holes on 0.375" centers. Resistance tolerance ±5%. ¾ watt @ 85°C. Size: .375 x .375 x .190" Nominal. Weight: Figure A, 2.0 Grams; others, 1.5 Grams maximum.

Fig. A	Fig. B	Fig. C	Fig D						100-	250-	500-
50-1-1	50-2-1	50-3-1	50-4-1	Ohms	1-9	10-24	25-49	50-99	249	499	999
12F2592	8F937	12F2602	12F2612	50	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2593	8F938	12F2603	12F2613	100	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2594	8F939	12F2604	12F2614	200	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2595	8F940	12F2605	12F2615	500	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2596	8F941	12F2606	12F2616	1K	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2597	8F942	12F2607	12F2617	2K	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2598	8F943	12F2608	12F2618	5K	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2599	8F944	12F2609	12F2619	10K	6.80	6.20	5.80	5.40	5.20	4.80	4.60
12F2600	8F945	12F2610	12F2620	20K	7.62	6.94	6.50	6.05	5.82	5.38	5.15
12F2601	8F946	12F2611	12F2621	50K	8.23	7.50	7.02	6.53	6.29	5.81	5.57

MIL. SPEC. STYLE RT24, ¾ watt @ 85°C. Size: 0.375x0.375x0.235 NOMINAL

Has same general specifications as Model 50 above plus full compliance to RT24 requirements of MIL-R-27208. Screw adjustment is 25 turns nominal. Designed especially for prototype Military equipment or for field replacement. MIL designation is RT24C2P(RC). Refer to Figure D above for illustration and PC pin arrangement. Order by Newark Stock Number.

Fig. D						100-	250-	500-
RT24C2P	Ohms	1-9	10-24	25-49	50-99	249	499	999
8F927	10							
8F928	20							
8F929	50	4.81	4.53	4.25	3.99	3.84	3.65	3.47
8F930	100							
8F931	200							

Fig. D						100-	250-	500-
RT24C2P	Ohms	1-9	10-24	25-49	50-99	249	499	999
8F932	500							
8F933	1K							
8F934	2K	4.81	4.53	4.25	3.99	3.84	3.65	3.47
8F935	5K							
8F936	10K							

MODEL 55

Provides higher wattage in a package only 0.500" square for demanding industrial circuits. Temperature stable to 50 PPM/°C maximum. Screw adjusted with 23 turns ±3 of shaft. Has idler at stops to prevent damage. Operating temperature range of -65°C to 150°C. Figure A, has 6" Teflon leads and 0.093" diameter mounting holes on 0.520" centers. Circuit diagram above, except red, green and yellow leads from left to right. Resistance tolerance is ±5%° 1.5 watt @ 70°C. Size: 0.500x0.500x0.190 Nominal. Weight: 2.5 Grams maximum.

Fig. C	Fig. D	Fig. A							100-	250-	500-
55-4-8	55-3-8	55-1-8	Ohms	1-9	10-24	25-49	50-99		249	499	999
12F3015	12F3011	.....	20								
12F2791	12F2632	12F2622	50								
12F2794	12F2635	12F2625	500	5.78	5.27	4.93	4.59		4.42	4.08	3.91
12F2795	12F2636	.....	1K								
12F2796	12F2637	12F2627	2K								
12F2797	12F2638	.....	5K								
12F2798	12F2639	12F2629	10K								
12F2799	12F2640	12F2630	20K	6.48	5.91	5.53	5.14		4.57	4.57	4.38
12F2800	12F2641	12F2631	50K	6.69	6.37	5.96	5.55		4.93	4.93	4.73

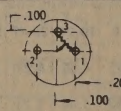
MIL. SPEC. STYLE RT22

Has specifications of Model 55 above; also complies fully to RT22 requirements of MIL-R-27208. Screw adjustment of 25 turns nominal. MIL designation RT22C2L(RC) illustrated by Figure A above; RT22C2W(RC), Figure C; RT22C2P(RC), Figure D. Circuit diagram above, except color code red, green and yeilow from left to right. Weight: 2.5 Grams maximum.

Fig. A						100-	250-	500-
RT22C2L	Ohms	1-9	10-24	25-49	50-99	249	499	999
12F2960	50							
12F2961	100							
12F2962	200							
12F2963	500							
12F2964	1K	5.35	5.05	4.73	4.46	4.22	4.03	3.84
12F2965	2K							
12F2966	5K							
12F2967	10K							
12F2968	20K	5.84	5.51	5.18	4.87	4.60	4.37	4.16

Fig. C	Fig. D						100-	250-	500-
RT22C2W	RT22C2P	Ohm	1-9	10-24	25-49	50-99	249	499	999
8F918	12F2969	50							
8F919	12F2970	100							
8F920	12F2971	200							
8F921	12F2972	500	4.81	4.53	4.25	3.99	3.84	3.65	3.47
8F922	12F2973	1K							
8F923	12F2974	2K							
8F924	12F2975	5K							
8F925	12F2976	10K							
8F926	12F2977	20K	5.28	4.98	4.68	4.38	4.20	4.01	3.84

MODEL 80



Sub-miniature trimming potentiometer with the size of a transistor and 50 PPM/°C stability designed for high density packaging. Single turn adjustment with stops, 80-3-4; continuous rotation, 80-3-1. Effective electrical travel 310° nominal. Meets many environmental specifications of MIL-R-27208. Temperature range: -65°C to 150°C. Tolerance: +5% Wirewound, 1.0 watt @ 50°C. Size: .241x.345" Dia. Weight: 1.0 Gram maximum.

Type	Type						100-	250-	500-
80-3-4	80-3-1	Ohm	1-9	10-24	25-49	50-99	249	499	999
12F3025	12F3027	10							
12F3026	12F3028	20							
12F2652	12F2662	50							
12F2653	12F2663	100	3.74	3.41	3.19	2.97	2.86	2.64	2.53
12F2654	12F2664	200							
12F2655	12F2665	500							

Type	Type						100-	250-	500-
80-3-4	80-3-1	Ohms	1-9	10-24	25-49	50-99	249	499	999
12F2656	12F2666	1K							
12F2657	12F2667	2K							
12F2658	12F2668	5K	3.74	3.41	3.19	2.97	2.86	2.64	2.53
12F2659	12F2669	10K							
12F2660	12F2670	20K	4.18	3.81	3.57	3.32	3.20	2.95	2.83
12F2661	12F2671	50K	4.52	4.12	3.86	3.59	3.46	3.19	3.96

PANEL MOUNTS AVAILABLE ON ALL 1¼" RECTANGULAR OR SQUARE POTS WRITE OR CALL NEWARK ELECTRONICS FOR ORDERING PROCEDURES AND PRICES.

Precision Potentiometers Spectrol

PRECISION LINEAR WIREWOUND +CONDUCTIVE PLASTIC 1.3+10 TURN POTS

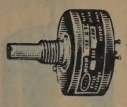


FIG. A

FIG. B

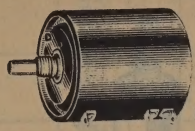


FIG. C

FIG. D

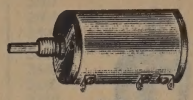


FIG. E

SINGLE TURN MODELS

MODEL 130 High reliability at low cost. Terminals at rear. Bushing mount. Power rating 2.75 watts at 40°C. Temperature range (operating) —55°C to 105°C. Resistance tolerance ±3%. 360° mech. rotation, 352° ±2°elec. rot. Body length 5/8". Shaft diameter 1/4". Shpg. wt. 1.5 oz.

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F2691	100						
12F2692	1K	9.00	8.55	8.10	7.65	7.20	6.75
12F2693	2K						
12F2694	5K						
12F2695	10K						
12F2696	20K	9.00	8.55	8.10	7.65	7.20	6.75
12F2697	30K						

MODEL 132-,WIREWOUND, 2.75 WATTS @ 40°C. SIZE: 0.625x1.312 DIAMETER

Precision potentiometer for general purpose industrial use. Independent linearity: Up to 200 ohms, ±1%; above 200 ohms, ±0.5%. Has stops. Electrical rotation: 336° ±2°. Temperature range: -55°C to 105°C. Shaft length including bushing: 0.875" x 0.250" diameter. Bushing: 3/8 - 32 x 3/8". Tolerance: ±3%. Weight: 1.0 oz.

Fig. A	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4043	100						
12F4044	500	7.00	6.65	6.30	5.95	5.60	5.25
12F4045	1K						
12F4046	2K						
12F4047	5K						
12F4048	10K						
12F4049	20K	7.00	6.65	6.30	5.95	5.60	5.25
12F4050	30K						

NEW MODEL 138. CONDUCTIVE PLASTIC. 2.0 WATTS @ 40°C. SIZE: .625x1.312 DIAMETER

Precision high resolution potentiometer. Independent linearity: ±0.5%. Has stops. Electrical rotation: 336° ±2°. Temperature range: -55°C to 125°C. Resistance range from 500 ohms to 100K ohms. Power rating of 2 watts at 40°C. Tempco: ±500 PPM. /°C

Rotational life: 2,000,000 shaft revolutions. Shaft length including bushing: 0.875" x 0.250" diameter. Bushing: 3/8 - 32 x 3/8". Tolerance: ±10%. Weight: 1.0 oz. maximum.

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249
12F4200	500					
12F4201	1K	12.00	11.40	10.50	9.60	8.70
12F4202	2K					
12F4203	5K					
12F4236	10K					
12F4237	20K	12.00	11.40	10.50	9.60	8.70
12F4238	50K					
12F4239	100K					

MODEL 140 WIREWOUND 2.0 WATTS @ 40°C SIZE: .305x500 DIAMETER

Precision miniature potentiometer. Independent linearity: ±1.0%. Has stops. Electrical rotation: 320° ±5°. Temperature range: -55°C to 125°C. Shaft length including bushing: 0.700" x 0.1248" diameter maximum. Bushing: 1/4 - 32x5/16". Tolerance: ±5%. Weight: 0.1 oz. maximum.

Fig. B	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F2698	50						
12F2699	100						
12F2700	200	8.65	8.22	7.80	7.37	6.93	6.50
12F2701	500						
12F2702	1K						
12F2703	2K						
12F2704	5K						
12F2705	10K	8.65	8.22	7.80	7.37	6.93	6.50
12F2706	20K						
12F2707	50K						

THREE TURN MODEL

MODEL 830 WIREWOUND 30 WATTS @ 40°C. SIZE: 1.220x1.812 DIAMETER

Extra rugged design for machine controls and industrial test instruments. Independent linearity: ±0.25%. Has stops. Electrical rotation: 1080° +4° to -0° Temperature range: -55°C to 105°C. Shaft length including bushing: 0.812" x 0.2497" diameter. Bushing: 3/8 - 32x1/4". Tolerance: ±3%. Weight: 3.0 oz. maximum.

Fig. C	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F2746	100						
12F2747	500						
12F2748	1K	10.00	9.50	9.00	8.75	8.50	8.00
12F2749	2K						
12F2750	5K						
12F2751	10K						
12F2752	20K						
12F2753	30K	10.00	9.50	9.00	8.75	8.50	8.00
12F2754	50K						

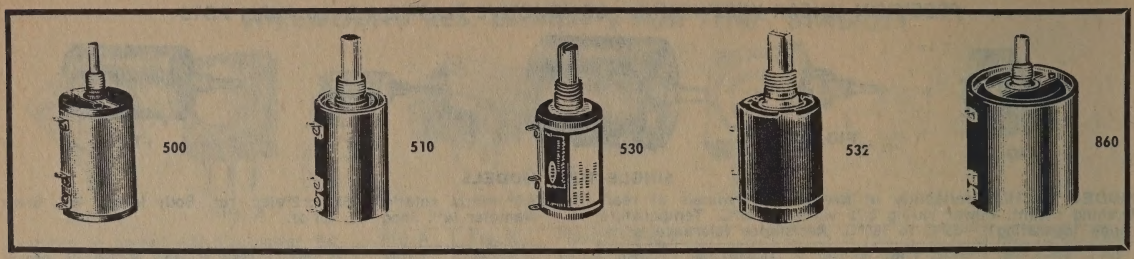
TEN TURN MODEL

MODEL 162, WIREWOUND, 2.0 WATTS @ 40°C. SIZE: 1.000"x0.500" DIAMETER

Precision potentiometer for limited panel space. Independent linearity: ±0.3%. Has stops. Electrical rotation: 3600° +15° to -0° Temperature range: -55°C to 125°C. Shaft length including bushing: 0.687"x0.935" diameter. Bushing: 1/4-32x0.281". Tolerance: ±5%. Weight: 1.0 oz. maximum.

Fig. D	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F2899	100						
12F2900	200						
12F2901	500	10.00	9.50	9.00	8.50	8.00	7.50
12F2902	1K						
12F2903	2K						
12F2904	5K						
12F2905	10K						
12F2906	20K	10.00	9.50	9.00	8.50	8.00	7.50
12F2907	30K						
12F2908	50K						

Spectrol Precision Pots



TEN TURN MODELS

MODEL 500

Proven design throughout. Independent linearity: ±0.25%. Has stops. Electrical Rotation: 3600° +10° to -0°. Temperature Range: -55°C to 125°C. Shaft length including bushing: 0.687" x 0.1248" diameter. Bushing ¼ - 32 x 5/16". Tolerance: ±3%. 3.0 watts @ 40°C. Size: 1.448" x 0.875" diameter. Weight: 1.1 oz. maximum.

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249
12F2709	100					
12F2710	500					
12F2711	1K	15.00	14.25	13.50	12.75	12.00
12F2712	2K					
12F2713	5K					

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249
12F2714	10K					
12F2715	20K					
12F2716	30K	15.00	14.25	13.50	12.75	12.00
12F2717	50K					
12F2718	100K					

MODEL 510

Quality constructed for industry. Independent linearity: ±0.25%. Has stops. Electrical rotation: 3600° +10° to —0°. Temperature range: —55°C. Shaft length including bushing: 0.812" x 0.2497" diameter. Bushing ⅜ 32 x 5/16". Tolerance: ±3%. 3.0 watts @40°C. Size: 1.448" x 0.875" diameter. Weight: 1.5 oz. maximum.

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249
12F2719	100					
12F2720	200					
12F2721	500	10.00	9.50	9.00	8.50	8.00
12F2722	1K					
12F2723	2K					
12F2724	5K					

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249
12F2725	10K					
12F2726	20K					
12F2727	30K	10.00	9.50	9.00	8.50	8.00
12F2728	50K					
12F2729	100K					

MODEL 530

Moderately priced design for industrial and commercial service. Independent linearity: ±0.25%. Has stops. Electrical rotation: 3600° +10° to -0°. Temperature range: —55°C to 105°C. Shaft length including bushing: 0.812" x 0.2497" diameter. Bushing: ⅜ - 32 x 5/16". Tolerance: ±5%. 3.0 watts @ 40° C. Size: 1.400" x 0.875" diameter. Weight: 1.5 oz. maximum.

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F3004	100						
12F3005	200						
12F2890	500	8.50	8.10	7.70	7.30	6.90	6.50
12F2891	1K						
12F2892	2K						

Stock No.	Ohms	1-9	10-24	24-49	50-99	100-249	250-499
12F2893	5K						
12F2894	10K						
12F2895	20K	8.50	8.10	7.70	7.30	6.90	6.50
12F2896	30K						
12F2897	50K						
12F2898	100K						

MODEL 532

Low cost design with quality features. Independent linearity: ±0.25%. Has stops. Electrical rotation: 3600° +10° to ,0°. Temperature range: -55°C to 105°C. Shaft length including bushing: 0.812" x 0.2497" diameter. Bushing: ⅜ - 32 x 5/16". Tolerance: ±5%. 3.0 watts @C. Size: 1.340" x 0.875" diameter. Weight: 1.0 oz. maximum.

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4102	100						
12F4103	200						
12F4104	500	6.65	6.30	5.95	5.60	5.25	4.90
12F4105	1K						
12F4106	2K						
12F4107	5K						

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4108	10K						
12F4109	20K						
12F4112	30K	6.65	6.30	5.95	5.60	5.25	4.90
12F4110	50K						
12F4111	100K						

MODEL 860

High power model for wide service. Independent linearity: ±0.25%. Has stops. Electrical rotation: 3600° +4° to ,0°. Temperature range: —55°C to 105°C. Shaft length including bushing: 0.812" x 0.2497 diameter. Bushing: ⅜ - 32 x 5/16". Tolerance: Up to 200 ohms, ±5%; above, ±3%. 8.0 watts @40°C. Size: 2.000" x 1.812" diameter. Weight: 4.5 oz. maximum.

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F2755	25						
12F2756	50						
12F2757	100						
12F2758	200	10.00	9.50	9.00	8.50	8.00	7.50
12F2759	500						
12F2760	1K						
12F2761	2K						
12F2762	5K						

Stock No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F2763	10K						
12F2764	20K						
12F2765	30K						
12F2766	50K	10.00	9.50	9.00	8.50	8.00	7.50
12F2767	100K						
12F2768	200K						
12F2769	300K						
12F2770	400K						

TRIMPOT® Potentiometers

BOURNS INC

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.....	.....

BOURNS PART NUMBERING SYSTEM

200, 3010	L	1	102	M
Basic Model	**Terminal Style**	**Modifying Number**	**Resistance Code**	**Panel Mount**
Contains 3 or 4 digits	**L**—Insulated stranded leads **J, S**—Solder lugs **P, T**—Printed circuit pins **H, W66, X**—PC pins, side-adjust **W**—PC pins, top-adjust	**1**—Standard resistance **2**—100K standard resistance	First 2 digits indicate significant numbers; 3rd digit indicates number of zeros	Available as noted

COMMERCIAL SINGLE-TURN POTENTIOMETERS

CERMET SINGLE-TURN MODEL 3359

Resistance stability under humid conditions. Mech. rotation: 270°. Power rating: 0.5 watt at 70°C. Max. operating temp.: 125° C. Screwdriver slotted at both ends of shaft. Tolerance: ±20%. Size: 0.375″ max. dia., thickness (P) .228″, (W) .236″. Temp. coef.: to 1K, 0 to +300 ppm/°C; 1K and up, 0 to +200 ppm/°C.

Model 3359P

Model 3359W

Stock No.	Bourns Model	Resistance Range, Ohms — Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9600	3359P	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	.95	.85	.75	.70	.65	.60
12F9601	3359W		.98	.88	.78	.72	.67	.62

CERMET SINGLE-TURN MODEL 3389

Low cost, low moisture absorption; sealed for industrial cleaning. Mech. rotation: 310°. Power rating: 0.5 watt at 70°C. Max. oper. temp.: 125°C. Tol.: ±20%. Temp. coef.: ±150 ppm/°C. .39″ x .36″ x .24″.

Model 3389P

Model 3389

Stock No.	Bourns Model	Resistance Range, Ohms — Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9800	3389P	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.52	1.42	1.35	1.31	1.14	1.04
12F9801	3389W							
12F9802	3389T							

WIREWOUND SINGLE-TURN MODEL 3305

Sealed to prevent contamination from fluxing, soldering and cleaning. Withstands industrial process cleaning without appreciable shift in value. Stops provided at each end of travel. Power rating: 0.5 watt at 70°C. Abs. min. res.: 0.5 ohm to 1.0%. Oper. temp.: 125°C max. Tolerance: ±5%. Size: (P) 5/16″ dia. x 3/16″ thk. (W) 5/16″ w. x 1/4″ d. x 3/8″ h.

Model 3305P

12F9602	3305P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K	1.75	1.68	1.61	1.56	1.47	1.37
12F9603	3305W		2.25	2.16	2.07	2.00	1.89	1.77

CERMET MODEL 3329

Single turn potentiometer meets requirements of MIL-R-22097. Positive sealed to withstand adverse conditions of wave soldering and immersion cleaning process. Power rating: 0.5 watt at 85°C. Absolute minimum resistance: 2 ohms. Operating maximum temperature: 150°C. Tolerance: ±20%. Size: (H and P) 0.250″ dia. x 0.180″ h.; (W) 0.290″ dia. x 0.245″ h.

Model 3305W

12F9604	3329H	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	1.75	1.66	1.57	1.50	1.45	1.40
12F9605	3329P							
12F9606	3329W		2.50	2.38	2.25	2.15	2.07	2.00

CERMET SINGLE-TURN MODEL 3369

Very high power rating in relation to size: 1.0 watt at 125°C. Has improved stability and low noise. Performance constant in all environments. Mechanical rotation: 295°. Maximum operating temperature: ±175°C. Tolerance: ±10%. Temperature coefficient: ±150 ppm/°C. Size: (P) .500″ dia. x .492″ dpth.; (S) .500″ dia. x .457″ dpth.

Model 3329H

Model 3369

Stock No.	Bourns Model	Resistance Range, Ohms — Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9803	3369P	100, 250, 500, 1K, 2.5K, 5K, 10K, 20K, 50K, 100K, 250K, 500K, 1 meg, 2.5 megs, 5 megs	3.20	2.20	1.70	1.60	1.50	1.40
12F9804	3369S		3.40	2.40	1.90	1.80	1.70	1.60

Quantity Prices For One Resistance Value And Type Only

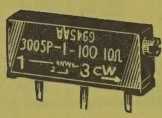
COMMERCIAL MULTI-TURN POTENTIOMETERS

Model 3339P

CERMET MULTI-TURN MODEL 3339

Precise wiper setting of multi-turn pot in single-turn package size. Sealed to withstand wave soldering and immersion cleaning process. Humidity characteristics meet MIL-STD-202. Four turns. Power rating: 0.5 watt at 85°C. Operating temp. max.: 150°C. Tol.: ±20%. Temp. coef.: ±100 ppm /°C. Size: 0.30″ dia. x 0.25″ thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9607	3339P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 1 meg	2.50	2.32	2.09	1.98	1.86	1.76

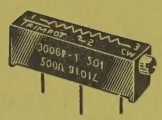


Model 3005

WIREWOUND E-Z TRIM® MODEL 3005

Sealed to prevent fluxing, soldering and cleaning contamination. Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw. 20-turn screwdriver adjustment. Power rating: 1.0 watt at 40°C. Absolute min. resistance: 0.5% or 1.0 ohms, whichever is greater. Maximum operating temperature: 125°C. Tolerance: ±10%. Temp. coefficient: ±100 ppm /°C. Size: 1/64″ w. x 5/16″ h. x 3/4″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9608	3005P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K	2.00	1.85	1.75	1.72	1.65	1.55

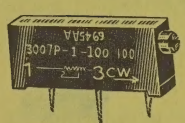


Model 3006

CERMET MODEL 3006

Low cost, low profile with high power rating: 0.75 watt at 70°C. 15 turns. Sealed to MIL-R-22097, withstands industrial cleaning process. Maximum operating temperature: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm /°C. Size: 0.190″ w. x .250″ h. x .75″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9805 12F9806	3006P 3006W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.40	1.30	1.21	1.19	1.15	1.08

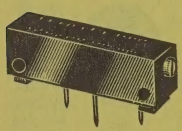


Models 3005P, 3007P, 3009P

WIRE-WOUND E-Z TRIM® MODEL 3007

Wiper assembly idles at both ends. Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw. 20-turns nominal adjustment; welded terminations. Power rating: 1.0 watt at 40°C. Absolute min. resistance: 0.5% or 1.0 ohm, whichever is greater. Operating temperature maximum: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm /°C. Size: .17″ w. x .31″h. x .75″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9609	3007P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K	1.75	1.62	1.46	1.39	1.30	1.23

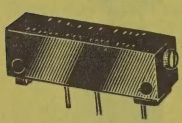


Models 3065P, 3066P, 3067P

CERMET E-Z TRIM® MODEL 3009

Wiper assembly idles at both ends of travel. 20 turns nominal adjustment. Power rating: 0.75 watt at 25°C. Absolute min. res.: 2.0% or 1 ohm, whichever is greater. Max. oper. temp.: 125°C. Tolerance: 10%. Temp. coefficient: ±100 ppm /°C. Size: .19″ w. x .35″ h. x .75″ lgth. *Y type is RJ11 pin configuration.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9610 12F9611	3009P 3009Y*	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.94	1.84	1.75	1.71	1.65	1.55

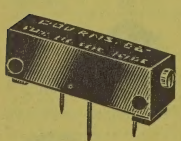


Models 3065S, 3066S, 3067S

WIRE-WOUND E-Z TRIM® MODEL 3067

Wiper assembly idles at both ends of travel preventing forced adjustment. 15 turn screwdriver adjustment. Power rating: 0.5 watt at 25°C. Absolute min. resistance: 0-2.0%. Operating temperature maximum: 85°C. Tolerance: ±10%. Size: .28″ w. x .36″ h. x 1.00″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9612 12F9613	3067S 3067P	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	1.85	1.71	1.54	1.46	1.37	1.30



Model 3068P

CARBON E-Z TRIM® MODEL 3068

Stable infinite resolution carbon element. Self-locking adjustment screw; 15 turn screwdriver adjustment. Power rating: 0.2 watt at 25°C. End setting: 0-5% voltage ratio. Operating temperature: 85°C maximum. Tolerance: ±20%. Operating temperature range: −55°C to +85°C. Size: .28″ w. x .36″ h. x 1.00″ lgth.

12F9614 12F9615	3068S 3068P	20K, 50K, 100K, 200K, 500K, 1 meg	1.85	1.71	1.54	1.46	1.37	1.30

Model 3069P

CERMET E-Z TRIM® MODEL 3069

MIL Spec immersion seal gives trouble-free operation after P.C. board processes. Tinned pins for compatibility with automated and hand soldering methods. 20 turns nominal adjustment. Power rating: 0.75 watt at 25°C. Absolute minimum resistance: 2% or 1 ohm whichever is greater. Operating maximum temperature: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm /°C. Size: 0.25″ w. x 0.35″ h. x 0.75″ lgth.

12F9616	3069P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.94	1.84	1.75	1.71	1.65	1.55

Models 271L, 273L, 275L

WIRE-WOUND TRIMIT® MODELS 271, 273, 275

Ideal for industrial controls and lab type applications. Self-locking adjustment shaft for stable electrical settings; wiper assembly idles at both ends. 25-turn screwdriver adjustment. Power rating: 0.5 watt at 70°C. Absolute minimum resistance: 2.0%. Operating maximum temperature: 105°C. Operating temperature range: −55°C to +105 C. Temperature coefficient: 20 ppm /°C max. Size: 0.25″ w. x .312″ h. x 1.25″ lgth.

12F9617 12F9809 12F9812	271L 273S 275P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.19	2.95	2.66	2.52	2.36	2.24
	Panel mount	Available **271** or **273** model. Add to price	.81	.75	.68	.64	.60	.57

Quantity Prices For One Resistance Value And Type Only

TRIMPOT® Potentiometers

COMMERCIAL MULTI-TURN POTENTIOMETERS (Cont'd)

CARBON TRIMIT® MODELS 272, 274, 276

Infinite resolution Resistaloy® carbon element. Self-locking shaft; 25-turn adjustment. Power Rating: 0.2 watt at 25°C. End setting: 0-5.0% voltage ratio. Operating Temperature: 105°C maximum. Tolerance: ±20%. Size: ¼" width x 5/16" height 1 ¼" length.

Stock No.	Bourns Model	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9620 12F9621 12F9622	272L 274S 276P	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs	3.78	3.50	3.15	2.99	2.80	2.66
	Panel mount	Available **272** or **274** model. Add to price	.81	.75	.68	.64	.60	.57

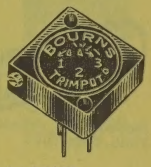
Models 273S, 274S

Models 275P, 276P

MODEL 3255

High temperature all-plastic case; 25-turn screwdriver adjustment. Power rating: 1.0 watt at 50°C. End settings: 0 to 0.1% or 0 to 0.5 ohm, whichever is greater. Operating Temperature: 150°C maximum. Temperature Coefficient: 70 ppm/°C. Tolerance: ±5%. Size: ½" square x 3/16" thick (L); 1/32" thick (P or W).

12F9623 12F9624 12F9625	3255L 3255P 3255W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.19	2.95	2.66	2.52	2.36	2.24
	Panel mount	Available L or W terminals. Add to basic price	.92	.87	.83	.78	.74	.69

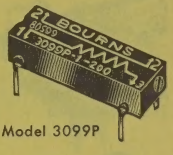


Model 3255P

CERMET DUAL IN-LINE MODEL 3099

Sealed to meet MIL-R-22097 immersion requirements. Standard DIP size (TO-116) compatible with DIP automatic insertion equipment. Temperature Coefficient: ±100 ppm/°C max. over entire temperature and resistance range. Power rating: 0.75 watt at 25°C. Abs. Min. Res.: 2% or 1 ohm, whichever is greater. Mechanical Adjustment: 20 turns nominal. Operating Temperature: −55°C to +125°C. Size: 0.250"w. x 0.190"h. x 0.750"lg.

12F9626	3099P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	3.75	3.35	3.00	2.80	2.60	2.45



Model 3099P

HIGH PERFORMANCE SINGLE TURN POTENTIOMETERS

WIREWOUND MODEL 3300

Meets applicable portions of MIL-R-27208, MIL-R-5272C. Single-turn adjustment. Power Rating: 0.5 watt at 70°C. Abs. Min. Res.: 0.5 ohm or 1.0%, whichever is greater. Operating Temperature: 175°C max. Tolerance: 5%. Size: 5/16" diameter x 3/16" height. (P); ¼" width x 3/8" height. (W); 15/16" height. (S, panel mount).

12F9627 12F9628	3300P 3300W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 100K	5.94	5.50	4.95	4.70	4.40	4.18
12F9629	3300S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 100K	8.91	8.25	7.43	7.05	6.60	6.27

Model 3300S

Model 3300W

Model 3300P

MODEL 3322 (RJ50)

Meets or exceeds MIL-R-22097, Style RJ50. Temperature Coefficient: ±100ppm/°C. Power Rating: 0.5 watt at 85°C. Abs. Min. Res.: 1 ohm. Operating Temperature: −65°C to +175°C. Tolerance: ±10%. Size .25" diameter x .22" thickness.

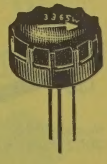
Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance when ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9630	3322P	10, 20, 50, 100, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg.	5.50	5.22	4.90	4.66	4.35	4.13

Model 3322P

WIRE-WOUND MODEL 3365

Pins sealed for PC applications; single-turn adjustment; meets steady-state humidity. Available with thumb adjustment knob. Power Rating: 1.0 watt at 25°C maximum. Operating Temperature: 125°C maximum. Tolerance: ±5%. Size: ½" diameter x 0.23" thickness. (P): 0.50" width x 0.59" height x 0.315" thickness (W).

12F9631	3365P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.30	3.00	2.70	2.45	2.30	2.15
12F9632	3365W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.55	3.23	2.90	2.63	2.47	2.31

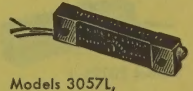

Model 3365P

HIGH PERFORMANCE MULTI-TURN POTENTIOMETERS

CERMET MODEL 3059 (RJ12)

MIL spec immersion seal gives trouble-free operation after PC board processes. Gold plated nickel pins for compatibility with automated and hand soldering methods. Temperature Coefficient: ±100 ppm/°C max. over entire resistance and temperature range. Power Rating: 1.0 watt or 400 volts max. at 70°C. Abs. Min. Res.: 2 ohms max. Mechanical Adjustment: 22±5 turns. Oper. Temp.: −55°C to +150°C. Size: 1/16"w x 1 ¼" 3/16"w x 5/16"h x 1 ¼" lg.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9633 12F9634 12F9635 12F9636	3059J 3059L 3059P 3059Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	3.00	2.85	2.70	2.57	2.43	2.29
	Panel mount	Available J or L terminals. Add to price	.81	.75	.68	.64	.60	.57


Models 3057L, 3059L

WIRE-WOUND MODEL 3057

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9637 12F9638 12F9639 12F9640	3057J 3057L 3057P 3057Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.46	4.83	4.15	3.73	3.56	3.40

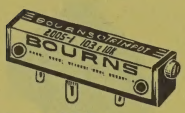
Models 3057P, 3059P

Quantity Prices for One Resistance Value and Type Only

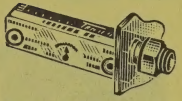
HIGH-PERFORMANCE MULTI-TURN POTENTIOMETERS (Cont'd)

Models 200L, 236L, 260L

Models 200P, 236P, 260P



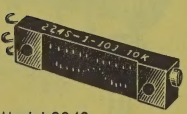
Models 200S, 236S, 260S



Models 200, 236, 260 Panel Mount

Model 224L, 3051L, 3052L

Model 224P, 3051P, 3052P



Model 224S, 3051S, 3052S

Model 3012, 3051 3052 Panel Mount

Model 3012L

Model 3012P

GENERAL PURPOSE WIRE-WOUND MODEL 200

Exceeds steady-state humidity requirements of MIL-STD-202. 25-turns nominal adjustment. Power rating: 0.5 watt at 70°C. Absolute minimum resistance: 0.7% or 0.5 ohm, whichever is greater, 10 ohms to 50K; 5% for 100K. Operating temperature maximum: 105°C. Tolerance: ±10%. Size: 0.250″ w. x .313″ h. x 1.25″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9641 12F9642 12F9643	200L 200P 200S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	4.86	4.50	4.05	3.84	3.60	3.42
	Panel mount	Available **L** or **S** terminals. Add to basic price	.81	.75	.68	.64	.60	.57

CARBON MODEL 215

Excellent shock, vibration and acceleration stability. Self-locking wiper assembly idles at both ends. 22 turns adjustment. Power rating: 0.25 watt or 300 volts max. at 50°C. Absolute min. resistance: 0 to 1% voltage ratio. Max. operating temp.: 135°C. Tolerance: ±20%. Size: 0.28″ w. x 0.315″ h. x 1.25″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9644 12F9645 12F9646	215L 215S 215P	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs	4.86	4.50	4.05	3.84	3.60	3.42
	Panel mount	Available **L** or **S** terminals. Add to basic price	.81	.75	.68	.64	.60	.57

WIREWOUND MODEL 236

Meets MIL-R-27208. 25-turn self-locking screwdriver adjustment. Power rating: 0.8 watt at 70°C. Abs. min. res.: 10 ohms to 1K, 0.2% or 1.0 ohm whichever is greater; 2K to 50K, 0.1%; 100K, 5%. 135°C max. oper. temp. Tolerance: ±10%. Temp. coef.: 50 ppm/°C. 0.30″ w. x .360″ x 1.340″.

12F9647 12F9648 12F9649	236L 236P 236S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.02	6.50	5.85	5.55	5.20	4.94
	Panel mount	Available **L** or **S** terminals. Add to basic price	.81	.75	.68	.64	.60	.57

WIREWOUND MODEL 260

Stable against shock, vibration and acceleration. Surpasses requirements of MIL-STD-202. Power rating: 1.0 watts at 70°C. Absolute min. resistance: 10 ohms to 1K, 0.2% or 1.0 ohm, whichever is greater; 2K to 50K, 0.1%; 100K, 5%. Max. oper. temp.: 175°C. Tolerance: ±10%. 0.280″ w. x .312 x 1.25″.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9650 12F9651 12F9652	260L 260P 260S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.94	5.50	4.95	4.70	4.40	4.18
	Panel mount	Available **L** or **S** terminals. Add to basic price	.81	.75	.68	.64	.60	.57

WIREWOUND MODEL 224 (RT12)

Meets MIL-R-27208 requirements. High maximum operating temperature: 175°C. High power dissipation: 1.0 watt at 70°C. 22 turn screwdriver adjustment. Self-locking adjustment. Absolute minimum resistance: 10 to 200 ohms, the greater of 0.25% or 1 ohm; 500 to 2K, 0.2%; 5K to 50K, 0.1%; 100K, 5%. Tolerance: ±5%. Operating temperature range: −65 to +175°C. 0.19″ w. x .32″ x 1.25″.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9653 12F9654 12F9655	224L 224S 224P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.02	6.50	5.85	5.55	5.20	4.94
	Panel mount	Available **L** or **S** terminals. Add to basic price	.81	.75	.68	.64	.60	.57

ULTRA-RELIABLE TRIMPOT MODEL 224-500 (RTR12)

All requirements of MIL-R-39015 met or exceeded. Failure rate less than .0024/1000 hours at 60% confidence level. Power rating: 0.5 watt at 70°C. Operating temperature range: −65° to +150°C. Absolute min. resistance: 100 ohms to 1K, greater of 0.2% or 1.0 ohm; 2K to 20K, 0.1%. Tolerance: ±5%. Temperature coefficient: 70 ppm/°C max. Size: 0.190 w. x 0.135 h. x 1.25″ lgth.

12F9656 12F9657	224L-500 224P-500	100, 200, 500, 1K, 2K, 5K, 10K	14.58	13.50	12.15	11.53	10.80	10.26

CERMET MODEL 3052 (RJ12)

Meets all specifications of MIL-R-22097. High operating temp. maximum: 175°C. Power rating: 1.0 watt at 70°C. Idling wiper assembly. End setting: 0.5% voltage ratio for 10-200 ohms; 0.1% voltage ratio for 500 ohms to 1 meg. Nom. adjustment: 22 turns. Oper. temp.: −65°C to +175°C. .190″ w. x .320 x 1.25″.

12F9658 12F9659 12F9660	3052L 3052P 3052S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	5.94	5.50	4.95	4.70	4.40	4.18
	Panel mount	Available **L** or **S** terminals. Add to price	.81	.75	.68	.64	.60	.57

CERMET MODEL 3012 (RJ11)

Requirements of MIL-R-22097 met or exceeded. Power rating: 1.0 watt or 500 volts max. at 70°C. End setting: 0.5% voltage ratio for 10-200 ohms; 0.1% voltage ratio for 500 to 1 meg. Nominal adjustment: 22 turns. Operating temperature: −65° to +175°C. Tolerance: 10%. 0.280″ w. x 5/16 x 1.25″.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9661 12F9662	3012L 3012P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	5.94	5.50	4.95	4.70	4.40	4.18
	Panel mount	Available **L** terminal. Add to price	.81	.75	.68	.64	.60	.57

Quantity Prices For One Resistance Value And Type Only

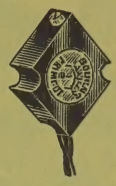
TRIMPOT® Potentiometers

HIGH PERFORMANCE MULTI TURN POTENTIOMETERS (Cont'd)

WIREWOUND MODEL 3250 (RT22)

Humidity-proof; scaled in high-temperature plastic case. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: ½" sq. x 3/16" thick (**L**); 7/16" thick (**P, W** or **W66**).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9683	3250L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	6.71	6.22	5.59	5.31	4.97	4.72
12F9684	3250L	20K, 25K	7.56	7.00	6.30	5.98	5.60	5.32
12F9685	3250L	50K	10.00	9.27	8.34	7.91	7.41	7.04
12F9686	3250P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.23	6.69	6.02	5.71	5.35	5.80
12F9813	3250P	20K, 25K	7.97	7.38	6.64	6.30	5.90	5.61
12F9814	3250P	50K	10.53	9.75	8.78	8.33	7.80	7.41
	Panel mount ▶	Available **L** or **W** terminals. Add to basic price	.97	.90	.81	.77	.72	.68

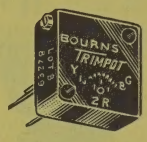


Models 3250L, 3250P 3250W, 3250W66

HIGH RELIABILITY TRIMPOT® WIREWOUND MODEL 3250-501 (RT22)

Incorporates the inherent reliability, performance and configuration of the field-proven Model 3250. Power Rating: 0.5 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 150°C. Tolerance: ±5%. Size: ½" sq. x 1/16" thk. (**L**); 7/32" thk. (**P** or **W**).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9687	3250L-501	100, 200, 500, 1K, 2K, 5K, 10K	13.50	12.50	11.25	10.68	10.00	9.50
12F9688	3250P-501							
12F9689	3250W-501							
12F9690	3250X-501							

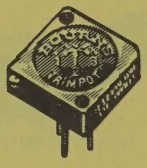


Models 3250L-501, 3250P-501,

½" SQUARE CERMET MODEL 3252 (RJ22)

Meets or exceeds requirements of MIL-R-22097, Style R-122, Char. C. Temperature Coefficient: ±100 ppm/°C maximum over entire temperature and resistance range. Power Rating: 1.0 watt or 400 volts maximum at 70°C. Absolute Minimum Resistance: 1 ohm, all resistances. Mechanical Adjustment: 22 turns nominal. Operating Temperature Range: −65°C to +150°C. Size: ½" sq. x 3/16" h. (**L**): 7/32" h. (**P, W** and **X**).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance in Your Order	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9691	3252L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	5.62	5.35	5.06	4.77	4.50	4.05
12F9692	3252P							
12F9693	3252W							
12F9694	3252X							



3250W-501, 3250X-501

3/8" SQUARE WIREWOUND MODEL 3280

Meets or exceeds requirements of MIL-R-27208. All plastic case provides scaling against liquids and potting compounds plus reliable moisture resistance. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: 3/8" sq. x 13/64" thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9695	3280L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.56	7.00	6.30	5.98	5.60	5.32
12F9696	3280P							
12F9697	3280W							
	Panel mount	Available **L** or **W** terminals. Add to basic price	.97	.90	.81	.77	.72	.68

Model 3252

3/8" SQUARE CERMET MODEL 3282

Meets applicable requirements of MIL-R-22097. Single control hole for screw operating. Stacking tabs for alignment and anti-rotation locking. Power Rating: 1.0 watt or 500 volts maximum at 70°C. End Settings: ±0.5% voltage ratio for 10-200 ohms: ±0.1% voltage ratio for 500 ohms to 1 meg. Mechanical Adjustment: 25 turns nominal. Temperature Coefficient: ±150 ppm/°C maximum at all Resistances. Operating Temperature Range: −65°C to +175°C. Size: 1/8" sq. x 13/64" thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9699	3282H	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg	6.50	6.18	5.85	5.72	5.52	5.18
12F9700	3282L							
12F9701	3282P							
12F9702	3282W							
	Panel mount	Available **H, L, W** terminals. Add to price	1.50	1.42	1.35	1.32	1.27	1.20

Model 3280

3/8" SQUARE WIREWOUND MODEL 3290 (RT24)

Meets or exceeds MIL-R-27208. All plastic case provides sealing against liquids and potting; positive end stops; reliable moisture resistance. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: 1/8" sq. x 0.145" thk. (**L**); 0.150" thk. (**P**); .375" w. x .390" d. x .145" thk. (**H. W**).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9703	3290H	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.33	6.79	6.11	5.80	5.43	5.16
12F9704	3290L							
12F9705	3290P							
12F9706	3290W							

Model 3290

3/8" SQUARE CERMET MODEL 3292 (RJ24)

Meets or exceeds MIL-R-22097. Characteristic C, Style RJ24. Temperature Coefficient: ±100 ppm/°C over entire temperature and resistance range. Power Rating: 0.5 watt or 400 volts maximum at 85°C. Absolute Minimum Resistance: 1 ohm, all resistances. Mechanical Adjustment: 22 turns nominal. Operating Temperature Range: −65°C to +175°C. Size: 0.375" sq. x 0.150" thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9707	3292L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg	6.50	6.18	5.85	5.72	5.52	5.18
12F9708	3292P							
12F9709	3292W							
12F9710	3292X							

Model 3292

Quantity Prices for One Resistance Value or Type Only

BOURNS® TRIMPOT® Potentiometers

HIGH-PERFORMANCE MULTI-TURN POTENTIOMETERS (Cont'd)

Model 3260H

Model 3260W

¼" SQUARE WIREWOUND MODEL 3260 (RT26)

All plastic case provides positive end stops at both ends of travel; sealing against liquids and potting compounds. Clutch action wiper. Power Rating: 0.2 watt at 70°C. Abs. Min. Res.: 0.1% or 1.0 ohm, whichever is greater. Operating Temperature: 175°C max. Tolerance: ±5%. Size: ¼" square x 11/64" high.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9711	3260H	10, 20, 50, 100, 200, 500, 1K	7.50	6.95	6.25	5.93	5.56	5.28
12F9785	3260H	2K, 5K	8.25	7.64	6.88	6.53	6.11	5.81
12F9712	3260W	10, 20, 50, 100, 200, 500, 1K	7.50	6.95	6.25	5.93	5.56	5.28
12F9786	3260W	2K, 5K	8.25	7.64	6.88	6.53	6.11	5.81

Model 3262X

Model 3262W

¼" SQUARE CERMET MODEL 3262 (RJ26)

Meets or exceeds requirements of MIL-R-22097, style RJ26. Temperature coefficient: ±100 ppm/°C maximum over entire temperature and resistance range. Power rating: .25 watt at 85°C. Absolute minimum resistance: 1 ohm, all resistances. Mechanical adjustment: 12 ±2 turns. Operating temperature range: −65° to +175°C. Size: 0.250" sq. x 0.170" thk.

Stock No.	Bourns Model	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9713	3262W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 500K, 1 meg	7.70	7.40	7.10	6.80	6.45	6.00
12F9714	3262X							
12F9715	3262P							

Model 3082

MICROMINIATURE CERMET MODEL 3082

Meets or exceeds applicable requirements of MIL-R-22097. Temperature coefficient: ±100 ppm/°C maximum over entire temperature and resistance range. Power rating: 0.3 watt at 85°C. Absolute minimum resistance: 2 ohms maximum. Mechanical adjustment through entire range: 10 turns nominal. Operating temperature: −65° to +150°C. Size: 0.100" w. x 0.500" lgth.

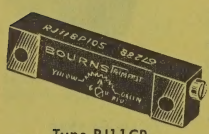
12F9716	3082P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	7.70	7.13	6.42	6.09	5.71	5.42

Types RT12, RTR12

MIL-SPEC ADJUSTMENT POTENTIOMETERS

TRIMPOT® WIRE-WOUND MIL-R-27208 POTENTIOMETERS

Stock No.	MIL Type	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9717	RT10C2L	100, 200, 500, 1K, 2K, 5K, 10K	8.64	8.00	7.20	6.83	6.40	6.08
12F9718 12F9719	RT11C2L, RT11C2P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.56	5.13	4.71	4.34	4.03	3.79
12F9720 12F9721 12F9722	RT12C2L, RT12C2P, RT12C2Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.56	5.13	4.71	4.34	4.03	3.79
12F9723	RT22C2L	50, 100, 200, 500, 1K, 2K, 5K, 10K	5.27	5.01	4.74	4.48	4.22	3.95
12F9724 12F9725 12F9726	TR22C2P, RT22C2W, RT22C2X	50, 100, 200, 500, 1K, 2K, 5K, 10K	4.72	4.48	4.25	4.01	3.78	3.54
12F9727 12F9728 12F9729 12F9730	RT24C2L, RT24C2P, RT24C2W, RT24C2X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.33	6.79	6.11	5.80	5.43	5.16
12F9731 12F9732	RT26C2W, RT26C2X	10, 20, 50, 100, 200, 500, 1K	7.50	6.95	6.25	5.93	5.56	5.28

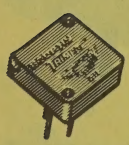

Type RJ11CP

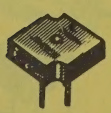
TRIMPOT® WIRE-WOUND MIL-R-39015 POTENTIOMETERS

Failure rate level M.

12F9733 12F9734	RTR12DL, RTR12DP	500, 1K, 2K, 5K, 10K	19.78	18.32	16.49	15.65	14.66	13.93
12F9735 12F9736 12F9737 12F9738	RTR22L RTR22P RTR22W RTR22X	100, 200, 500, 1K, 2K, 5K, 10K	19.78	18.32	16.49	15.65	14.66	13.93

TRIMPOT® MIL-R-22097 POTENTIOMETERS


Type RJ22


Type RJ24

Type RJ26

Type RJ50

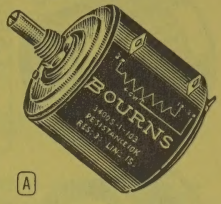
Stock No.	Model Specify Terminal	Specify Resistance	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9739 12F9740	RJ11AL, RJ11AP	20K, 25K, 50K, 100K, 250K, 500K, 1 meg	5.56	5.13	4.71	4.34	4.03	3.79
12F9741 12F9742	RJ11BL, RJ11BP	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	5.56	5.13	4.71	4.34	4.03	3.79
12F9743 12F9744	RJ11CL, RJ11CP	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	5.94	5.22	4.95	4.84	4.66	4.38
12F9745 12F9746 12F9747	RJ12BL, RJ12BP, RJ12BY	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	5.56	5.13	4.71	4.34	4.03	3.79
12F9748 12F9749 12F9750	RJ12CL, RJ12CP, RJ12CY	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	5.94	5.22	4.95	4.84	4.66	4.38
12F9751 12F9752 12F9753 12F9754	RJ22BL, RJ22BP, RJ22BW, RJ22BX	20K, 25K, 50K, 100K, 250K, 500K, 1 meg	6.25	5.94	5.63	5.30	5.00	4.50
12F9755 12F9756 12F9757 12F9758	RJ22CL, RJ22CP, RJ22CW, RJ22CX	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	6.25	5.94	5.63	5.30	5.00	4.50
12F9759 12F9760 12F9761 12F9762	RJ24CL, RJ24CP, RJ24CW, RJ24CX	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	6.50	6.18	5.85	5.72	5.52	5.18
12F9763 12F9764	RJ26CW, RJ26CX	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	7.00	6.50	5.84	5.55	5.20	4.94
12F9765	RJ50CP	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K	5.50	5.22	4.90	4.66	4.35	4.13

TRIMPOT® Potentiometers

BUSHING MOUNT PRECISION POTENTIOMETERS

Lockwasher and mounting nut supplied. Standard resistance range given; special resistances are available.
Resistance code: First 2 digits indicate significant numbers, 3d digit indicates number of zeros, e.g.: 103 = 10000 ohms.

10-TURN 1 13/16" DIAMETER MODEL 3400 (Fig. A)

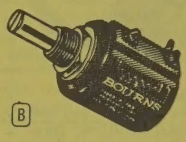


A

High temperature, moisture resistant, thermosetting plastic housing. Exceeds humidity cycling requirements of MIL-R-12934. Shaft supported front and rear by sleeve bearings. Power rating: 5.0 watts at 40°C. Absolute minimum resistance: 1.0 ohms or 0.15%, whichever is greater. Independent linearity: ±0.15% maximum. Maximum operating temperature: 105°C. Resistance tolerance: ±3%. Size: 1 1/16" dia. x 1 3/4" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9766	3400S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 100K, 200K	11.00	10.00	9.50	9.00	8.50	8.00
12F9787	3400S-1	500K	20.90	19.00	18.05	17.10	16.15	15.20
12F9788	3400S-1	1 meg	38.50	35.00	33.25	31.50	29.75	28.00

10-TURN 7/8" DIAMETER WIRE-WOUND MODEL 3500 (Fig. B)

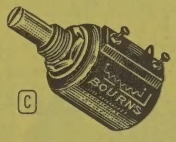


B

High temperature, thermosetting plastic housing. Shaft sealed with "O" ring. Special rotor and slider block design assures excellent wiper stability. Humidity exceeds requirements set in MIL-STD-202, Method 103. Power rating: 2.0 watts at 70°C. Absolute minimum resistance: 1.0 ohm or 0.1%, whichever is greater. Independent linearity: ±0.20%. Operating temperature: 125°C maximum. Resistance tolerance: ±3%. Size: 7/8" dia. x 1" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9767	3500S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 75K, 100K, 125K	11.00	10.00	9.50	9.00	8.50	8.00
12F9789	3500S-1	150K, 200K, 250K	20.90	19.00	18.05	17.10	16.15	15.20
12F9790	3500S-1	500K	30.80	28.00	26.60	25.20	23.80	22.40

10-TURN 7/8" DIAMETER CONDUCTIVE PLASTIC MODEL 3501 (Fig. C)

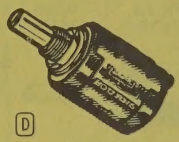


C

Infinitron® conductive plastic element provides essentially infinite resolution. Exceeds moisture resistance requirements of MIL-R-39023. Exclusive termination assures low end resistance and definite effective electrical angle. Power Rating: 2.0 watts at 70°C (325 volts maximum). Independent Linearity: ±0.5% maximum. Maximum Operating Temperature: 105°C. Resistance Tolerance: ±10%. Size: 7/8" dia. x 1" lgth.

12F9768	3501S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K	16.50	15.00	14.25	13.50	12.75	12.00
12F9791	3501S-1	1 meg, 2 megs, 4 megs	38.50	35.00	33.25	31.50	29.75	28.00

10-TURN INDUSTRIAL 7/8" DIAMETER WIRE-WOUND MODEL 3507 (Fig. D)


D

Special rotor and slider assembly assures excellent wiper stability. Power Rating: 2.0 watts at 25°C. Absolute minimum resistance: 1.0 ohm or 0.25%, whichever is greater. Maximum operating temperature: 105°C. Size: 7/8" dia. x 1 1/8" lg. For 0.032" w. x 0.032" d. shaft slot, specify 3507S-3; same values and price.

12F9769	3507S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 100K	8.25	7.50	6.60	6.25	5.95	5.50
12F9792	3507S-1	250K	18.15	16.50	14.52	13.74	13.08	12.09

10-TURN 7/8" DIAMETER WIRE-WOUND MODEL 3509 (Fig. D)

Nonmetallic shaft and bushing: shaft with screwdriver slot standard; other shafts and modifications available on request. Power Rating: 2.0 watts at 25°C. Absolute Minimum Resistance: 1 ohm or .25%, whichever is greater. Independent Linearity: ±.25% maximum. Operating Temperature Maximum: 105°C. Resistance Tolerance: ±5%. Size: 7/8" dia. x 1 1/8" lgth.

12F9770	3509S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	6.55	5.95	5.66	5.36	5.06	4.76

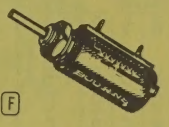
5-TURN 7/8" DIAMETER WIRE-WOUND MODEL 3520 (Fig. E)

E

Exceeds humidity cycling requirements of MIL-R-12934. High temperature, moisture resistant, thermosetting plastic housing: special rotor and slider design. Contact pressure control of 100% assures low noise and long rotational life. Power Rating: 1.5 watts at 70°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Independent Linearity: ±0.3% maximum. Operating Temperature Maximum: 125°C. Resistance Tolerance: ±3%. Size: 7/8" dia. x 1 1/16" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9771	3520S-1	25, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K	14.85	13.50	12.82	12.15	11.47	10.80
12F9793	3520S-1	100K	24.75	22.50	21.37	20.25	19.12	18.00
12F9794	3520S-1	250K	34.65	31.50	29.92	28.35	26.77	25.20

10-TURN 1/2" DIAMETER MODEL 3700 (Fig. F)


F

Contact pressure control of 100% assures low noise and long rotational life. Exceeds MIL-R-12934 humidity cycling requirements. High temperature, moisture resistant, thermosetting plastic housing. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Independent Linearity: ±0.5% maximum. Operating Temperature Maximum: 125°C. Resistance Tolerance: ±5%. Size: 1/2" dia. x 1" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9772	3700S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	26.95	24.50	23.27	22.05	20.82	19.60

10-TURN INDUSTRIAL 1/2" DIAMETER MODEL 3707 (Fig. F)

Silverweld® termination eliminates vulnerable single wire termination. Special rotor design assures excellent wiper stability. Power Rating: 1.0 watt at 40°C. Independent Linearity: ±1.0%. Maximum Operating Temperature: 105°C. Resistance Tolerance: ±5%. Size: 1/2" dia. x 1" lgth.

12F9773	3707S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	18.98	17.25	16.39	15.53	14.67	13.80

KNOBPOT® BUSHING MOUNT PRECISION POTENTIOMETERS

Knob, readout dial and potentiometer in one package requires less front panel space than most dials alone: requires no back panel space. Self-locking feature provides excellent stability during vibration and shock; 100% contact pressure control insures high mechanical life. Sealed to pass MIL-STD-202, Method 103, humidity. Lockwasher and mounting nut included.

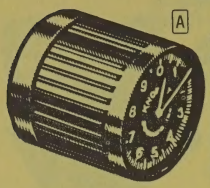
10-TURN 3/4" DIAMETER KNOBPOT® MODEL 3600 (Fig. G)

G

Phasing of dial readout to potentiometer performed at factory with accuracy of ±0.5% (including linearity). Power Rating: 1.5 watts at 25°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Maximum Operating Temperature: 85°C. Resistance Tolerance: ±5%. Size: 3/4" dia. x 1" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249
12F9774	3600S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	23.00	21.30	19.17	18.19	17.04
12F9795	3600S-1	200K, 250K	34.00	31.48	28.34	26.89	25.18

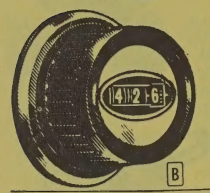
KNOBPOT® BUSHING MOUNT PRECISION POTENTIOMETERS (Cont'd)



10-TURN 1¼" DIAMETER KNOBPOT® SENIOR MODEL 3640

Clock face readout provides excellent readability and setting accuracy. Phasing adjusted to ±0.1%. Repeatability to ±.05% voltage ratio. Power rating: 2.5 watts at 25°C. Abs. min. res.: 1.0 ohm or 0.1%, whichever is greater. Max. oper. temp.: 85°C. Tolerance: ±3%. Extends 9/16" behind panel. 1¼" diameter, 1½" out from panel. Requires two holes in panel: 0.413" and .0785".

Stock No.		Resistance Range Specify Resistance When Ordering	Each 1-9	10-24	25-99	100-249	250-499
12F9663	3640S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 125K, 200K, 250K	23.00	21.30	19.17	18.19	17.04



10-TURN 1¼" DIAMETER DIGITAL KNOBPOT® MODEL 3650

Digital readout, knob and potentiometer in one unit requires less front panel space than most dials alone. Readability of 1 part in 10,000. 0.5% repeatability of total applied voltage. Output accuracy within 0.1% of total applied voltage (including linearity). Power rating: 2.5 watts at 25°C. Absolute minimum resistance: 1.0 ohm or 0.1%, whichever is greater. Maximum operating temperature: 85°C. Resistance tolerance: ±3%. Knob dia.: 1¾". Unit extends total of 1.57" behind panel front.

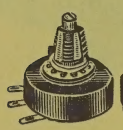
12F9664	3650S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 125K, 200K, 250K	28.50	26.39	23.75	22.54	21.11

FINCH TURNS COUNTING DIALS

Stock No.	Bourns No.	Finish	Shaft Dia.	Bushing Dia.	Brake	Each 1-9	10-24	25-99	100-249	250-499
12F9665	H-491-1*	Clear	3/32"	¼"	No	7.05	6.70	6.35	5.99	5.64
12F9666	H-492-1*	Clear	3/32"	¼"	Yes	7.25	6.89	6.53	6.16	5.80
12F9667	H-493-1*	Black	3/32"	¼"	No	7.25	6.89	6.53	6.16	5.80
12F9668	H-494-1†	Black	3/32"	¼"	Yes	7.40	7.03	6.66	6.29	5.92
12F9669	H-491-3	Clear	¼"	⅜"	No	6.75	6.41	6.08	5.74	5.40
12F9670	H-492-3	Clear	¼"	⅜"	Yes	6.95	6.60	6.26	5.91	5.56
12F9671	H-493-3	Black	¼"	⅜"	No	6.95	6.60	6.26	5.91	5.56
12F9672	H-494-3	Black	¼"	⅜"	Yes	7.15	6.79	6.44	6.08	5.72
12F9673	H-510-1†	Clear	⅛"	.....	Yes	7.15	6.79	6.44	6.08	5.72
12F9674	H-510-2†	Clear	¼"	.....	Yes	7.15	6.79	6.44	6.08	5.72

NEW CERMET PANEL CONTROLS

CERMET ELEMENT PANEL MOUNTED POTENTIOMETERS



Model 3852E

Mdoel 3859E

Single turn potentiometers for panel mount have improved setability and low noise for outstanding performance. Thin ¾" diameter case has extremely high power rating: 2 watts at +70°C. Resistance tolerance: ±10%; ±5% available. Tapers: Linear, 10% CW or 10% CCW. Contact resistance variation: ±3% maximum of total resistance. Temperature coefficient: ±150 ppm/°C. High Performance Models meet or exceed applicable requirements of MIL-R-94 or MIL-R-23285. **High Performance Model 3852:** Housing ¾" dia. x ¼" length. Resistance range: 50 ohms to 5 megs, linear taper; 1K to 2.5 megs, CW and CCW taper. Power rating: 2 watts at 70°C, linear; 1 watt, CW and CCW taper. Operating temperature: −65° to +150°C. **Commercial Model 3859:** Same as model 3852 except operating temperature range −65° to +125°C. **High Performance Model 3862:** Housing ½" dia. by 0.453" length. Resistance range: 100 ohms to 5 megs, linear taper; 500 ohms to 2.5 megs, CW and CCW tapers. Power rating: 1 watt at 125°C, linear taper; 0.5 watt, CW and CCW taper. Operating temperature range: −65°C to +175°C. **All models** supplied with hardware; other shaft lengths available. Types with locking bushings supplied with locking nut. **Specify:** Plain round, screwdriver slot, round with flat shaft; solder lugs or PC terminals; resistance; and linear, CW, or CCW taper.

Model 3862C

Model 3862E

Stock No.	Bourns Model	Bushing Style	Lgth.	Shaft Dia.	Standard Shaft Lgth.* Min.	Max.	Each 1-9	10-24	25-49	50-99	100-249	250-499
12F9675	3852A	⅜-32 UNEF	⅜"	¼"	½"	⅞"	2.40	2.14	2.09	1.99	1.56	1.23
12F9676	3852B	⅜-32 UNEF locking	½"	¼"	⅝"	⅞"	2.80	2.49	2.44	2.32	1.82	1.43
12F9677	3852C	¼-32 UNEF	¼"	⅛"	⅜"	⅞"	2.50	2.23	2.18	2.08	1.63	1.28
12F9678	3852E	¼-32 UNEF locking	⅜"	⅛"	½"	⅞"	2.80	2.49	2.44	2.32	1.82	1.43
12F9679	3859A	⅜-32 UNEF threaded plastic	⅜"	¼"	½"	⅞"	1.95	1.74	1.70	1.62	1.27	1.00
12F9680	3859B	Plastic snap-in	¼"	¼"	⅜"	⅞"	1.85	1.65	1.61	1.54	1.20	.95
12F9681	3862C	¼-32 UNEF-2A	¼"	⅛"	⅜"	⅞"	4.20	3.95	3.80	3.40	2.20	1.70
12F9682	3862E	¼-32 UNEF-2A locking	½"	⅛"	⅝"	.....	4.60	4.32	4.16	3.68	2.54	1.85

NUMBERING SYSTEM FOR ABOVE MODELS

3852-XX-XX

Shaft Length from Mounting Surface or

Model	Bshg. Style	Bushing length	Min. Std[2]	Code[1]	Max. Std.	Code[1]
3852	A	⅜"	½"	16	⅞"	28
					2"	64
3852	B	½"	⅝"	20	⅞"	28
3852	C	¼"	⅜"	12	⅞"	28
3852	E	⅜"	½"	16	⅞"	28
3859	A	⅜"	½"	16	⅞"	28
					2"	64
3859	B	¼"	⅜"	12	⅞"	28
3862	C	¼"	⅜"	12	⅞"	28
3862	E	½"	⅝"	20		

[1] The shaft length numbering code is based on 1/32" increments; thus, a 1" long shaft FMS is ordered by code "32".

[2] This standard is also the minimum shaft length available for this model. Shaft-lengths other than those listed above are available at no extra charge in ⅛" increments from the minimum in table above to 1½" FMS on all models except 3852A and 3859A which can be obtained with shafts 2" FMS at no extra charge. There is an extra charge for all other shaft lengths.

2—XXX-A

Linear Taper, ±10% resistance tolerance. Other tapers available.

Screwdriver Slot. Other ends available

Resistance Code

Resist. (Ω)	Part No.	Resist (Ω)	Part No.	Resist (Ω)	Part No.
50	500	3,500	352	200,000	204
*100	101	*5,000	502	*250,000	254
150	151	7,500	752	350,000	354
200	201	*10,000	103	*500,000	504
*250	251	15,000	153	750,000	754
350	351	20,000	203	*1,000,000	105
*500	501	*25,000	253	1,500,000	155
750	751	35,000	353	2,000,000	205
*1,000	102	*50,000	503	*2,500,000	255
1,500	152	75,000	753	3,500,000	355
2,000	202	*100,000	104	*5,000,000	505
*2,500	252	150,000	154		

*Resistances marked with an asterisk are available for all models. Other resistances not so indicated are for models 3852 and 3859 only.

Rotary Switches & Turns Counting Dials

Spectrol

MODEL 84 WIREWOUND

84-3-8

84-3-10

84-5-6

Higher power miniature trimmers for Military and industrial circuits. Designed to meet applicable portions of MIL-R-27208. Tempco of 50 PPM/°C maximum. Choice of 3 packages above.

Effective adjustment 300° nominal. Temperature range: -65 to 175°C. Tolerance: ±5% 1.0 watt @ 70°C. Weight: 1.7 Grams maximum.

TYPE 84-3-8—SCREWDRIVER ADJUST-PC PINS

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2958	10							
12F2959	20							
12F2680	50							
12F2681	100	3.32	3.02	2.83	2.63	2.54	2.34	2.24
12F2682	200							
12F2683	500							
12F2684	1K							

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2685	2K							
12F2686	5K	3.32	3.02	2.83	2.63	2.54	2.34	2.24
12F2687	10K							
12F2688	20K	3.71	3.38	3.16	2.94	2.83	2.62	2.51
12F2689	50K	4.01	3.66	3.42	3.19	3.07	2.83	2.71
12F2690	100K	4.98	4.54	4.25	3.96	3.81	3.52	3.37

TYPE 84-3-10—KNOB ADJUST-PC PINS

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2932	10							
12F2933	20							
12F2934	50							
12F2935	100	4.00	3.64	3.41	3.17	3.06	2.82	2.70
12F2936	200							
12F2937	500							
12F2938	1K							

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2939	2K							
12F2940	5K	4.00	3.64	3.41	3.17	3.06	2.82	2.70
12F2941	10K							
12F2942	20K	4.47	4.08	3.81	3.55	3.42	3.16	3.03
12F2943	50K	4.83	4.40	4.12	3.83	3.69	3.41	3.27
12F2944	100K	6.00	5.47	5.12	4.77	4.59	4.24	4.06

TYPE 84-5-6—PANEL BUSHING MOUNT-SOLDER HOOKS

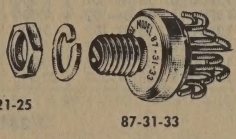
Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2945	10							
12F2946	20							
12F2947	50							
12F2948	100	5.10	4.65	4.35	4.05	3.90	3.60	3.45
12F2949	200							
12F2950	500							
12F2951	1K							

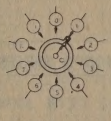
Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2952	1K							
12F2953	5K	5.10	4.65	4.35	4.05	3.90	3.60	3.45
12F2954	10K							
12F2955	20K	5.71	5.21	4.87	4.54	4.37	4.03	3.86
12F2956	50K	6.17	5.63	5.26	4.90	4.72	4.36	4.18
12F2957	100K	7.65	6.98	6.53	6.08	5.85	5.40	5.18

MODEL 87 MINIATURE ROTARY SWITCHES

87-11-10

87-21-25


87-31-33



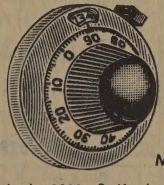
Miniature rotary tap switches suitable for many dry circuits as well as loads up to ¼ ampere at 28VDC. Positive detent action and proven rotational life of 4000 operations per position. Has stops. Dielectric strength: 1000 VAC at sea level. Capacitance: pin to pin or, pin to case, 2PF maximum. Sealed. Suitable for automatic soldering. Bushing mount has 12-28 threads, 0.275 long. Weight: 3.0 Grams maximum.

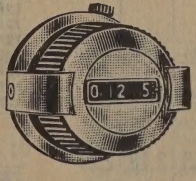
Stock No.	Type	Poles	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F900	87-11-19	1	4.13	3.77	3.52	3.28	3.16	2.92	2.80
8F901	87-21-19	1	4.79	4.37	4.09	3.81	3.67	3.38	3.24
8F902	87-31-10	1	5.29	4.82	4.51	4.20	4.04	3.73	3.58
8F903	87-11-24	2	4.62	4.22	3.94	3.67	3.54	3.26	3.13
8F904	87-21-24	2	5.29	4.82	4.51	4.20	4.04	3.73	3.58

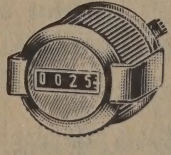
Stock No.	Type	Poles	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F905	87-31-25	2	5.80	5.29	4.95	4.60	4.43	4.09	3.92
8F906	87-11-33	3	4.96	4.53	4.23	3.94	3.80	3.50	3.36
8F907	87-21-33	3	5.63	5.13	4.80	4.47	4.30	3.97	3.81
8F908	87-31-33	3	6.12	5.58	5.22	4.86	4.68	4.32	4.14

TURNS COUNTING DIALS

Model 11


Model 21


Model 25


Model 25-4-13

Model 11. Eleven turns. Counts to 1099. Satin body finish. Black knob and brake lever. Black numerals. 1" diameter. For ¼" and ⅛" shaft. Order by stock number. Weight: 0.7 oz. maximum.

Stk. No.	Type	Shaft Diameter	1-9	10-24	25-49	50-99	100-249	250-499
12F2773	11-1-11	¼"	7.75	7.36	6.98	6.59	6.20	5.81
12F2774	11-3-11	⅛"	8.35	7.93	7.52	7.10	6.68	6.26

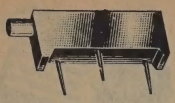
Model 21. Fifteen turns. Counts to 1499. Satin body finish; black knob and brake lever. Black numerals. 1 13/16" diameter. For ¼" and ⅛" shaft. Order by stock number. Weight: 3.0 oz. maximum.

Stock No.	Type	Shaft Diameter	1-9	10-24	25-49	50-99	100-249	250-499
8F898	21-1-11	¼"	5.75	5.45	5.18	4.89	460	4.31
2F899	21-3-11	⅛"	6.35	6.03	5.72	5.40	5.08	4.76

Model 25. Type 25-3 has 11 turns to 1099 digits; 25-4, has 100 turns to 9999 digits. Both have satin chrome finish with white numerals, on black background; also, black knurled knob and brake lever. Body size: 1 3/16" diameter. For ¼" shaft. Weight: 3.7 oz. diameter.

Stock No.	Type	Shaft Diameter	1-9	10-24	25-49	50-99	100-249	250-499
12F2777	25-1-13	¼"	14.25	13.54	12.83	12.11	11.40	10.69
12F2778	25-4-13	¼"	19.75	18.76	17.78	16.79	15.80	14.81

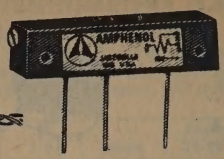
Amphenol Wirewound Trimmers



3800P—3800k—3800P-2
3801P—3801k—3801P-2

992 SL

992 L



992 P

3600P
3610P

WIREWOUND TRIMMERS

Commercial 1-watt trimmers have 100% usable range and output linear with shaft adjustment. Minimum load life: 1000 hours. Minimum mechanical rotation life: 200 cycles.

3800 and 3810 series, ¾" long with 20-turn ratio for full resistance range. Tol., ±10%; temp., −65 to 125°C. P series with 0.1" pin spacing. K series, 0.2" spacing. P-2 series, 0.1" spacing with "Vista-Trim". 3810 series with silicon "0" ring to seal out dust and humidity.

992 series, 1¼" long with 22-turn ratio for full resistance range. Tol., ±10% to 100 ohms; ±5%, 100 ohms and up. Temp., −55 to 125°C. P series, 0.1" spacing. SL series, with solder lug. L series, color-coded wire leads.

3600 and 3610 series, ⅜" square with 23-turn ratio for full resistance range. Tol., ±10%; temp., −65 to 125°C. 3610 series with "0" ring to seal out dust and humidity. Meets MIL-STD-202 specifications.

3800P SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
30F1510	3800P-100	10						
30F1511	3800P-200	20						
30F1512	3800P-500	50						
30F1513	3800P-101	100						
30F1514	3800P-201	200						
30F1515	3800P-501	500	1.75	1.62	1.46	1.39	1.30	1.23
30F1516	3800P-102	1,000						
30F1517	3800P-202	2,000						
30F1518	3800P-502	5,000						
30F1519	3800P-103	10,000						
30F1520	3800P-203	20,000						

3800K SERIES

30F1532	3800K-100	10						
30F1533	3800K-200	20						
30F1534	3800K-500	50						
12F5000	3800K-101	100						
12F5001	3800K-201	200						
12F5002	3800K-501	500	1.75	1.62	1.46	1.39	1.30	1.23
12F5003	3800K-102	1,000						
12F5004	3800K-202	2,000						
12F5005	3800K-502	5,000						
12F5006	3800K-103	10,000						
12F5007	3800K-203	20,000						

3800P2 SERIES

30F1543	3800P-100-2	10						
30F1544	3800P-200-2	20						
30F1545	3800P-500-2	50						
12F5042	3800P-101-2	100						
12F5043	3800P-201-2	200						
12F5044	3800P-501-2	500	1.75	1.62	1.46	1.39	1.30	1.23
12F5045	3800P-102-2	1,000						
12F5046	3800P-202-2	2,000						
12F5047	3800P-502-2	5,000						
12F5048	3800P-103-2	10,000						
12F5049	3800P-203-2	20,000						

992P SERIES

12F956	992P-500	50						
12F957	992P-101	100						
12F958	992P-201	200						
12F959	992P-501	500	2.95	2.73	2.46	2.33	2.18	2.07
12F960	992P-102	1,000						
12F961	992P-202	2,000						
12F963	992P-502	5,000						
12F964	992P-103	10,000						
12F965	992P-203	20,000	4.10	3.79	3.42	3.24	3.03	2.88

992L SERIES

12F941	992L-500	50						
12F942	992L-101	100						
12F943	992L-201	200						
12F944	992L-501	500	2.95	2.73	2.46	2.33	2.18	2.07
12F945	992L-102	1,000						
12F946	992L-202	2,000						
12F948	992L-502	5,000						
12F949	992L-103	10,000						
12F950	992L-203	20,000	4.10	3.79	3.42	3.24	3.03	2.88

992SL SERIES

12F1512	992SL-500	50						
12F1513	992SL-101	100						
12F1514	992SL-201	200						
12F1515	992SL-501	500	2.95	2.73	2.46	2.33	2.18	2.07
12F1516	992SL-102	1,000						
12F1517	992SL-202	2,000						
12F1518	992SL-502	5,000						
12F1519	992SL-103	10,000						
12F1520	992SL-203	20,000	4.10	3.79	3.42	3.24	3.03	2.88

3810P SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
30F1521	3810P-100	10						
30F1522	3810P-200	20						
30F1523	3810P-500	50						
30F1524	3810P-101	100						
30F1525	3810P-201	200						
30F1526	3810P-501	500	2.14	1.98	1.86	1.75	1.66	1.55
30F1527	3810P-102	1,000						
30F1528	3810P-202	2,000						
30F1529	3810P-502	5,000						
30F1530	3810P-103	10,000						
30F1531	3810P-203	20,000						

3810K SERIES

12F5058	3810K-100	10						
12F5059	3810K-200	20						
12F5060	3810K-500	50						
12F5008	3810K-101	100						
12F5009	3810K-201	200						
12F5010	3810K-501	500	2.14	1.98	1.86	1.75	1.66	1.55
12F5011	3810K-102	1,000						
12F5012	3810K-202	2,000						
12F5013	3810K-502	5,000						
12F5014	3810K-103	10,000						
12F5015	3810K-203	20,000						

3810P-2 SERIES

12F5061	3810P-100-2	10						
12F5062	3810P-200-2	20						
12F5063	3810P-500-2	50						
12F5050	3810P-101-2	100						
12F5051	3810P-201-2	200						
12F5052	3810P-501-2	500	2.14	1.98	1.86	1.75	1.66	1.55
12F5053	3810P-102-2	1,000						
12F5054	3810P-202-2	2,000						
12F5055	3810P-502-2	5,000						
12F5056	3810P-103-2	10,000						
12F5057	3810P-203-2	20,000						

3600P SERIES

12F1785	3600P-101	100						
12F1786	3600P-201	200						
12F1787	3600P-501	500						
12F1788	3600P-102	1,000	2.95	2.73	2.46	2.33	2.18	2.07
12F1789	3600P-202	2,000						
12F1790	3600P-502	5,000						
12F1791	3600P-103	10,000						
12F1792	3600P-203	20,000						

3610P SERIES

12F5079	3610P-101	100						
12F5080	3610P-201	200						
12F5081	3610P-501	500						
12F5082	3610P-102	1,000	3.55	3.31	3.02	2.85	2.58	2.51
12F5083	3610P-202	2,000						
12F5084	3610P-502	5,000						
12F5085	3610P-103	10,000						
12F5086	3610P-203	20,000						

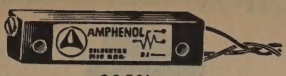
999 TRIMMER MOUNTING BRACKET

For Model 992 series. Easily adjusted—no special tools needed. Self-locking. Aluminum with gold anodized finish.

Stk. No.	Type	Size	1-9	10-24	25-49
12F1635	999	11 19/32"Lx1 3/32"Wx 9/16"H	.81	.75	.68

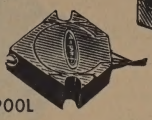
Amphenol Wirewound and Filmet Trimmers

2850P
2851P

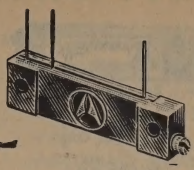


2850L

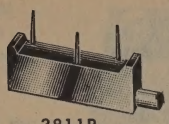
2300P
2301P



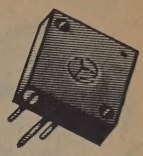
2900L



2750P



3811P



2900P
2901P

WIREWOUND TRIMMERS (CONT'D)

2850 series meets requirements of MIL-R-27208, Style RT11. 1¼" long with 22-turn ratio for full resistance range. Tol., ±5%; temp., −65 to 175°C. Silicon "O" ring. P series with 0.1" spacing. L series with color-coded wire leads.

2750P series meets requirements of MIL-R-27208, Style RT12. 1¼" long with 22-turn ratio for full resistance range. Tol., ±5%; temp., −65 to 175°C. With 0.1" pin spacing.

2850P RT11 SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F1744	2850P-100	10						
12F1745	2850P-200	20						
12F1746	2850P-500	50						
12F1747	2850P-101	100						
12F1748	2850P-201	200	5.21	4.83	4.53	4.27	4.04	3.78
12F1749	2850P-501	500						
12F1750	2850P-102	1,000						
12F1751	2850P-202	2,000						
12F1752	2850P-502	5,000						
12F1753	2850P-103	10,000						
12F1754	2850P-203	20,000	5.74	5.32	4.99	4.70	4.45	4.16

2850L RT11 SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F1644	2850L-100	10						
12F1645	2850L-200	20						
12F1646	2850L-500	50						
12F1647	2850L-101	100						
12F1648	2850L-201	200	5.21	4.83	4.53	4.27	4.04	3.78
12F1649	2850L-501	500						
12F1650	2850L-102	1,000						
12F1651	2850L-202	2,000						
12F1652	2850L-502	5,000						
12F1653	2850L-103	10,000						
12F1654	2850L-203	20,000	5.74	5.32	4.99	4.70	4.45	4.16

2750P RT12 SERIES

12F1757	2750P-100	10						
12F1758	2750P-200	20						
12F1759	2750P-500	50						
12F1760	2750P-101	100						
12F1761	2750P-201	200	5.21	4.83	4.53	4.27	4.04	3.78
12F1762	2750P-501	500						
12F1763	2750P-102	1,000						
12F1764	2750P-202	2,000						
12F1765	2750P-502	5,000						
12F1766	2750P-103	10,000						
12F1767	2750P-203	20,000	5.74	5.32	4.99	4.70	4.45	4.16

2300P series meets requirements of MIL-R-27208, Style RT24. .42" square with 25-turn ratio for full resistance range. Tol., ±10%; temp., −65 to 150°C. With 0.1" pin spacing.

2900 series meets requirements of MIL-R-27208, Style RT22. ½" square with 25-turn ratio for full resistance range. Tol., ±5%; temp., −65 to 175°C. P series has 0.1" pin spacing. L series has color-coded teflon coated wire leads.

2300P RT24 SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4300	2300P-100	10						
12F4301	2300P-200	20						
12F4302	2300P-500	50						
12F4303	2300P-101	100						
12F4304	2300P-201	200	6.90	6.35	5.80	5.43	5.16	4.88
12F4305	2300P-501	500						
12F4306	2300P-102	1,000						
12F4307	2300P-202	2,000						
12F4308	2300P-502	5,000						
12F4309	2300P-103	10,000						
12F4310	2300P-203	20,000						

2900P RT22 SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F1770	2900P-100	10						
12F1771	2900P-200	20						
12F1772	2900P-500	50						
12F1773	2900P-101	100						
12F1774	2900P-201	200	4.87	4.52	4.24	3.98	3.77	3.53
12F1775	2900P-501	500						
12F1776	2900P-102	1,000						
12F1777	2900P-202	2,000						
12F1778	2900P-502	5,000						
12F1779	2900P-103	10,000						
12F1780	2900P-203	20,000	5.36	4.97	4.67	4.39	4.16	3.89

2900L RT22 SERIES

12F1670	2900L-100	10						
12F1671	2900L-200	20						
12F1672	2900L-500	50						
12F1673	2900L-101	100						
12F1674	2900L-201	200	5.43	5.04	4.72	4.45	4.21	3.94
12F1675	2900L-501	500						
12F1676	2900L-102	1,000						
12F1677	2900L-202	2,000						
12F1678	2900L-502	5,000						
12F1679	2900L-103	10,000						
12F1680	2900L-203	20,000	5.93	5.50	5.16	4.85	4.60	4.30

FILM-MET TRIMMERS

Feature 100% metallic element with low noise and TC of 100 ppm/°C, plus infinite resolution; all have PC pins and ±10% resistance tol. Temp., −55 to 150°C except 3811P, −55 to 125°C. 2301P is ⅜" sq. with 26-turn ratio; 2851P, 1¼" long with 22-turn ratio; 2901, ½" sq. with 25-turn ratio; and 3811P, ¾" long with 15-turn ratio.

3811P SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4311	3811P-100	10						
12F4154	3811P-500	50						
12F4155	3811P-101	100						
12F4156	3811P-201	200						
12F4157	3811P-501	500	2.94	2.77	2.59	2.44	2.31	2.16
12F4158	3811P-102	1,000						
12F4159	3811P-202	2,000						
12F4160	3811P-502	5,000						
12F4161	3811P-103	10,000						
12F4162	3811P-203	20,000						

2301P SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4319	2301P-100	10						
12F4320	2301P-200	20						
12F4321	2301P-500	50						
12F4322	2301P-101	100						
12F4323	2301P-201	200	8.27	7.61	6.95	6.52	6.19	5.86
12F4324	2301P-501	500						
12F4325	2301P-102	1,000						
12F4326	2301P-202	2,000						
12F4327	2301P-502	5,000						
12F4328	2301P-103	10,000						

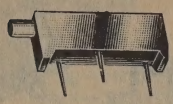
2901P SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4329	2901P-100	10						
12F4330	2901P-200	20						
12F1696	2901P-500	50						
12F1697	2901P-101	100						
12F1698	2901P-201	200	7.35	6.95	6.60	6.25	5.85	5.50
12F1690	2901P-501	500						
12F1691	2901P-102	1,000						
12F1692	2901P-202	2,000						
12F1693	2901P-502	5,000						
12F1694	2901P-103	10,000						
12F1695	2901P-203	20,000						

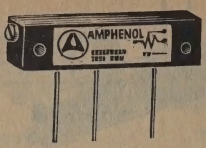
2851P SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4113	2851P-200	20						
12F4114	2851P-500	50						
12F4115	2851P-101	100						
12F4116	2851P-201	200	7.02	6.50	5.85	5.56	5.20	4.94
12F4117	2851P-501	500						
12F4118	2851P-102	1,000						
12F4119	2851P-202	2,000						
12F4120	2851P-502	5,000						
12F4121	2851P-103	10,000						

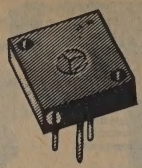
Amphenol Cermet Trimmers



3805K—3805P
3815K—3815P



2855P-RJ11



2305P-RJ24

2905P-RJ22

CERMET TRIMMERS

For commercial and military use. Feature ½-watt minimum ratings and wide resistance range with values up to 5 megohms. For applications where infinite resolution is required. Total resistance and voltage settings remain relatively constant during temperature extremes. Less susceptible to failure when exposed to power or temperatures above specificatiohs. All trimmers have ±10% resistance tolerance, low TC of 150 ppm/°C, and temperature range from −55 to 150°C except 3805 and 3815 series which have range from −55 to 125°C. P types have 0.1" printed circuit pin spacing; K types have 0.2" pin spacing.

3805 and 3815 series, ¾" long, have 22-turn ratio for full resistance range. 3815 has silicon "0" ring.

2855 series, 1¼" long, meets MIL-R-22097, Style RJ11. Has 22-turn ratio for full resistance range.

2305 series, ⅜" square, meets MIL-R-22097, Style RJ24. Has 26-turn ratio for full resistance range.

2905 series, ½" square, meets MIL-R-22097, Style RJ22. Has 25-turn ratio for full resistance range.

3805K

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
30F1572	3805K-500	50						
12F5016	3805K-101	100						
12F5017	3805K-201	200						
12F5018	3805K-501	500						
12F5019	3805K-102	1,000						
12F5020	3805K-202	2,000	1.92	1.77	1.64	1.53	1.43	1.34
12F5021	3805K-502	5,000						
12F5022	3805K-103	10,000						
12F5023	3805K-203	20,000						
12F5024	3805K-503	50,000						
12F5025	3805K-104	100,000						
12F5026	3805K-504	500,000						

3805P

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4145	3805P-500	50						
12F4146	3805P-101	100						
12F5074	3805P-201	200						
12F4147	3805P-501	500						
12F4148	3805P-102	1,000						
12F5075	3805P-202	2,000						
12F4149	3805P-502	5,000	1.92	1.77	1.64	1.53	1.43	1.34
12F4150	3805P-103	10,000						
12F4151	3805P-203	20,000						
12F5076	3805P-503	50,000						
12F4152	3805P-104	100,000						
12F4153	3805P-504	500,000						
12F5077	3805P-105	1,000,000						
12F5078	3805P-205	2,000,000						

3815K

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F5029	3815K-101	100						
12F5030	3815K-201	200						
12F5031	3815K-501	500						
12F5032	3815K-102	1,000						
12F5033	3815K-202	2,000						
12F5034	3815K-502	5,000						
12F5035	3815K-103	10,000	2.02	1.87	1.74	1.63	1.53	1.44
12F5036	3815K-203	20,000						
12F5037	3815K-503	50,000						
12F5038	3815K-104	100,000						
30F1563	3815K-254	250,000						
12F5039	3815K-504	500,000						
12F5040	3815K-105	1,000,000						
12F5041	3815K-205	2,000,000						

3815P

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
30F1581	3815P-101	100						
30F1582	3815P-501	500						
30F1583	3815P-102	1,000						
30F1584	3815P-202	2,000						
30F1585	3815P-502	5,000						
30F1586	3815P-103	10,000	2.02	1.87	1.74	1.63	1.53	1.44
30F1587	3815P-203	20,000						
30F1588	3815P-503	50,000						
30F1589	3815P-104	100,000						
30F1590	3815P-254	250,000						
30F1591	3815P-504	500,000						
30F1552	3815P-105	1,000,000						
30F1553	3815P-205	2,000,000						

2305P-RJ24

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4331	2305P-200	20						
12F4332	2305P-500	50						
12F4333	2305P-101	100						
12F4334	2305P-201	200						
12F4335	2305P-501	500						
12F4336	2305P-102	1,000						
12F4337	2305P-202	2,000	7.32	6.74	6.15	5.77	5.48	5.18
12F4312	2305P-502	5,000						
12F4313	2305P-103	10,000						
12F4314	2305P-203	20,000						
12F4315	2305P-503	50,000						
12F4316	2305P-104	100,000						
12F4317	2305P-504	500,000						
12F4318	2305P-105	1,000,000						

2855P-RJ11

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F4122	2855P-101	100						
12F4123	2855P-201	200						
12F4124	2855P-501	500						
12F4125	2855P-102	1,000						
12F4126	2855P-202	2,000						
12F4127	2855P-502	5,000	5.72	5.26	4.81	4.51	4.28	4.05
12F4128	2855P-103	10,000						
12F4129	2855P-203	20,000						
12F4131	2855P-503	50,000						
12F4132	2855P-104	100,000						
12F5072	2855P-504	500,000						
12F5073	2855P-105	1,000,000						

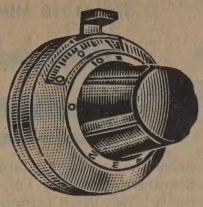
2905P-RJ22

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
12F5088	2905P-200	20						
12F4133	2905P-500	50						
12F4134	2905P-101	100						
12F4135	2905P-201	200						
12F4136	2905P-501	500						
12F4137	2905P-102	1,000						
12F4138	2905P-202	2,000						
12F4139	2905P-502	5,000						
12F4140	2905P-103	10,000						
12F4141	2905P-203	20,000	6.48	6.01	5.64	5.31	5.02	4.69
12F4142	2905P-253	25,000						
12F4143	2905P-503	50,000						
12F4144	2905P-104	100,000						
12F5089	2905P-254	250,000						
12F5090	2905P-504	500,000						
12F5091	2905P-105	1,000,000						
12F5092	2905P-205	2,000,000						
12F5093	2905P-255	2,500,000						
12F5094	2905P-505	5,000,000						

Newark—For All Your Electronic Needs

Amphenol Precision Dials

MODEL 1370 COUNTING DIAL

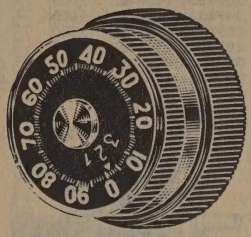


- 1000:1 INDEXING ACCURACY
- ZERO BACKLASH
- FINGERTIP DISK BRAKE
- EASILY READABLE TO 3 FEET
- EXTRA SENSITIVE ACTION

Concentric 10-turn dial ⅞" dia. Large outer vernier dial for max adjust, readout accuracy. Dial mounts directly to shaft. index accuracy 1000:1. Accepts ¼" dia. shaft; up to .177" panel thickness. Aluminum cover, polystyrol control knob, zinc dial. Rotation: continuous CW or CCW.

Stk. No.	Type	1-9	10-24	25-49	50-99	100-249
12F880	1370	6.50	6.17	5.85	5.53	5.20

MODEL 3041 1" MICRODIAL®

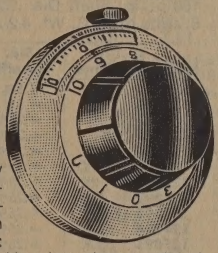


- 3-FOOT READABILITY
- NON-REFLECTIVE LENS
- EPICYCLIC GEAR MOVEMENT
- FREE OF BACKLASH
- FINGERTIP GRIP AND BRAKE
- 1000:1 INDEXING ACCURACY

Ideal for use with series 205 and 1111B Micropots; also for all other potentiometers having ten turn adjustment and ¼" diameter shaft. White numerals on black scale. Smooth, silent gear action. Dimensions: 1 5/32 x 15/16" diameter. Continuous CW or CCW.

Stock No.	Type	Description	1-9	10-24	25-49	50-99	100-249
12F875	3041-2	Black Brake Knob	9.18	8.71	8.24	7.82	7.35
12F877	3041-5	Light-Gray Br. Knob	9.18	8.71	8.24	7.82	7.35

MODEL 1350 COUNTING DIAL



- 6-FOOT READABILITY OF OUTER VERNIER DIAL
- SHAFT MOUNTED DIAL ELIMINATES BACKLASH
- FINGER-TIP BRAKE DOES NOT DISTURB SETTING

Counting dial features 2 concentrically mounted dials: larger counts shaft reverse in 100 equal increments; inner—full reverse. Smooth equicyclic motion eliminates error. Indexing accuracy: 1000:1. 1 13/16" dia. Ten turns. Shaft dia.: ¼". Housing: clear anodized aluminum. Shpg. wt. 4.4 oz.

Stk. No.	Type	1-9	10-24	25-49	50-99	100-249
12F878	1350	5.75	5.46	5.18	4.89	4.60

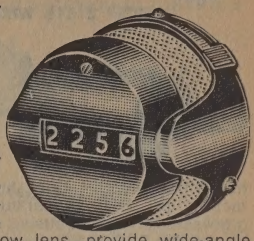
MODEL 3141 AND 3141-2 DIALS

- FAST, DIRECT READINGS UP TO 6 FEET
- BRAKE AND CONTROL KNOB ELIMINATES BACKLASH
- 1000:1 INDEXING ACCURACY

Ultra modern design hides ⅔ of bulk behind mounting panel. Projects only 25/32" from front. Dial assembly mounts directly to standard ¼" shaft. Maximum operation speed: 6000 counts per minute (60 RPM). Operating temperature: −54°C to −71°C. Housing and back cover: die-cast zinc. Cover and control knob: anodized aluminum. Clear lens. Solder lug terminals available on type 3141-2 only. Rotation: continuous CW or CCW. **Special readouts and gear ratios are available on special order.**

Stk. No.	Type	Illumination	1-9	10-24	25-49	50-99	100-249
12F879	3141	None	12.60	11.97	11.34	10.71	10.08
12F6036	3141-2	White light	14.35	13.62	12.94	12.16	11.48

MODEL 1309 3-DIGIT READOUT

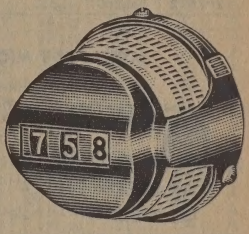


- WIDE-ANGLE VIEWING
- READABLE TO 8 FEET
- POSITIVE-ACTION BRAKE
- ZERO BACKLASH
- ACCURACY 1000:1
- UP TO 6000 COUNTS PER MIN.

Precision design features finger-tip positive action brake and zero backlash. Large, easy-to-read, contrasting numerals, with convex window lens, provide wide-angle viewing plus readability up to 8 feet. Standard gear ratio of 10 to 1 provides continuous ten turn readout of 000 through 999 to initial zero readings. It therefore provides 1000 counts in 10 turns of the control knob. Rotation is continuous clockwise or counter-clockwise. Maximum operating speed: 6000 counts per minute (60 RPM). Rubber seal protects critical assembly from dust and moisture. Control knob is mounted directly to shaft. Housing and mounting plate are die cast zinc. Black enamel housing. Dimensions: 1.816" diameter by 1.660" deep. **A wide variety of special styles, finishes, colors, readouts, gear ratios, markings, shaft diameters, and environmental dials are available on special order.**

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F831	1309	16.38	15.54	14.75	13.91	13.12

MODEL 1314 4-DIGIT READOUT

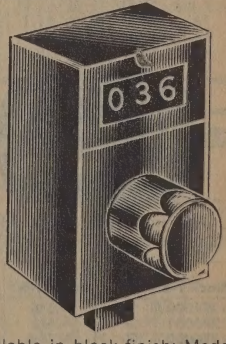


- ACCURACY 10,000:1
- 8-FOOT READABILITY
- ZERO BACK-LASH
- 6000 COUNTS PER MIN.
- FINGER-TIP BRAKE
- DUST, MOISTURE SEAL

Precision counting dial specially designed for industrial use. Over-center finger-tip brake assures positive braking under the most demanding conditions. Superior accuracy permits use in critical applications. Method of count: inline digital readout (4 digital display) 0000 to 9999 in one hundred turns of control knob; one turn of control knob displays readout of 100 in increments of tenths. Rotation is continuous clockwise or counter-clockwise. Numerical size: 3/16" high. Control dial is mounted directly to shaft and permits no backlash in adjustment. Has rubber seal to protect from dust and moisture. Maximum operation speed: 6000 counts per minute (60 RPM). Operating temperature range: −54°C to +71°C. Material specifications: zinc diecast housing and mounting plate. Housing is finished in black enamel. Dimensions: 2 1/16" diameter by 1.660" deep. **Special styles, finishes, colors, readouts, gear ratios, markings shaft diameters and environmental dials are available on special order.**

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F6038	1314	22.57	21.42	20.31	19.16	18.06

1381, 1385 COUNTING DIALS



- HIGH INDEXING ACCURACY OF 1000:1
- FINGERTIP BRAKE HOLDS CRITICAL SETTING
- ULTRA-MODERN STYLING
- ZINC DIE-CAST HOUSING

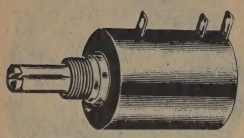
New miniature precision digital dial features special design at exceptionally low cost. Offers ultra-modern styling to compliment any panel layout. Ideal for precision potentiometers up to 10 turns. Accepts shafts ¼" in diameter. Finger-tip brake assures maintenance of critical dial setting without backlash. Model 1381 is available in black finish; Model 1385 in black-grey hammer. Size: 1 7/32" x 1 13/16". ⅛" shaft diameter available on special order.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F6039	1381	9.00	8.55	8.10	7.65	7.10
12F6040	1385	9.00	8.55	8.10	7.65	7.20

NOW AVAILABLE AT NEWARK—MOST COMPLETE LINE OF AMPHENOL POTS AND DIALS!

Amphenol Trimmers and Potentiometers

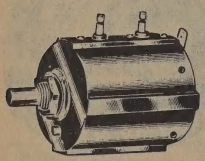
SERIES 2151B WIREWOUND POTENTIOMETERS



Type 2151B. For industrial-commercial use. Space-saving ⅞" diameter miniature size. Wire-wound. Thermosetting plastic rotor does not change shape or size, over two million revolution life guaranteed. Exclusive zero-backlash carrier allows resetting circuit voltage output from either direction. Dual slip ring commutator. Metal wiper contact "hugs". High temperature thermosetting. Molded element grooves in phenolic housing assures high linear accuracy. Case meets MIL-R-12934 steady-state humidity requirements. Temp. range: −65°C to +85°C. Weight 1 oz.

Stock No.	Ohms	Res. No. of turns	1-9	10-24	25-49	50-99	100-249
12F1800	25	1,820					
12F1801	50	2,080					
12F1802	100	1,850					
12F1803	200	2,143					
12F1804	500	2,745					
12F1805	1,000	3,180	10.50	9.97	9.45	8.92	8.40
12F1806	2,000	4,040					
12F1807	5,000	5,200					
12F1808	10,000	4,800					
12F1809	20,000	5,900					
12F1810	30,000	6,500					
12F1811	50,000	9,150					
12F1812	100,000	11,300					

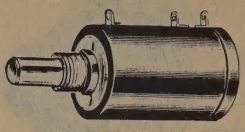
MODEL 205 MICROPOT 10-TURN POTS



Military and commercial application. Non-gangable shaft. Mech. Rotation: 3600° +15° −0°. Elec. Rotation: 3600° +14.4° −0. Resis. Tol.: ±3% except (*) ±10%. Linearity Accuracy: ±1% except (*) ±1% ind. line. Power dis. 5 W at 40°C. Shaft: ½", .25" dia. Size 2⅛" 1, 1¾" dia. Fits pnl. hole .405" dia. Shpg. wt. 8 oz.

Stock No.	Ohms	Resolution: Turns of Wire	Resolution: %	Prices: 1-9	10-24	25-49	50-99	100-249
12F800*	1.15	.....	.....					
12F801*	2.9	.....	.....					
12F802*	25	2520	.040					
12F803*	50	3230	.031					
12F804	100	3820	.026					
12F805	200	6100	.0164					
12F806	500	5150	.0195	19.42	18.42	17.48	16.48	15.54
12F807	1K	6200	.0162					
12F808	2K	7800	.0141					
12F809	5K	9170	.0109					
12F810	10K	8300	.0120					
12F811	20K	10900	.0092					
12F812	30K	13000	.0077					
12F813	50K	17000	.0059					
12F814	100K	18750	.0053					

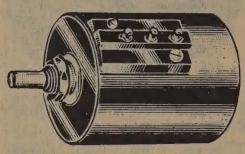
SERIES 4101B MINIATURE 10-TURN POTENTIOMETER



Type 4101B. Capable of dissapating 2 watts at 40°C for 1,000 hrs., and has a mechanical life of over 200,000 revolutions. Wiper and contacts are made of a precious metal to prevent corrosion and noise, but is amazingly inexpensive. Exclusive wiper drive mechanism guarantees zero backlash for precise settings. Standard Linearity Tol. is .25%. Standard Res. is ±5%. Size: ⅞" dia. x 1 3/16". Wt. 1 ounce maximum.

Stk. No.	Type	Ohms	Max. amps. through Element (40°C)	1-9	10-24	25-49	50-99	100-249
30F1500	4101B-101	100	.140					
30F1501	4101B-201	200	.100					
30F1502	4101B-501	500	.063					
30F1503	4101B-102	1,000	.044					
30F1504	4101B-202	2,000	.032	5.95	5.65	5.35	5.05	4.75
30F1505	4101B-502	5,000	.020					
30F1506	4101B-103	10,000	.014					
30F1507	4101B-203	20,000	.010					
30F1508	4101B-503	50,000	.0063					
30F1509	4101B-104	100,000	.0045					

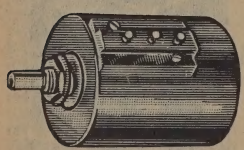
2201B PRECISION 10-TURN LINEAR MICROPOTS



Model 2201B. A high resolution ten-turn precision potentiometer for use in commerical instrument applications. Up to five times greater rotational life than other 10-turn potentiometers. Available with special resistances, linearities, rear shaft extensions, gangs, flatted or slotted shafts. Absolute wiper to element concentricity assures high linear accuracy. Anti-backlash nylon carrier gives precise repeat settings. Reset from either direction. Specifications include Mechanical Rotation: 3600 +4° −0°. Temperature Range: −55°C to +105°C. Torque: 2 oz/in running 3 oz/in starting. Stop strength: 160 oz/in. Shaft Dia: .250". Front shaft ext. ⅜" Power dissipation: 5 watts at 40°C. Wt. 4.2 oz.

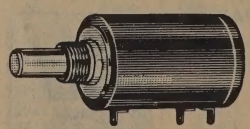
Stock No.	Ohms	Std. Linearity	1-9	10-24	25-49	50-99	100-199
12F885	25	±.5%					
12F886	50	±.5%					
12F887	100	±.25%					
12F888	200	±.25%					
12F889	500	±.25%					
12F890	1K	±.25%					
12F891	2K	±.25%	10.50	9.97	9.45	8.92	8.40
12F892	5K	±.25%					
12F893	10K	±.25%					
12F894	20K	±.25%					
12F895	30K	±.25%					
12F896	50K	±.25%					
12F897	100K	±.25%					
12F898	200K	±.25%					

ECONOMY TEN TURN POTENTIOMETERS



Type 4401B precision wirewound potentiometer. High quality 10 turn 2 inch diameter of industrial-commercial grade. Meets environmental specs per Mil-R-12934. Power 5 watts at 40°C derated to zero at 105°C. Resistance range 25 ohms through 100K with ±5% tolerance. Linearity ±.25% Ind. Body length 2.125 inches. 13/16 inch long shaft, 5/16 in. long bushing. .250 shaft diameter.

Stock No.	Ohms	Std. Linearity	1-9	10-24	25-49	50-99	100-199
12F6000	25	±.5%					
12F6001	50	±.5%					
12F6002	100	±.25%					
12F6003	200	±.25%					
12F6004	500	±.25%					
12F6005	1K	±.25%					
12F6006	2K	±.25%	6.95	6.45	6.20	5.90	5.45
12F6007	5K	±.25%					
12F6008	10K	±.25%					
12F6009	20K	±.25%					
12F6010	30K	±.25%					
12F6011	50K	±.25%					
12F6012	100K	±.25%					
12F6013	200K	±.25%					



Type 4301B precision wirewound potentiometer. ⅞ in. dia. 10 turn unit for industrial-commercial use. Meets environmental specs per Mil-R-12934. Power rating 3 watts. Temperature range −55°C to +105°C. Resistance values 25 ohms through 100K. Resistance tolerance ±5%. Linearity ±.25% Ind. Body length 1.45 in. Shaft diameter .250 in. 13/16 in. long shaft, 5/16 in. long bushing.

Stock No.	Ohms	Res. No. of Turns	1-9	10-24	25-49	50-99	100-249
12F6020	25	1,820					
12F6021	50	2,080					
12F6022	100	1,850					
12F6023	200	2,143					
12F6024	500	2,745					
12F6025	1,000	3,180	6.95	6.45	6.20	5.90	5.45
12F6026	2,000	4,040					
12F6027	5,000	5,200					
12F6028	10,000	4,800					
12F6029	20,000	5,900					
12F6030	30,000	6,500					
12F6031	50,000	9,150					
12F6032	100,000	11,300					

Potentiometers & Controls

CENTRALAB

MODEL B CONTROLS

½ watt, 15/16" diam., universal fluted shaft 3" long. Use KR switches. Less switch. C1. Lin. C2. Semi-log (audio) 10% ctr.

Stk. No.	Type	Ohms	Taper
9F600	B-2	200	C1
9F824	B-4	500	C1
9F800	B-5	1K	C1
9F825	B-6	2K	C1
9F826	B-7	2.5K	C1
9F801	B-10	5K	C1
9F828	B-11	5K	C2
9F802	B-14	10K	C1
9F835	B-15	10K	C2
9F840	B-22	20K	C1
9F804	B-26	25K	C1
9F805	B-31	50K	C1
9F806	B-32	50K	C2
9F844	B-35	75K	C1
9F807	B-40	100K	C1
9F808	B-41	100K	C2
9F846	B-46	200K	C1
9F847	B-50	250K	C1
9F848	B-51	250K	C2
9F810	B-59	.5 meg.	C1
9F811	B-60	.5 meg.	C2
9F853	B-69	1 meg.	C1
9F812	B-70	1 meg.	C2
9F613	B-74	1.6 megs	C1
9F857	B-75	2 megs	C1
9F813	B-76	2 megs	C2
9F859	B-83	2.5 megs	C1
9F860	B-84	3 megs	C1
9F814	B-87	5 megs	C1
9F476	B-90	7.5 megs	C1
9F815	B-98	10 megs	C1

1-9	10-24	25-49	50-99	100-249	250-499
1.12	1.01	.94	.89	.84	.75

1/10 WATT MINIATURE CONTROLS

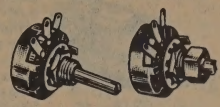
Type B16: Dielectric strength 900 VAC-RMS. Tol. ±20% except (†) ±30%. SPST switch 6.5 amps at 1.5 VDC. Audiotaper except (*) which is linear. Wt. 2 oz.

Plain Type Stud Mounted—260° Rotation

Stk. No.	Type	Ohms
9F621	B16-107*	500
9F622	B16-109*	1K
9F623	B16-111*	2.5K
9F624	B16-112	2.5K
9F625	B16-113*	5K
9F626	B16-114	5K
9F627	B16-115*	10K
9F628	B16-116	10K
9F629	B16-117	25K
9F630	B16-119*	50K
9F631	B16-121*	100K
9F632	B16-123*	250K
9F633	B16-118	500K
9F634	B16-120	1Meg.
9F635	B16-122	2Meg.
9F636	B16-124†	3Meg.
9F637	B16-128†	5Meg

1-9	10-24	25-49	50-99	100-249
1.50	1.35	1.25	1.19	1.13

1/10 WATT MINIATURE CONTROLS



STYLE RV1. Linear taper. Tol: ±10% Dielectric strength: 900 VAC-RMS. Solder-dipped terminals. Locating lug—left only. Stainless steel screwdriver slotted shaft, 1/8" dia. Mech. rotation 260° ±3°. Bushing mtg. nut and lockwasher supplied. **JMP.** Shaft 7/8" long from mtg. surface. 1/4"—32 NEF, 2A thd.

JML. Shaft 1/2" long from mtg. surface. 1/4"—32 NEF, 2A thd. Locking bushings.

MODEL JMP

Stk. No.	Type	Mil. Type	Ohms
9F1500	JMP-501	RV1NAXSD501A	500
9F1501	JMP-102	RV1NAXSD102A	1K
9F1502	JMP-252	RV1NAXSD252A	2.5K
9F1503	JMP-502	RV1NAXSD502A	5.0K
9F1504	JMP-103	RV1NAXSD103A	10K
9F1505	JMP-253	RV1NAXSD253A	25K
9F1506	JMP-503	RV1NAXSD503A	50K
9F1507	JMP-104	RV1NAXSD104A	100K
9F1508	JMP-254	RV1NAXSD254A	250K
9F1509	JMP-504	RV1NAXSD504A	500K
9F1510	JMP-105	RV1NAXSD105A	1 Meg.

1-9	10-24	25-49	50-99	100-249
3.60	3.24	3.00	2.85	2.70

MODEL JML

9F1511	JML-501	RVILAXSB501A	500
9F1512	JML-102	RVILAXSB102A	1K
9F1513	JML-252	RVILAXSB252A	2.5K
9F1514	JML-502	RVILAXSB502A	5K
9F1515	JML-103	RVILAXSB103A	10K
9F1516	JML-253	RVILAXSB253A	25K
9F1517	JML-503	RVILAXSB503A	50K
9F1518	JML-104	RVILAXSB104A	100K
9F1519	JML-254	RVILAXSB254A	250K
9F1520	JML-504	RVILAXSB504A	500K
9F1521	JML-105	RVILAXSB105A	1 Meg.

1-9	10-24	25-49	50-99	100-249
3.90	3.51	3.25	3.09	2.93

TYPE KR FASTATCH SWITCHES FOR MODEL B CONTROLS

3 Amps—125 Volts

† KR-1 Rated at 5 amps can be used on SPDT

Stk. No.	Type	Circuit
9F466	KR-1†	SPST
9F467	KR-2	DPST
9F468	KR-3*	DP (1 on 1 off)

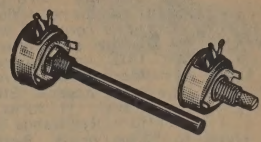
1-9	10-24	25-49	50-99	100-249
.60	.54	.50	.48	.45

15 Amps—10 Volts **With dummy lug.

Stk. No.	Type	Circuit
9F469	KR-4	SPST
9F470	KR-6*	SPST
9F471	KR-7	DPST

1-9	10-24	25-49	50-99	100-249
.60	.54	.50	.48	.45

WW & WN WIREWOUND CONTROLS



Type WW Type WN

Rated full 5 watts—small as other 2 watt controls. 15/32" dia. 9/16" depth, WW shaft 1/4" dia. full round, 2 5/8" lg. WN shaft fingertip knurl, screwdriver slotted, 3/8" lg. from end at bushing. Linear taper. Shpg. wt., 4 oz.

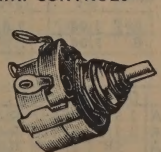
Stk. No.	Type WW	Stk. No.	Type WN	Ohms	Price Code
9F400	010	9F433	010	1	A
9F401	020	9F434	020	2	A
9F402	030	9F435	030	3	A
9F403	040	9F436	040	4	A
9F404	050	9F437	050	5	A
9F405	060	9F438	060	6	A
9F406	080	9F439	080	8	A
9F407	100	9F440	100	10	A
9F408	150	9F441	150	15	A
9F409	200	9F442	200	20	A
9F410	250	9F443	250	25	A
9F411	300	9F444	300	30	A
9F412	400	9F445	400	40	A
9F413	500	9F446	500	50	A
9F414	600	9F447	600	60	A
9F415	750	9F448	750	75	A
9F416	101	9F449	101	100	A
9F417	201	9F450	201	200	A
9F418	251	9F451	251	250	A
9F419	301	9F452	301	300	A
9F420	401	9F453	401	400	A
9F421	501	9F454	501	500	A
9F422	751	9F455	751	750	A
9F423	102	9F456	102	1K	A
9F424	152	9F457	152	1.5K	A
9F425	202	9F458	202	2K	A
9F426	252	9F459	252	2.5K	A
9F427	302	9F460	302	3K	A
9F428	402	9F461	402	4K	A
9F429	502	9F462	502	5K	A
9F430	752	9F463	752	7.5K	A
9F431	103	9F464	103	10K	B
9F432	153	9F465	153	15K	B
9F683	203	9F690	203	20K	B
9F684	253	9F691	253	25K	B
9F685	303	9F692	303	30K	B
9F686	403	9F693	403	40K	C
9F687	503	9F694	503	50K	C
9F688	753	9F695	753	75K	D
9F689	104	9F696	104	100K	D

Price Code

Code	1-9	10-24	25-49	50-99	100-249
A	1.32	1.19	1.10	1.05	.99
B	1.59	1.43	1.33	1.26	1.51
C	2.01	1.81	1.68	1.59	1.19
D	2.46	2.22	2.05	1.95	1.85

CLAROSTAT

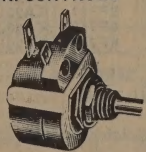
SERIES 48M-9 MIN. CONTROLS



Single pot with shaft locking bushing. Rated at 0.2 w. Dia. 5/8". Screwdriver slot shaft 1/8" diameter x 1/16" long. Split-locking bushing. 1/4"x2 NEF2A, 3/8" long. Tolerance, 1K-100K is 10%, balance 20%.

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
9F513	1K	5.10	3.83	3.28	2.74	2.37	2.18
9F514	1.5K	5.10	3.83	3.28	2.74	2.37	2.18
9F515	2.5K	5.10	3.83	3.28	2.74	2.37	2.18
9F516	5K	5.10	3.83	3.28	2.74	2.37	2.18
9F518	10K	5.10	3.83	3.28	2.74	2.37	2.18
9F519	25K	5.10	3.83	3.28	2.74	2.37	2.18
9F521	100K	5.10	3.83	3.28	2.74	2.37	2.18
9F522	250K	5.10	3.83	3.28	2.74	2.37	2.18

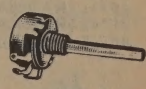
SERIES 49M-9 WW MIN. CONTROLS



Wirewound pot rated 1.5W. Low-loss 3/4" housing; 1000VAC bkdn. volt. Linear taper thru 300° rot. 1/8" D shaft W/shaft locking bushing. Shpg. wt. 4 oz.

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
9F542	5	6.06	4.55	3.90	3.25	2.82	2.59
9F543	10	5.16	3.87	3.32	2.77	2.39	2.21
9F544	20	5.16	3.87	3.32	2.77	2.39	2.21
9F545	25	5.16	3.87	3.32	2.77	2.39	2.21
9F546	50	5.16	3.87	3.32	2.77	2.39	2.21
9F547	100	5.16	3.87	3.32	2.77	2.39	2.21
9F550	500	5.16	3.87	3.32	2.77	2.39	2.21
9F551	1K	5.16	3.87	3.32	2.77	2.39	2.21
9F555	5K	5.16	3.87	3.32	2.77	2.39	2.21
9F557	10K	5.16	3.87	3.32	2.77	2.39	2.21

TYPE 43 WIRE WOUND CONTROLS



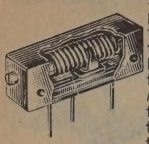
Rated for work at 2 to 4 watts. Overall tolerence of 10%. Demensions: 1 1/8" dia., 9/16" deep, with 3/8"-32 bushing. Shaft 2". Items listed below without switches.

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
9F760	43-5	5	9F772	43-400	400
9F761	43-10	10	9F773	43-500	500
9F762	43-20	20	9F774	43-750	750
9F763	43-25	25	9F775	43-1,000	1K
9F764	43-30	30	9F776	43-1,500	1.5K
9F765	43-40	40	9F777	43-2,000	2K
9F766	43-50	50	9F778	43-2,500	2.5K
9F767	43-75	75	9F779	43-3,000	3K
9F768	43-100	100	9F780	43-4,000	4K
9F769	43-150	150	9F781	43-5,000	5K
9F770	43-200	200	9F782	43-7,500	7.5K
9F771	43-300	300	9F783	43-10K	10K

NET 1.31

Potentiometers

SERIES 76-JA-3 PC TRIMMER



Super setability made possible through 10 times the resolution — 15 times greater winding length ever offered in this configuration. Mechanical travel: 14 turns approx. Effective travel: 11 turns ±1/4 turn. Resistance Range: 100 ohms to 20,000 ohms. Resistance tolerance ±5%. Power rating: .75 watts @ 85° C—derated linearly to 0 power @ 150°C.

Stock No.	Resis. Ohms	Nom. Resolution
9F1389	100	0.1
9F1390	200	0.09
9F1392	1K	0.075
9F1393	2K	0.06
9F1394	5K	0.05
9F1395	10K	0.04
9F1396	20K	0.03

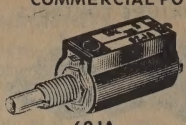
Prices	1-24	25-49	50-99	100-249	250-499
	8.42	7.49	7.02	6.55	5.86

58C1 WIRE-WOUND POTENTIOMETERS

Standard bushings; wirewound; with all controls rated at 4 watts. Electrical tolerance is ±5% with all changes. Available up to 50K Ohms. Diam. $1^{23}/_{32}$x1" depth. Shpg. wt.: 4 oz.

Stk. No.	Type	Ohms	NET
8F434	58C1-10	10	2.36
8F435	58C1-15	15	
8F439	58C1-50	50	
8F442	58C1-100	100	
8F443	58C1-200	200	
8F444	58C1-300	300	
8F445	58C1-400	400	
8F446	58C1-500	500	
8F447	58C1-750	750	
8F448	58C1-1000	1 K	
8F449	58C1-1500	1.5 K	
8F450	58C1-2000	2 K	
8F451	58C1-2500	2.5 K	
8F452	58C1-3000	3 K	
8F453	58C1-5000	5 K	
8F455	58C1-10K	10 K	
8F457	58C1-20K	20 K	2.68
8F458	58C1-25K	25 K	
8F461	58C1-50K	50 K	3.15

COMMERCIAL POTENTIOMETERS

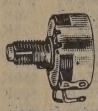


62JA

Designed for industrial instrumentation applications. Resistance tolerance ±5%. Linear functional output; absolute linearity ±25%. 500-100K ohms. Power dissipation .2 watts @ 25° C. Dielectric strength 1000 volts AC. Effective rotation 360° nominal. Insulation resistance 100 meg-ohms. Max. speed of rotation is 60 RPM. Weight: 1.34 oz.

Stk. No.	Res.	Stk. No.	Res.	Stk. No.	Res.
8F570	100	8F573	1K	8F577	20K
8F569	200	8F574	2K	8F578	30K
8F571	250	8F575	5K	8F579	50K
8F572	500	8F576	10K	8F580	100K

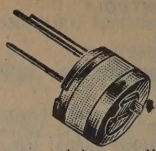
Prices	1-9	10-24	25-99	100-499
	7.50	6.50	6.00	5.50



2 watt, wire wound control. Tolerance ±5%. 1/8 screwdriver slotted bushing. Diam. $1^{5}/_{32}$x5/8" deep. Fabricated in accordance with MIL-R-19. Style RA20. Shpg. wt., 4 oz.

Stk. No.	Type	Ohms	NET
8F400	43C2-5	5	2.63
8F401	43C2-10	10	
8F402	43C2-20	20	
8F403	43C2-25	25	
8F404	43C2-30	30	
8F406	43C2-50	50	
8F407	43C2-75	75	
8F408	43C2-100	100	
8F409	43C2-150	150	
8F410	43C2-200	200	
8F411	43C2-300	300	
8F413	43C2-500	500	
8F414	43C2-750	750	
8F415	43C2-1000	1K	
8F416	43C2-1500	1.5K	
8F417	43C2-2000	2K	
8F418	43C2-5000	2.5K	
8F419	43C2-3000	3K	
8F420	43C2-4000	4K	
8F421	43C2-5000	5K	
8F423	43C2-10K	10K	
8F424	43C2-15K	15K	2.95
8F425	43C2-20K	20K	
8F426	43C2-50K	25K	
8F429	43C2-50K	50K	3.47

SERIES S371-5 TRIMMING POTS

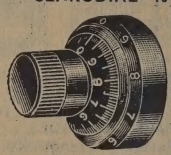


Construction consists of a hot molded carbon element carbon contact brush, pressure spring and cover. Have standoffs to insulate metal cover from printed circuit board and a screwdriver adjustment slot. Power rating: 3/8 watt @ 70°C derated linearly to zero watts @ 120°C. Working voltage: 350 VAC. Resistance range: 100 ohms to 1 megohm. Resistance tolerance: ±20%. Tapers: linear and audio. Mechanical and electrical rotation: 290° ±5°. Dielectric strength: variable arm hot to case. Case to mounting plane—750 volts R.M.S. @ atmospheric pressure. Torque: operating: 7.0 ounce inches maximum. Stop: 20 ounce-inches. Approximate weight: 2 ounces.

Stock No.	Resis.	Stock No.	Resis.
9F1750	100	9F1758	25K
9F1751	250	9F1759	50K
9F1752	500	9F1760	100K
9F1753	1K	9F1761	150K
9F1754	2.5K	9F1762	200K
9F1755	5K	9F1764	500K
9F1756	10K	9F1765	1 Meg
9F1757	15K		

Prices	1-9	10-49	50-99	100-249	250-499
	2.37	1.70	1.02	.88	.81

"CLARODIAL" 10 TURN SCALE DIALS



Calibrated dials designed for multiturn potentiometers up to 10 turns. Requires 1 inch of panel space. The knob attaches directly to the shaft and the body of the dial is mounted rigidly to the panel. Ratio of 1000 to 1 for 10 turns provided with zero backlash with reading error 1/4" shaft.

*With Lock

Stk. No.	Type	Color	1-9	10-24	25-99	100-249
8F585	412	*Black	8.75	8.50	8.05	7.60
8F586	411	*Black	7.75	7.30	6.95	6.55
8F587	462	*Clear	9.45	8.95	8.50	8.00
8F588	461	Clear	8.25	7.80	7.40	7.00

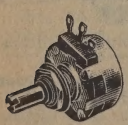
SERIES RA20—2 WATT WIRE WOUND Meets Mil. Spec.—MIL-R-19A

Linear resistance taper ± 10% tolerance $1^{17}/_{64}$" dia. Shpg. wt. 7 oz. **RA20NASD:** Standard bushing 3/8" long. Slotted shaft 1/4". diameter 3/8" long FMS. **RA20LASB:** Locking bushing 1/2" long. Slotted shaft 1/4" diameter 5/8" long FMS.

Stock No.	Type	Ohms	Key
8F735	RA20NASD6R0A	6	A
8F736	RA20NASD8R0A	8	A
8F737	RA20NASD100A	10	A
8F738	RA20NASD150A	15	A
8F739	RA20NASD200A	20	A
8F740	RA20NASD250A	25	A
8F741	RA20NASD350A	35	A
8F742	RA20NASD500A	50	A
8F743	RA20NASD101A	100	A
8F744	RA20NASD151A	150	A
8F745	RA20NASD201A	200	A
8F746	RA20NASD251A	250	A
8F747	RA20NASD351A	350	A
8F749	RA20NASD751A	750	A
8F750	RA20NASD102A	1K	A
8F751	RA20NASD152A	1.5K	A
8F752	RA20NASD202A	2K	A
8F753	RA20NASD252A	2.5K	A
8F754	RA20NASD352A	3.5K	A
8F755	RA20NASD502A	5K	A
8F756	RA20NASD103A	10K	A
8F757	RA20NASD153A	15K	A
8F758	RA20LASB3R0A	3	B
8F759	RA20LASB6R0A	6	B
8F760	RA20LASB8R0A	8	B
8F761	RA20LASB100A	10	B
8F762	RA20LASB150A	15	B
8F763	RA20LASB200A	20	B
8F764	RA20LASB250A	25	B
8F765	RA20LASB350A	35	B
8F766	RA20LASB500A	50	B
8F767	RA20LASB101A	100	B
8F769	RA20LASB201A	200	B
8F770	RA20LASB251A	250	B
8F772	RA20LASB501A	500	B
8F773	RA20LASB751A	750	B
8F774	RA20LASB102A	1K	B
8F777	RA20LASB252A	2.5K	B
8F778	RA20LASB352A	3.5K	B
8F779	RA20LASB502A	5K	B
8F780	RA20LASB103A	10K	B
8F781	RA20LASB153A	15K	B

Code	1-9	10-49	50-99	100-249
A	3.00	2.01	1.41	1.16
B	3.00	2.09	1.49	1.24

SERIES RA30 — 4 WATT WIRE WOUND



Meets Mil. Spec.—MIL-R-19A

Linear resistance taper ±10% tolerance $1^{17}/_{32}$" dia. Shpg. wt. 7 oz.

TYPE RA30NASD: 3/8" long standard bushing. Slotted shaft 1/4" diameter, 7/8" long FMS.

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
8F788	RA30NASD100A	10	8F796	RA30NASD151A	150
8F789	RA30NASD150A	15	8F797	RA30NASD251A	250
8F791	RA30NASD250A	25	8F798	RA30NASD351A	350
8F793	RA30NASD500A	50	8F799	RA30NASD501A	500
8F794	RA30NASD750A	75	8F800	RA30NASD102A	2K
8F795	RA30NASD101A	100	8F802	RA30NASD202A	1K

Prices	1-9	10-49	50-99	100-249
	3.00	2.19	1.59	1.34

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
8F803	RA30NASD252A	2.5K	8F807	RA30NASD103A	10K
8F804	RA30NASD352A	3.5K	8F808	RA30NASD203A	20K
8F805	RA30NASD502A	5K	8F809	RA30NASD253A	25K
8F806	RA30NASD752A	7.5K	.....	.....	.....

Prices	1-9	10-49	50-99	100-249
	3.00	2.19	1.59	1.34

Type 30LASB: 1/2" Long locking bushing. Slotted shaft 1/4" diameter, 5/8" long FMS.

9F1493	RA30LASB3R0A	3	8F819	RA30LASB102A	1K
8F812	RA30LASB150A	15	8F821	RA30LASB202A	2K
8F814	RA30LASB350A	35	8F823	RA30LASB502A	5K
8F816	RA30LASB101A	100	8F824	RA30LASB103A	10K
8F817	RA30LASB151A	150			

Prices	1-9	10-49	50-99	100-249
	3.00	2.27	1.67	1.42

LAB SAMPLE KIT

MTC 15-1 Mallobin. Contains assortment of subminiature carbon trimmer controls designed for printed circuitry. MTC-1 for vertical mounting and MTC-4 for horizontal mounting. All are packed in compact, easy to stack case. "Mallobin" contains one each of the following values:

MTC-1		MTC-4	
22L1	12L1	22L4	12L4
152L1	13L1	152L4	13L4
682L1	63L1	682L4	63L4
15L1	54L1	15L4	54L4
55L1	454L1	55L4	454L4
32L1	251L1	32L4	251L4
252L1	23L1	252L4	23L4
153L1	14L1	153L4	14L4
184L1	124L1	184L4	124L4
26L1	16L1	26L4	16L4
751L1	52L1	751L4	52L4
53L1	33L1	53L4	33L4
253L1	24L1	253L4	24L4
3253L1	254L1	3253L4	254L4
. . . . .	. . . . .	. . . . .	355L4

60F2293 NET..... 22.62

SWITCHES FOR TYPE U CONTROLS

Stk. No.	Type	Description
9F246	US26	SPST 6 amp @ 125V
9F247	US26T	SPST w/dummy Term.
9F248	US27	DPST 6 amp @ 125V
9F249	US28	SPDT 3 amp @ 125V

Stk. No.	1-24	25-49	50-99	100-174	175-299	300-499
9F246	.42	.38	.35	.32	.30	.28
9F247 9F248 9F249	.51	.46	.43	.38	.36	.34

TYPE U METAL SHAFT MIDGETROLS

Standard universal replacement $^{15}/_{16}$" dia. carbon control. $^{1}/_{4}$" dia. round brass shaft with adapters for knurled, slotted or flatted knobs. Hex nut incl. $^{3}/_{8}$" 32x$^{3}/_{8}$" bushing. 1 watt linear taper, $^{1}/_{2}$ watt Audio taper.

Stk. No.	Type No.	Resist. Ohms	Taper
9F073	U1	100	4
9F074	U2	500	4
9F075	U52R	500	2
9F076	U751R	750	2
9F077	U3	1K	2
9F078	U4	1K	4
9F079	U5	1.5K	2
9F080	U5L	1.5K	4
9F081	U6	2K	4
9F082	U7	2.5K	2
9F083	U8	3K	4
9F084	U9	3K	2
9F085	U12	5K	1
9F086	U14	5K	4
9F087	U18	10K	1
9F088	U19	10K	2
9F089	U20	10K	4
9F090	U21	15K	1
9F091	U22	15K	2
9F092	U24	20K	1
9F093	U26	20K	4
9F094	U28	25K	2
9F095	U28A	25K	1
9F096	U29	25K	4
9F097	U30	30K	4
9F220	U36	75K	1
9F221	U39	100K	1
9F222	U40	100K	2
9F223	U41	100K	4
9F224	U415	125K	4
9F225	U42	150K	1
9F226	U43	200K	4
9F227	U44	250K	1
9F228	U45	250K	2
9F229	U46	250K	4
9F230	U48	500K	1
9F231	U50	500K	4
9F232	U51	750K	1
9F233	U52	1M	2
9F234	U53	1M	1
9F235	U54	1M	4
9F236	U155	1.5 M	4
9F237	U55	2 M	1
9F238	U56	2 M	4
9F239	U255	2.5 M	4
9F240	U57	3 M	1
9F241	U59	3 M	4
9F242	U63	5 M	2
9F243	U65	5 M	1
9F244	U67	5 M	4
9F245	U82	10 M	4
9F219	U35	50K	4
9F098	U33	50K	1
9F099	U34	50K	2

Price Code

Type	1-24	25-49	50-99	100-174	175-299	300-499
U	.02	.92	.85	.77	.73	.68

SUBMINIATURE MINITROLS

Only $^{1}/_{2}$" diameter. Rated ¼ watt linear, watt audio. ½"-32x¼" bushing with nut. Shaft: $^{1}/_{8}$" diameter x $^{17}/_{16}$" FMS, MLC (steel); MLCN (nylon). (*) Indicates an SPST switch rated 2 amperes at 125VAC, UL approved. Printed ckt, MTC has open screwdriver slot. Standard linear taper.

Taper No. 1: Logarithmic used in audio circuits where percent of change is small at start of rotation.

Taper No. 2: Reverse logarithmic used where percent of change must be large at start of rotation.

Taper No. 4: Linear taper where percentage of resistance change is directly proportional to rotational change on a straight line.

MLC

MTC

BUSHING MOUNT

Stk. No.	Type MLC	Resis. Ohms	Taper	1-24	25-49	50-99	100-174	175-299	300-499
60F2164	13L	1K	4	1.14	1.03	.95	.86	.81	.76
60F2165	222LS*	2.2K	4	1.86	1.67	1.55	1.40	1.33	1.24
60F2166	252A	2.5K	1	1.14	1.03	.95	.86	.81	.76
60F2167	252AS*	5K	1	1.86	1.67	1.55	1.395	1.33	1.24
60F2168	53A	5K	1	1.14	1.03	.95	.86	.81	.76
60F2169	53AS*	5K	1	1.86	1.67	1.55	1.40	1.33	1.24
60F2170	53L	5K	4	1.14	1.03	.95	.86	.81	.76
60F2171	53LS*	5K	4	1.86	1.67	1.55	1.40	1.33	1.24
60F2172	14AS*	10K	1	1.86	1.67	1.55	1.40	1.33	1.24
60F2173	14L	10K	4	1.14	1.03	.95	.86	.81	.76
60F2174	54L	50K	4	1.14	1.03	.95	.86	.81	.76
60F2175	15A	100K	1	1.14	1.03	.95	.86	.81	.76
60F2176	15L	100K	4	1.14	1.03	.95	.86	.81	.76
60F2177	25L	200K	4	1.14	1.03	.95	.86	.81	.76
60F2178	254L	250K	4	1.14	1.03	.95	.86	.81	.76
60F2179	N55A	500K	1	1.14	1.03	.95	.86	.81	.76
60F2180	55AS*	500K	1	1.86	1.67	1.55	1.40	1.33	1.24
60F2181	55LS*	500K	4	1.86	1.67	1.55	1.40	1.33	1.24
60F2182	N55L	500K	4	1.14	1.03	.95	.86	.81	.76
60F2183	16AS*	1M	1	1.86	1.67	1.55	1.40	1.33	1.24
60F2184	16LS*	1M	4	1.86	1.67	1.55	1.40	1.33	1.24
60F2185	N16A	1M	1	1.14	1.03	.95	.86	.81	.76
60F2186	N16L	1M	4	1.14	1.03	.95	.86	.81	.76

MTC-PRINTED CIRCUIT VERTICAL MOUNT

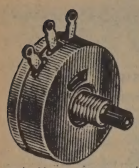
Stk. No.	Type MTC	Resis. Ohms	1-24	25-49	50-99	100-174	175-299	300-499
60F2187	12L1	100						
60F2188	22L1	200						
60F2189	251L1	250						
60F2190	32L1	300						
60F2191	52L1	500						
60F2192	751L1	750						
60F2193	13L1	1K	.39	.35	.33	.29	.29	.26
60F2194	152L1	1.5K						
60F2195	23L1	2K						
60F2196	33L1	3K						
60F2197	53L1	5K						
60F2198	63L1	6K						
60F2199	682L1	6.8K						
60F2200	14L1	10K						
60F2201	153L1	15K						
60F2202	24L1	20K						
60F2203	253L1	25K						
60F2204	54L1	50K						
60F2205	15L1	100K						
60F2206	124L1	120K						
60F2207	184L1	180K	.39	.35	.33	.29	.29	.26
60F2208	254L1	250K						
60F2209	3253L1	325K						
60F2210	454L1	450K						
60F2211	55L1	500K						
60F2212	16L1	1M						
60F2213	26L1	2M						
60F2214	355L1	3.5M						

MTC-4PRINTED CIRCUIT HORIZONTAL MOUNTS

Stk. No.	Type MTC	Resis. Ohm	1-24	25-49	50-99	100-174	175-299	300-499
60F2215	153L4	15K						
60F2216	24L4	20K						
60F2217	253L4	25K						
60F2218	54L4	50K						
60F2219	15L4	100K						
60F2220	124L4	120K						
60F2221	184L4	180K	.39	.35	.33	.29	.29	.26
60F2222	254L4	250K						
60F2223	3253L4	325K						
60F2224	454L4	450K						
60F2225	55L4	500K						
60F2226	16L4	1 meg						
60F2227	26L4	2 megs						
60F2228	355L4	3.5 megs						
60F2229	12L4	100						
60F2230	22L4	200						
60F2231	251L4	250						
60F2232	32L4	300						
60F2233	52L4	500						
60F2234	751L4	750						
60F2235	13L4	1K	.39	.35	.33	.29	.29	.26
60F2236	152L4	1.5K						
60F2237	23L4	2K						
60F2238	33L4	3K						
60F2239	53L4	5K						
60F2240	63L4	6K						
60F2241	682L4	6.8K						
60F2242	14L4	10K						

MALLORY Potentiometers and Controls

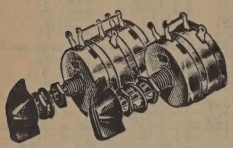
WIREWOUND MG CONTROLS 12½ WATT



MG controls have a continuous DC rating at 12.5 watts at 35°C (ambient). Volume is 1.1 cu. in. and outside control diameter is only slightly larger than standard knob rotation arc at $1^{5}/_{8}$''. Mechanical rotation: 294°; electrical rotation: 275°; peak audio rating at 50 watts. Voltage breakdown at 900V RMS. Contact arm insulated.

Stk. No.	Ohms	1-9	10-49	50-99	100-249	250-499
9F1700	1					
9F1701	3					
9F1702	6					
9F1703	10	2.18	1.95	1.81	1.63	1.45
9F1704	15					
9F1705	20					
9F1706	25					
9F1707	30					
9F1708	50					
9F1709	100					
9F1710	200	2.18	1.95	1.81	1.69	1.45
9F1711	300					
9F1712	400					
9F1713	500					
9F1714	600	2.18	1.95	1.81	1.63	1.45
9F1715	1K					
9F1716	1.5K					
9F1717	2K					
9F1718	2.5K	2.00	2.10	1.85	1.67	1.48
9F1719	3K					
9F1720	4K					
9F1721	5K					
9F1722	10K					
9F1723	15K	2.32	2.08	1.93	1.74	1.54
9F1724	20K					
9F1725	25K					
9F1726	50K	2.50	2.26	2.08	1.88	1.60
9F1727	100K	2.72	2.46	2.27	2.04	1.82

T AND L LOW IMPEDANCE LEVEL CONTROLS



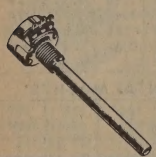
Control level of low impedance audio circuits DC rating, 4 w.; 15 watts audio. With bar knob, dial plate, washer and nuts. "L" pad $1^{5}/_{8}$'' dia. x $1^{1}/_{8}$'' deep. "T" pad. $1^{11}/_{16}$'' deep. Wt. 7 oz.

"T" PADS

Stk. No.	Type	Ohms	1-9	10-24	25-49	50-57	100-249	250-499
9F251	T4	4						
9F252	T6	6						
9F253	T8	8						
9F254	T15	15						
9F255	T50	50						
9F256	T100	100						
9F258	T250	250	3.54	3.36	3.19	2.95	2.655	2.36
9F259	T500	500						
9F260	T600	600						
9F261	T1000	1K						
9F262	T2000	2K						
9F263	T3000	3K						

"L" PADS

Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
9F281	L4	4						
9F282	L6	6						
9F283	L8	8						
9F284	L15	15						
9F285	L50	50						
9F286	L100	100						
9F287	L200	200	2.73	2.59	2.46	2.28	2.047	1.82
9F288	L250	250						
9F289	L500	500						
9F290	L600	600						
9F291	L1000	1K						
9F292	L2000	2K						
9F293	L3000	3K						



Subminiature industrial 5 Watt potentiometer. Ideal for limited space applications. Case size only ¾ of an inch in diameter by ⅞'' in depth. Bushing ⅜''x⅜'' in diameter and length. Has ¼'' plain round shaft 2½'' from mounting surface.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F033	VW-1	1					
9F034	VW-2	2					
9F035	VW-3	3					
9F036	VW-5	5					
9F037	VW-6	6					
9F038	VW-8	8					
9F039	VW-10	10	1.38	1.24	1.15	1.035	.92
9F040	VW-15	15					
9F041	VW-20	20					
9F042	VW-25	25					
9F043	VW-30	30					
9F044	VW-40	40					
9F045	VW-50	50					
9F046	VW-60	60					

M AND MT WIRE WOUND POTENTIOMETERS

Used on bias control and voltage dividers; also for replacement of positioning, hold focus and other controls of TV sets. *MT are center tapped. Compact high wattage controls rated 4 watts. Arm insulated from shaft. 275° rotation. $1^{5}/_{8}$'' dia. x $^{9}/_{16}$''W. ¼'' shaft, slotted $^{3}/_{64}$x$^{1}/_{16}$'' deep, extended ⅜'' from bush. Mount in ⅜'' hole. 4 oz.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F300	M1PK	1	1.35	1.22	1.13	1.013	.90
9F337	M3PK	3	1.35	1.22	1.13	1.013	.90
9F302	M6PK	6	1.35	1.22	1.13	1.013	.90
9F328	MT10PK*	10	1.32	1.19	1.10	.99	.88
9F303	M10PK	10	1.35	1.22	1.13	1.013	.90
9F304	M15PK	15	1.35	1.22	1.13	1.013	.90
9F329	MT20PK*	20	1.32	1.19	1.10	.99	.88
9F306	M25PK	25	1.35	1.22	1.13	1.013	.90
9F307	M30PK	30	1.35	1.22	1.13	1.013	.90
9F336	MT30PK*	30	1.32	1.19	1.10	.99	.88
9F308	M40PK	40					
9F309	M50PK	50					
9F310	M60PK	60					
9F311	M75PK	75					
9F312	M100PK	100					
9F313	M200PK	200					
9F331	M300PK	300					
9F314	M400PK	400					
9F315	M500PK	500	1.35	1.22	1.13	1.013	.90
9F316	M600PK	600					
9F317	M1MPK	1K					
9F332	M1.5MPK	1.5K					
9F318	M2MPK	2 K					
9F333	M2.5MPK	2.5K					
9F319	M3MPK	3K					
9F338	M4MPK	4K					
9F321	M5MPK	5K					
9F322	M10MPK	10K					
9F323	M15MPK	15K					
9F324	M20MPK	20K	1.47	1.32	1.23	1.103	.98
9F325	M25MPK	25K					
9F326	M50MPK	50K	1.74	1.57	1.45	1.305	1.16
9F327	M70MPK	70K	1.74	1.57	1.45	1.305	1.16
9F335	M100MPK	100K	2.46	2.21	2.05	1.845	1.64

TYPE VW WIREWOUND CONTROLS 5 WATT

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F047	VW-75	75					
9F048	VW-100	100					
9F049	VW-200	200					
9F055	VW-250	250					
9F056	VW-300	300	1.38	1.24	1.15	1.035	.92
9F057	VW-400	400					
9F058	VW-500	500					
9F059	VW-600	600					
9F060	VW-750	750					
9F061	VW-1K	1K					
9F062	VW-1.5K	1.5K					
9F063	VW-2K	2K					
9F064	VW-2.5K	2.5K	1.44	1.30	1.20	1.08	.96
9F065	VW-3K	3K					
9F066	VW-4K	4K					
9F067	VW-5K	5K					
9F068	VW-7.5K	7.5K	1.50	1.35	1.25	1.125	1.00
9F069	VW-10K	10K	1.50	1.35	1.25	1.125	1.00
9F070	VW-15K	15K	1.56	1.40	1.30	1.17	1.04
9F071	VW-20K	20K	1.56	1.40	1.30	1.17	1.04
9F072	VW-25K	25K	1.65	1.49	1.38	1.237	1.10

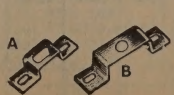
VOLUME CONTROL ACCESSORIES

COUPLERS AND BUSHINGS

Stk. No.	Type	Fig.	NET
9F206	EB247	D	.22
9F207	UB241	E	.20

HEX SHOULDER NUTS

Stk. No.	Type	Size	NET
9F208	255	¼''	.13
9F209	A11260-12	½''	.13



RB MOUNTING BRACKETS

Stk. No.	Type	Fig	Mtg.	NET
9F201	RB248	A	1¾''	
9F202	RB249	B	2½''	.05
9F218	RB254		Univ.	

WIRE WOUND POWER RHEOSTATS

ALL RHEOSTATS SUPPLIED LESS KNOBS SEE NEXT PAGE FOR KNOB LISTING

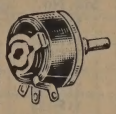
7½ WATT MINIATURE RHEOSTATS

Model C. Compact power rheostats for limited space applications. For high temperature applications; operates at maximum hot spot temperature of 340°C. Rugged ceramic and metal construction. Only .515 diameter ⅞" behind panel. Mounts with ¼-32 bushing, ⅛" dia. shaft, ⅝" long. Less knob. wt. 2¼ oz.

Stock No.	Type	Ohms ±10%	1-4	5-9	10-24
11F201	4908	10	9.50	8.08	5.70
11F202	4909	15			
11F203	4910	25			
11F204	4912	50			
11F205	4913	75			
11F206	4914	100			
11F207	4916	200			
11F208	4818	350			
11F234	4919	500			

12½ WATT MINIATURE RHEOSTATS

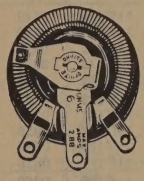
Model E. 12½-Watt Miniature Rheostat. (Rating on metal panel.) Smaller than many 1- or 2-watt potentiometers. Rugged, all-ceramic and metal construction. Use where 12g watts dissipation is needed but space is limited. Operation at a maximum hot spot temperature rise of 300°C at an ambient of 40°C, but also useful for operating at high military ambients, derated linearly to zero at 340°C. Specifications: Overall diam: ⅞". Shaft diam: ⅛". Resistance range: Up to 5000 ohms with vitreous enamel; higher values available with Ohmicone silcone-ceramic coating. Resistance tol: ±10%. Standard Mounting: for panels up to ⅛", ¼-32 threaded. Bushing. With non-turn washer. Rotation: 300 ±5%. Shpg. wt., 1½ oz. (†) Silicone-ceramic coating.



Stock No.	Type	Ohms	Max. Amps.	1-4	5-9	10-24	25-49	50-99
9F965	0101	1	3.53	5.50	4.68	3.69	3.03	2.26
9F966	0102	2	2.50					
9F967	0103	3	2.04					
9F968	0104	6	1.44					
9F969	0105	8	1.25					
9F970	0106	10	1.12					
9F971	0107	15	.91	4.80	4.08	3.22	2.64	1.97
9F972	0108	25	.71					
9F973	0109	35	.60					
9F974	0110	50	.50					
9F975	0111	75	.41					
9F976	0112	100	.35					
9F977	0113	125	.32					
9F978	0114	175	.27					
9F979	0115	250	.22					
9F980	0116	350	.19					
9F981	0117	500	.16					
9F982	0118	750	.11					
9F983	0119	1,000	.13	5.50	4.68	3.69	3.03	2.26
9F984	0120	1,500	.091					
9F985	0121	2,500	.060					
9F986	0122	3,500	.071	5.80	4.93	3.89	3.19	2.38
9F987	0123	5,000	.050	5.80	4.93	3.89	3.19	2.38
9F988	4190†	7,500	.041	6.00	5.10	4.02	3.30	2.46
9F989	4191†	10,000	.035	6.00	5.10	4.02	3.30	2.46
9F990	4192†	12,500	.031	6.60	5.61	4.42	3.63	2.71
9F991	4193†	15,000	.029	6.60	5.61	4.42	3.63	2.71

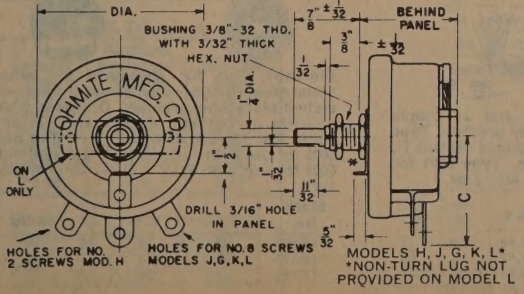
MODEL H—25 WATT

All ceramic vitreous enameled construction. Wire wound over ceramic core. Shunt pigtail carries current to slip-ring. High strength ceramic hub insulates the shaft and bushing. Tempered steel contact arm. Models H, J, K, L, N, when made without additional features are listed by UL and are marked Series A except (†) Silicone Ceramic Coating are not UL listed. Aver. shpg. wt.: Models H, J, K: 8 oz.—Models L, N: 3 lbs.—Model R: 4 lbs. Mounts on panels up to ¼" by ⅜"—32 Bushing with No. 5050 Non-turn washer. Shaft Dia. ¼". 300° rotation. Dia. 1⅝".

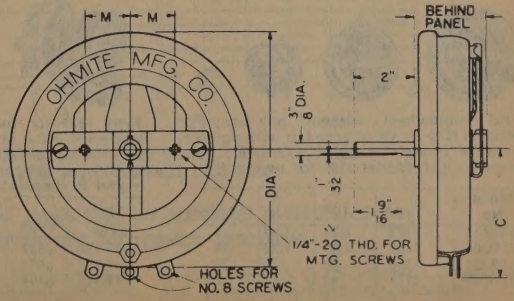


Stk. No.	Type	Ohms	1-4	5-9	10-24	25-49	50-99
11F000	0140	1	5.50	4.68	3.69	3.03	2.26
11F001	0141	2					
11F002	0142	3					
11F003	0143	6					
11F004	0144	8					
11F005	0145	10					
11F006	0146	15	4.80	4.08	3.22	2.64	1.97
11F007	0147	25					
11F008	0148	35					
11F009	0149	50					
11F010	0150	75					
11F011	0151	100					
11F012	0152	125					
11F013	0153	175					
11F014	0154	250					
11F015	0155	350					
11F016	0156	500					
11F017	0157	750					
11F018	0158	1,000	5.50	4.68	3.69	3.03	2.26
11F019	0159	1,500					
11F020	0160	2,500					
11F021	0161	3,500	5.80	4.93	3.89	3.19	2.38
11F022	0162	5,000	5.80	4.93	3.89	3.19	2.38
11F026	4200†	7,500	6.00	5.10	4.02	3.30	2.46
11F027	4201†	10,000	6.00	5.10	4.02	3.30	2.46
11F028	4202†	15,000	6.60	5.61	4.42	3.63	2.71
11F029	4203†	20,000	7.30	6.21	4.89	4.02	2.99
11F030	4204†	25,000	8.10	6.89	5.43	4.46	3.32

DIMENSIONS: **MODELS H, J, K, L***



DIMENSIONS: **MODELS N, R**



OHMITE Wire Wound Power Rheostats

Model J — 50 WATT

Mounts on panels up to ¼" by ⅜"-32 bushing with No. 5050 Non-turn washer. Shaft dia. ¼". 300° rotation. Dia. 2 5/16.

Stk. No	Type	Ohms	1-4	5-9	10-24	25-49	50-Up
11F040	0308	0.5					
11F041	0309	1.0	6.30	5.36	4.22	3.47	2.58
11F042	0310	2.0					
11F043	0311	4.0					
11F044	0312	6.0					
11F045	0313	8.0					
11F046	0314	12.0	5.70	4.85	3.82	3.14	2.34
11F048	0315	16.0					
11F049	0316	22.0					
11F047	0317	35.0					
11F050	0318	50.0					
11F051	0319	80.0					
11F052	0320	125.0					
11F053	0321	150.0	5.70	4.85	3.82	3.14	2.34
11F054	0322	225.0					
11F055	0323	300					
11F056	0324	500					
11F057	0325	800					
11F058	0326	1000	6.00	5.10	4.02	3.30	2.46
11F059	0327	1600					
11F060	0328	2500					
11F061	0329	3500					
11F062	0330	5000	6.30	5.36	4.22	3.47	2.58
11F063	0331	8000					
11F064	0332	10000					
11F066	4210	10000	7.20	6.12	4.82	3.96	2.95
11F067	4211	20000	8.10	6.89	5.43	4.46	3.32
11F068	4212	25000	9.00	7.65	6.03	4.95	3.69
11F069	4213	30000	10.00	8.50	6.70	5.50	4.10
11F070	4214	40000	11.50	9.78	7.71	6.33	4.72
11F071	4215	50000	12.60	10.71	8.44	6.93	5.17

MODEL K—100 WATT

Mounts on panels up to ¼" by ⅜"-32 Bushing with No. 5050 Non-turn washer. Shaft Diameter ¼". 300° rotation. Rheostat diameter 3⅛".

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-49
11F076	0440	0.5				
11F077	0441	1				
11F078	0442	2	9.20	7.82	6.16	5.06
11F079	0443	3				
11F080	0444	5				
11F081	0445	7.5				
11F082	0446	10				
11F083	0447	16				
11F084	0448	25	8.70	7.40	5.83	4.79
11F085	0449	50				
11F086	0450	75				
11F087	0451	100				
11F088	0452	200				
11F089	0453	300	8.70	7.40	5.83	4.79
11F090	0454	400				
11F091	0455	500				
11F092	0456	750				
11F093	0457	1,000				
11F094	0458	1,500	9.20	7.82	6.16	5.06
11F095	0459	2,000				
11F096	0460	2,500				
11F097	0461	5,000	9.80	8.33	6.57	5.39
11F098	0462	7,500	10.60	9.01	7.10	5.83
11F099	0463	10,000	10	9.44	7.44	6.11

MODEL L—150 WATT

Mounts on panels up to ¼" by ⅜"-32 bushing or two No. 10-32x¾" flat head screws. Shaft dia. ¼" 300° Rotation dia. 4".

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-49
11F100	0524	0.5				
11F101	0525	1				
11F102	0528	5	11.60	9.86	7.77	6.38
11F103	0530	10				
11F104	0532	25				
11F105	0534	50				
11F106	0536	100				
11F107	0537	150	11.10	9.44	7.44	6.11
11F108	0538	200				
11F109	0539	250				
11F110	0541	500				
11F111	0543	1,250	11.60	9.86	7.77	6.38
11F112	0545	2,250	12.40	10.54	8.31	6.82
11F113	0547	4,500	12.90	10.97	8.64	7.10
11F114	0549	10,000	14.70	12.50	9.85	8.09

MODEL N—300 WATT

Mounts on panels up to 1", by two ¼"—20 by 1½" flat head screws supplied. Shaft dia. ⅜". 300° Rotation. Dia. 6".

Stk. No.	Type	Ohms	1-2	3-4
11F130	0650	1		
11F131	0651	2		
11F132	0652	3		
11F133	0653	4		
11F134	0654	5		
11F135	0655	7.5		
11F136	0656	10		
11F137	0657	15		
11F138	0658	25		
11F139	0659	50		
11F140	0660	75	18.75	15.94
11F141	0661	100		
11F142	0662	150		
11F143	0663	200		
11F144	0664	300		
11F145	0665	400		
11F146	0666	700		
11F147	0667	900		
11F148	0668	1,200		
11F149	0669	1,500		
11F150	0670	1,750		
11F151	0671	2,500		

MODEL R—500 WATT

Mounts on panels up to 1", by two ¼"—20 by 1½" flat head screws supplied. Shaft diameter ⅜". 325° Rotation. Dia. 8".

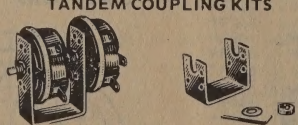
Stk. No.	Type	Ohms	1-2	3-4
11F170	0849	1.0		
11F171	0850	1.5		
11F172	0851	2		
11F173	0852	2.5		
11F174	0853	3		
11F175	0854	4		
11F176	0855	5		
11F177	0856	8		
11F178	0857	12.5		
11F179	0858	16		
11F180	0859	25		
11F181	0860	40	27.00	22.95
11F182	0872	50		
11F183	0861	80		
11F184	0862	125		
11F185	0863	175		
11F186	0864	250		
11F187	0865	325		
11F188	0866	500		
11F189	0867	750		
11F190	0868	1,000		
11F191	0869	1,500		
11F192	0870	2,000		
11F193	0871	2,500		

KNOBS FOR OHMITE RHEOSTATS

5105—Handwheel without pointer. For models N & R. 5104-Same but with pointer. 5150 for models H, J, K, L "AB" pots, except CLU. Model 5151 for model E.

Stock No.	Type	1-9	10-49	50-Up
11F023	5105	1.22	1.04	.79
11F200	5104	1.45	1.23	.94
11F024	5150	.30	.26	.20
11F025	5151	.30	.26	.20

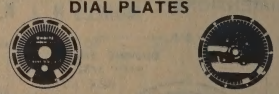
TANDEM COUPLING KITS



Type 6532 for models H and J; couple models K, H, J, or L in rear position. Type 6533 for models K and L; couple models H, J, K, or L in rear position. Type 6591 for model E rheostats. Shpg. wt., 5 oz.

Stock No.	Type	1-4	5-9	10-24	25-49
11F196	6532	2.30	1.96	1.54	1.27
11F197	6533	2.90	2.47	1.94	1 60
11F195	6591	2.30	1.96	1.54	1.27

DIAL PLATES



Finished dials for rheostats and other apparatus. Bright figures and lines on etched black backgrounds. Divisions 0-100 indicate percentage of resistance in circuits. 5007 for use with C,E. 1¼" dial dia. 5000 for use with J, G, K, L 2 1/16" dial dia. 5001 for use with P, R , N, T, U. Dial dia. 5½".

Stock No.	Type	1-9	10-49	50-Up
11F199	5000	.30	.26	.20
11F198	5001	.74	.63	.48
11F194	5007	.30	.26	.20

Capacitor Guide

The capacitor reference data presented on these two pages should be taken into consideration in the application, use and specification of all capacitors whether for military, industrial, design prototypes or for experimental requirements. Wide application ranges can be met 98% of the time with the use of tolerance overlap, preferred number rating series, and sizes.

EIA PREFERRED NUMBER SERIES

±5% Tolerance

Lowest Cap.	Nominal Preferred Value	Highest Cap.
* .95	1.0	1.05*
*1.045	1.1	1.155*
*1.14	1.2	1.26*
*1.235	1.3	1.365*
*1.425	1.5	1.575*
*1.52	1.6	1.68*
*1.71	1.8	1.89
1.90	2.0	2.1*
*2.09	2.2	2.31*
*2.28	2.4	2.52
2.565	2.7	2.835
2.85	3.0	3.15*
*3.135	3.3	3.465*
*3.42	3.6	3.78*
*3.705	3.9	4.095*
*4.085	4.3	4.515*
*4.465	4.7	4.935*
*4.845	5.1	5.355*
*5.320	5.6	5.880
5.890	6.2	6.510*
*6.460	6.8	7.140*
*7.125	7.5	7.875*
*7.790	8.2	8.610
8.645	9.1	9.555*

±10% Tolerance

Lowest Cap.	Nominal Preferred Value	Highest Cap.
* .9	1.0	1.1*
*1.08	1.2	1.32*
*1.35	1.5	1.65*
*1.62	1.8	1.98*
*1.98	2.2	2.42
2.43	2.7	2.97*
*2.97	3.3	3.63*
*3.51	3.9	4.29*
*4.23	4.7	5.17*
*5.04	5.6	6.16*
*6.12	6.8	7.48*
*7.38	8.2	9.02*

±20% Tolerance

Lowest Cap.	Nominal Preferred Value	Highest Cap.
* .8	1.0	1.2*
*1.2	1.5	1.8*
*1.76	2.2	2.64*
*2.64	3.3	3.96*
*3.76	4.7	5.64*
*5.44	6.8	8.16*

*Indicates overlap of tolerance spreads; highest capacitance of lower nominal preferred value equals or exceeds lowest capacitance of higher nominal value.

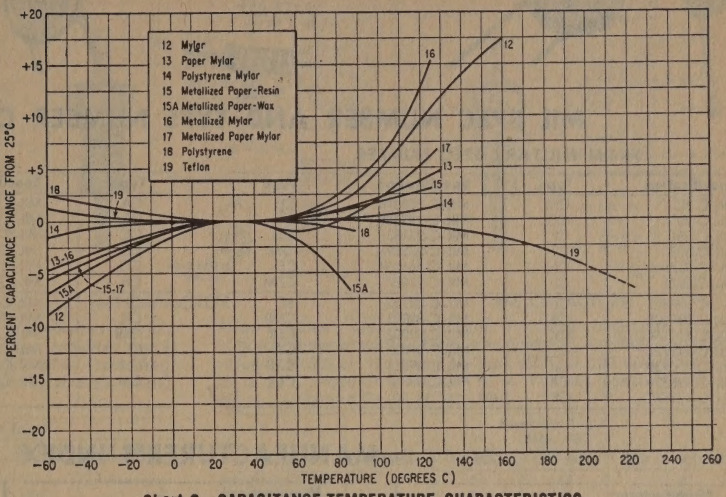


Chart 2—CAPACITANCE-TEMPERATURE CHARACTERISTICS using Various Plastic Films and Combinations of Dielectrics

CAPACITANCE-TEMPERATURE CHARACTERISTICS using Various Plastic Films and Combinations of Dielectrics

A. Polyester Film
B. Paper-Polyester Film
C. Polystyrene-Polyester Film
D. Metallized Paper Resin
E. Metallized Paper Wax
F. Metallized Polyester Film
G. Metallized Paper-Polyester Film
H. Polystyrene
I. Teflon

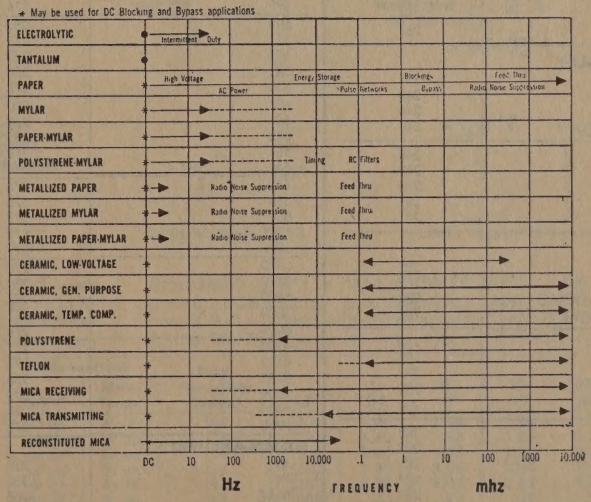


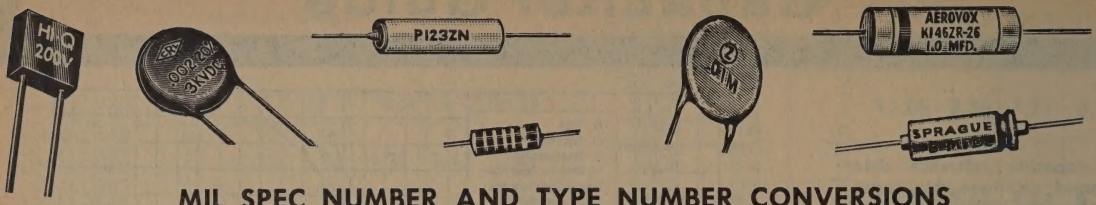
Chart 3—GENERAL BASIC USE OF VARIOUS DIELECTRICS OVER THE FREQUENCY SPECTRUM

GENERAL BASIC USE OF VARIOUS DIELECTRICS OVER THE FREQUENCY SPECTRUM

The chart above illustrates the normal capacitor families and their normal functions. However, overlap of functions will exist.

Newark with its Special Service Department and extra capabilities stands ready to help you solve any problems that may arise.

HANDY INDEX TO CAPACITORS



MIL SPEC NUMBER AND TYPE NUMBER CONVERSIONS

FROM MILITARY SPEC NUMBER

Specification	Type	Specification	Type
MIL-C-5C	CM	MIL-C-183216	CH
MIL-C-20D	CC	MIL-C-19978B	CQ
MIL-C-25C	CP	MIL-C-23183	CG
MIL-C-62B	CE	MIL-C-23269A	CYR
MIL-C-91A	CN	MIL-C-26655A	CS
MIL-C-3871	CI	MIL-C-27287	CTM
MIL-C-3965C	CL	MIL-C-38102	EC
MIL-C-10950B	CB	MIL-C-39001	CMR
MIL-C-11015C	CK	MIL-C-39003	CSR
MIL-C-11272B	CY	MIL-C-39006	CLR
MIL-C-11693B	CZ	MIL-C-39011	CZR
MIL-C-12889A	CA	MIL-C-39014	CKR
MIL-C-14157C	CPV		

FROM TYPE NUMBER

Type	Specification	Type	Specification
CA	MIL-C-12889A	CMR	MIL-C-39001
CB	MIL-C-10950B	CN	MIL-C-91A
CC	MIL-C-20D	CP	MIL-C-25C
CE	MIL-C-62B	CPV	MIL-C-14157C
CG	MIL-C-23183	CQ	MIL-C-19978B
CH	MIL-C-18312B	CS	MIL-C-26655A
CJ	MIL-C-3871	CSR	MIL-C-39003
CK	MIL-C-11015C	CTM	MIL-C-27287
CKR	MIL-C-39014	CY	MIL-C-11272B
CL	MIL-C-3965C	CYR	MIL-C-23269A
CLR	MIL-C-39006	CZ	MIL-C-11693B
CM	MIL-C-5C	CZR	MIL-C-39011
		EC	MIL-C-38102

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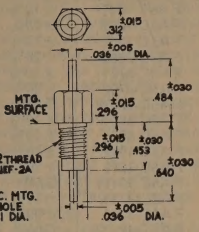
Allen Bradley Capacitors & Filters

MULTILAYER FEED THRU CAPACITORS AND FILTERS



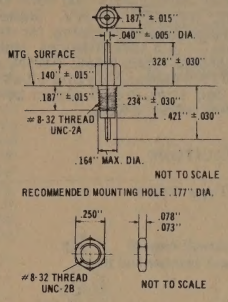
BE FILTER

The type BE001DA104P RFI/EMI filter also incorporates the CL multilayer ceramic capacitors. The type BE filter provides more than 65 dB insertion loss at 10 MHz and 90 dB at 25 MHz. Operating temperature range is −55°C to +125°C. Working voltage is 100 VDC with 10 amps feed thru current rating.

Type	Insertion Loss*		
	1 MHz	10 MHz	25 MHz to 10 GHz
BE001DA104P	18	65	75

*Minimum insertion loss in dB per MIL-STD-220, 25°C, 0 VDC.

Supplied with mounting nut and lock washer.



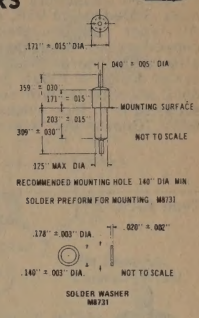
MT CAPACITOR

Allen-Bradley's type CL ceramic multilayer capacitors available in bolt and eyelet configurations as types MT and MS. Capacitance value is 50,000 pF minimum. Voltage rating is 100 VDC from −55°C to +125°C. Feed-thru current 10 A. Typical insertion loss is 20 dB at 1 MHz and 70 dB at 1000 MHz.

Type	Insertion Loss* (Min. dB)			
	1 MHz	10 MHz	100 MHz	500 to 1000 MHz
MS001DA503P	16	34	42	55
MT001DA503P	16	34	42	55

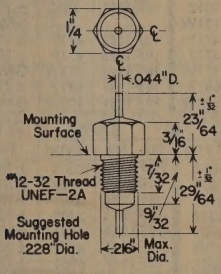
*Per MIL-STD-220, 25°C, 0 VDC.

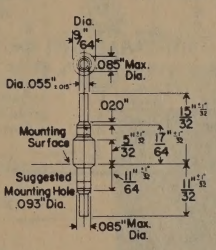
MS supplied with solder washer.
MT supplied with mounting nut and lock washer.

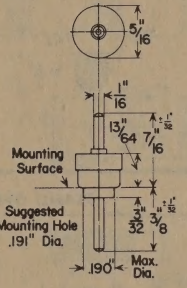


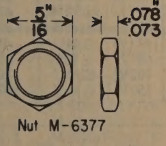
MS CAPACITOR

HIGH FREQUENCY LOW PASS FEED-THROUGH FILTERS

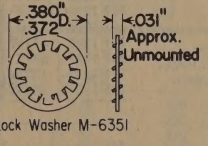




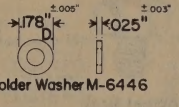




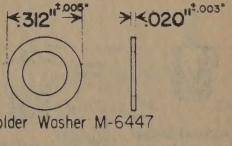
Nut M-6377



Lock Washer M-6351



Solder Washer M-6446



Solder Washer M-6447

★Attenuation: Minimum values from 100 MHz to 10 GHz when measured with a 50 ohm SL series input resistor (except none for FCS-C) and at 0 volts DC and 0 amps. DC. All Types: RF current 0.25 amps maximum; feed-thru terminal resistance 0.01 maxmium.

Size: **SMFO** .8125" L. x .141 Dia., **SMFB** .8125" L. x .250 Hex. (12-32 thread), **FCS-C** .8125" L. x .3125 Dia. Types **SMFO-1, SMFO-2,** and **FCS-C** supplied with solder washer. Types **SMFB-A1, SMFB-2,** and **SMFB-A4** supplied with mtg. nut and lock washer.

Stock No.	Type	DCWV	Oper. Temp. Range °C	Attenuation* 25°C	Attenuation* Max. Temp.	Max. Feed-Thru Current	pF	1-24	25-49	50-99	100-249	250-499
10F1305	SMFO-1	200	−55 to +125	35 dB	35 dB	10A	1300	1.60	1.48	1.36	1.12	1.04
10F1306	SMFO-2	200	−55 to +85	60 dB	50 dB	10A	5500	1.60	1.48	1.36	1.12	1.04
10F1307	SMFB-A1	200	−55 to +125	35 dB	35 dB	10A	1300	3.30	3.05	2.80	2.30	2.12
10F1308	SMFB-A2	200	−55 to +85	60 dB	50 dB	10A	5500	3.30	3.05	2.80	2.30	2.12
10F1309	SMFB-A4	500	−55 to +125	50 dB	45 dB	10A	2500	3.30	3.05	2.80	2.30	2.12
10F1310	FCS-C	500	−55 to +85	25 dB	20 dB	25A	1000	.75	.70	.65	.53	.50

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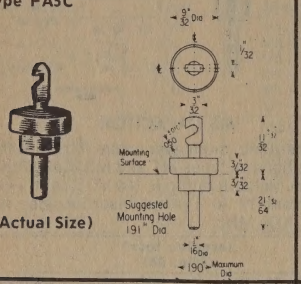
- **Stocking warehouses from Coast-to-Coast**
- **Off the shelf service**
- **Latest in Industrial Electronics**
- **Quantity prices competitive with the manufacturer**

Allen Bradley Capacitors

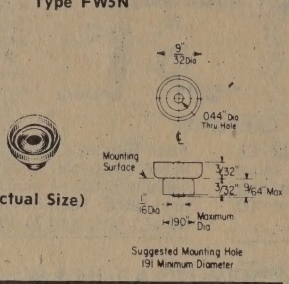
Feed-thru capacitors offer parallel resonant free performance below 1000 MHz. Rated to 500 VDC at 85°C, except the uninsulated FW5N (300 volts DC). All types can be rated to 125°C at 50% of the 85°C DCWV. Stand-off capacitors are dependent upon external wiring and lead dressing for their attenuation characteristics. Meet or exceed MIL-C-11015 specifications. Hollow eyelet design of FW5N provides direct lead filtering. Types FA5C, FW5N, and SS5D are supplied with solder washer. Types FB3B, FB2B, SB3A, and SB4A are supplied with lock washer and mounting nut. Bolt sizes are as shown below. GMV (Guaranteed Minimum Value) tolerance is —0%, +100%.

FEED THRU CAPACITORS

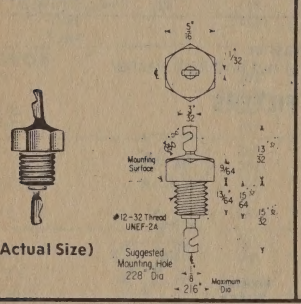
Type FA5C



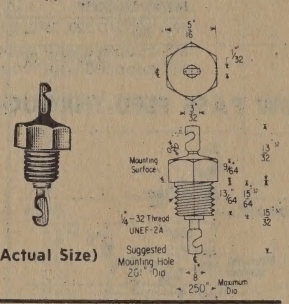
Type FW5N



Type FB2B

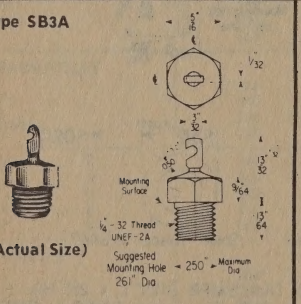


Type FB3B

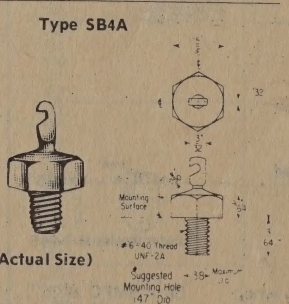


STAND OFF CAPACITORS

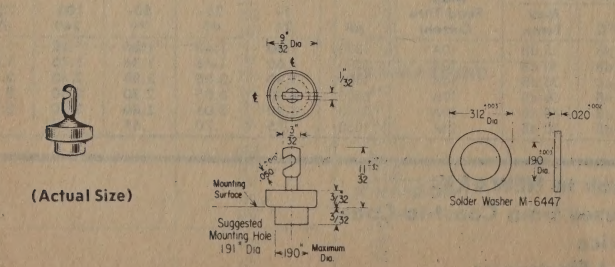
Type SB3A



Type SB4A



Type SS5D



Stk. No.	Type	Tol.	Pf.	Price Code
10F1180	FA5C-1001	±10%	10	A
10F1186	FA5C-1002	±20%	10	B
10F1181	FA5C-3301	±10%	33	A
10F1182	FA5C-3302	±20%	33	B
10F1187	FA5C-4701	±10%	47	A
10F1188	FA5C-4702	±20%	47	B
10F1193	FA5C-470W	GMV	47	C
10F1183	FA5C-6801	±10%	68	A
10F1189	FA5C-6802	±20%	68	B
10F1184	FA5C-1011	±10%	100	A
10F1190	FA5C-1012	±20%	100	B
10F1194	FA5C-101W	GMV	100	C
10F1185	FA5C-4711	±10%	470	A
10F1191	FA5C-4712	±20%	470	D
10F1195	FA5C-471W	GMV	470	C
10F1192	FA5C-6812	±20%	680	B
10F1196	FA5C-102W	GMV	1000	D
10F1205	FW5N-4701	±10%	47	A
10F1207	FW5N-4702	±20%	47	B
10F1206	FW5N-1011	±10%	100	A
10F1209	FW5N-101W	GMV	100	C
10F1208	FW5N-4712	±20%	470	D
10F1210	FW5N-471W	GMV	470	C
10F1211	FW5N-102W	GMV	1000	D

FB2B		FB3B				Price Code
Stk. No.	Type	Stk. No.	Type	Tol.	Pf.	
10F1255	1001	10F1275	1001	±10%	10	E
10F1261	1002	10F1281	1002	±20%	10	F
10F1256	3301	10F1276	3301	±10%	33	E
10F1262	3302	10F1282	3302	±20%	33	F
10F1257	4701	10F1277	4701	±10%	47	E
10F1263	4702	10F1283	4702	±20%	47	F
10F1258	6801	10F1278	6801	±10%	68	E
10F1264	6802	10F1284	6802	±20%	68	F
10F1259	1011	10F1279	1011	±10%	100	E
10F1265	1012	10F1285	1012	±20%	100	F
10F1268	101W	.....	....	GMV	100	G
10F1260	4711	10F1280	4711	±10%	470	E
10F1266	4712	10F1286	4712	±20%	470	H
10F1269	471W	10F1288	471W	GMV	470	G
10F1267	6812	10F1287	6812	±20%	680	F
10F1270	102W	10F1289	102W	GMV	1000	H

SB3A		SB4A				Price Code
Stk. No	Type	Stk. No.	Type	Tol.	Pf.	
10F1215	1001	10F1236	1001	±10%	10	J
10F1221	1002	10F1242	1002	±20%	10	K
10F1216	3301	10F1237	3301	±10%	33	J
10F1222	3302	10F1243	3302	±20%	33	K
10F1217	4701	10F1238	4701	±10%	47	J
10F1223	4702	10F1244	4702	±20%	47	K
10F1218	6801	10F1239	6801	±10%	68	J
10F1224	6802	10F1245	6802	±20%	100	K
10F1219	1011	10F1240	1011	±10%	68	J
10F1225	1012	10F1246	1012	±20%	100	K
10F1228	101W	10F1249	101W	GMV	100	L
10F1220	4711	10F1241	4711	±10%	470	J
10F1226	4712	10F1247	4712	±20%	470	M
10F1229	471W	10F1250	471W	GMV	470	L
10F1227	6812	10F1248	6812	±20%	680	K
10F1230	102W	10F1251	102W	GMV	100	M
10F1231	152W	10F1252	152W	GMV	1500	L

Stk. No.	Type	Tol.	Pf.	Price Code
10F1295	SS5D-4712	±20%	470	N
10F1296	SS5D-102W	GMV	1000	N

PRICE CODE

Code	1-24	25-49	50-99	100-249	250-499
A	.31	.18	.16	.14	.12
B	.30	.17	.15	.13	.11
C	.29	.16	.14	.12	.10
D	.27	.14	.12	.10	.08
E	1.34	.70	.61	.51	.45
F	1.33	.69	.60	.50	.44
G	1.32	.68	.59	.49	.43
H	1.31	.67	.58	.48	.42
J	1.10	.58	.50	.41	.37
K	1.09	.57	.49	.40	.36
L	1.08	.56	.48	.39	.35
M	1.07	.55	.47	.38	.34
N	.45	.25	.20	.17	.15

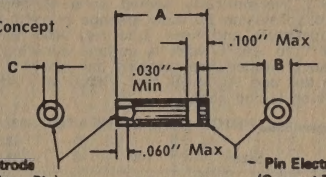
Allen Bradley Capacitors

• New Type CL Capacitors

Feed-thru capacitors reflect total capability in ceramic processing. The manufacture of these capacitors is completely controlled from the selection of raw materials to an advanced properietary processing technique. This advanced process produces these unique multi-layer, coaxial tubular capacitors which consist of concentric layers of a proprietary ceramic formulation and concentric layers of noble metal electrodes (see drawing). The concentric structure yields a low inductance when compared to conventional rolled dielectric capacitors. Fired capacitors produce true monolithic structures which are impervious to moisture and contamination. Further, the high ration of capacity-to-volume results in a significantly smaller size than achieved in conventional rolled dielectric capacitors. These new non-polar multi-layer capacitors are extremely small in size, light in weight, high in dielectric strength and reliability. Maximum operational temperature is +126°C, with no voltage derating. Idealy suited for bypass, filtering, and coupling.

Multilayer Concept

Actual Size



Minimum Insertion Loss In dB* (Per Mil-Std-220)

Nominal Capacitance Microfarads	Frequency 30 KHZ	50 KHZ	100 KHZ	1 MHZ	10 MHZ	100 MHZ	1 GHZ
.05	-	-	-	16	33	40	45
.08	-	-	-	20	36	42	50
.09	-	-	-	20	36	42	50
.12	-	-	-	24	41	45	55
.3	-	8	13	32	47	50	64
1.0	10	15	20	40	52	56	69

(*)At rated DCWV over the operating temperature range of -55°C to +125°C insertion loss is typically 6dB less.

Part Number	Dimensions in Inches A	B	C
CL001DA503P	0.330 ± 0.015	0.072 ± 0.005	0.047 ± 0.003
CL002DA503P	0.330 ± 0.015	0.063 ± 0.003	0.037 ± 0.003
CL003DA903P	0.330 ± 0.015	0.081 ± 0.003	0.047 ± 0.003
CL003HA503P	0.330 ± 0.015	0.081 ± 0.003	0.047 ± 0.003
CL004HA124P	0.445 ± 0.010	0.095 ± 0.005	0.047 ± 0.003
CL005HA803P	0.330 ± 0.015	0.110 ± 0.003	0.069 ± 0.004
CL006BA304P	0.330 ± 0.011	0.105 ± 0.005	0.047 ± 0.003
CL007BA105M	0.450 ± 0.011	0.105 ± 0.005	0.047 ± 0.003

Stk. No.	Type	DCWV	Diel. Withstand Voltage	Min. Ins Res.	TOL.	Cap MF	1-24	25-49	50-99	100-249	250-499
10F1320	CL001DA503P	100	300	10,000	GMV	.05	2.45	2.20	1.95	1.77	1.42
10F1321	CL002DA503P	100	300	10,000	GMV	.05	2.31	2.05	1.82	1.57	1.33
10F1322	CL003DA903P	100	300	5,500	GMV	.09	2.80	2.50	2.20	1.90	1.60
10F1323	CL003HA503P	200	600	10,000	GMV	.05	2.84	2.53	2.25	1.93	1.65
10F1324	CL004HA124P	200	600	4,000	GMV	.12	4.20	3.75	3.55	2.86	2.41
10F1325	CL005HA803P	200	600	6,000	GMV	.08	3.29	2.94	2.60	2.25	1.87
10F1326	CL006BA304P	50	150	1,200	GMV	.3	4.97	4.45	3.92	3.40	2.87
10F1327	CL007BA105M	50	150	700	±20%	1.0	6.97	6.25	5.50	4.75	4.00

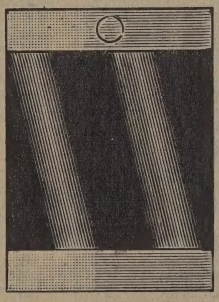
TYPE MB CHIP CAPACITOR

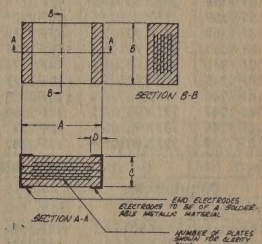
MB multilayer ceramic chip capacitors are made by the same unique multi-layer process as the type CL capacitors resulting in extremely high capacitance to volume ratio, performance predictability, and increased mechanical strength. Operating temperature range is -55°C to +125°C. Standard end terminations are silver.

EIA Characteristic	Temperature Range	Maximum Capacitance Change
COG (NPO)	-55°C to +125°C	0+30ppm/°C
W5R	-55°C to +125°C	±15%
W5S	-55°C to +125°C	±22%
W5U	-55°C to +125°C	±22%,-56%

SIZE CHART

Type	A	B	C	D
.005	.180±.01	.050±.01	.050 Max.	.025±.015
.006	.180±.01	.080±.01	.075 Max.	.025±.015
.007	.225±.01	.250±.01	.075 Max	.025±.015




SECTION B-B
SECTION A-A
END ELECTRODES ELECTRODES TO BE OF A SOLDER-ABLE METALLIC MATERIAL
NUMBER OF PLATES SHOWN FOR CLARITY ONLY

Stock No.	Type	Size Code	DCWV	Capacitance (inpF)	Temp. Characteristic	1-24	25-49	50-99	100-249	250-499
10F2150	MB005BB101K	005	50	100	COG(NPO)	.45	.43	.41	.384	.336
10F2151	MB005BB221K	005	50	220	COG(NPO)	.58	.55	.52	.492	.432
10F2152	MB005BB471K	005	50	470	COG(NPO)	.92	.88	.84	.788	.69
10F2153	MB005BC102K	005	50	1.0K	W5R	.42	.40	.38	.358	.314
10F2154	MB005BC222K	005	50	2.2K	WRR	.51	.48	.46	.435	.39
10F2155	MB005BD472M	005	50	4.7K	W5S	.51	.48	.46	.432	.378
10F2156	MB006BD103M	006	50	10K	W5S	.51	.49	.47	.438	.383
10F2157	MB006BD223M	006	50	22K	W5S	.56	.53	.51	.482	.422
10F2158	MB006BA473M	006	50	47K	W5U	.92	.87	.83	.783	.685
10F2159	MB007BA104M	007	50	100K	W5U	1.42	1.34	1.29	1.21	1.06
10F2160	MB005DB101K	005	100	100	COG(NPO)	.49	.46	.44	.42	.36
10F2161	MB005DB221K	005	100	220	COG(NPO)	.70	.66	.63	.60	.52
10F2162	MB005DC471K	005	100	470	W5R	.39	.37	.36	.386	.294
10F2163	MB005DC102K	005	100	1.0K	W5R	.46	.43	.41	.389	.34
10F2164	MB006DC222K	006	100	2.2K	W5R	.59	.56	.54	.506	.442
10F2165	MB006DD472M	006	100	4.7K	W5S	.63	.60	.57	.537	.469
10F2166	MB006DD103M	006	100	10K	W5S	.86	.81	.78	.73	.638
10F2167	MB006DA223M	006	100	22K	W5U	.72	.68	.65	.612	.535
10F2168	MB007DA473M	007	100	47K	W5U	1.26	1.19	1.14	1.08	.94
10F2169	MB007DA104M	007	100	100K	W5U	1.78	1.69	1.62	1.52	1.33
10F2170	MB005HB101K	005	200	100	COG(NPO)	.60	.57	.54	.512	.449
10F2171	MB005AB221K	005	200	220	COG(NPO)	.96	.91	.87	.82	.718
10F2172	MB005HC471K	005	200	470	W5R	.40	.38	.36	.34	.30
10F2173	MB005HC102K	005	200	1.0K	W5R	.50	.47	.45	.422	.37
10F2174	MB006HC222K	006	200	2.2K	W5R	.67	.63	.61	.569	.498
10F2175	MB006HD472M	006	200	4.7K	W5S	.76	.72	.69	.648	
10F2176	MB007HD103M	007	200	10K	W5S	1.04	.99	.95	.89	.778
10F2177	MB007HA223M	007	200	22K	W5U	.92	.87	.84	.798	.689
10F2178	MB007HA473M	007	200	47K	W5U	1.45	1.38	1.32	1.24	1.09
10F2179	MB007HA104M	007	200	100K	W5U	2.41	2.28	2.18	2.00	1.80

SPRAGUE — THE MARK OF RELIABILITY

Type 150D and CS13 Solid Tantalums

COMMERCIAL SERIES 150D & MILITARY TYPE CS13 —10%

Type CS13. Hermetically sealed solid tantalum capacitors to MIL-C-26655 Revision 2D. Low leakage current and stability with both temperature and time. Life test 2000 hours. Temperature range -80°C to +80°C with ⅓ voltage derating. High frequency performance: impedance remains low above 1 MHz. 2000 cycle vibration test and 50g shock test without any adverse effects. All 20% units on facing page.

PRICE & SIZE LOCATOR-10%

Key	Sizes	1-24	25-49	50-99	100-499	500-999
A	.135" x .286"	1.00	.76	.64	.52	.46
B	.135" x .286"	.84	.64	.54	.44	.39
C	.135" x .286"	1.08	.82	.69	.56	.50
D	.185" x .474"	.92	.70	.59	.48	.43
E	.185" x .474"	1.08	.82	.69	.56	.50
F	.289" x .686"	1.84	1.39	1.17	.94	.82
G	.289" x .686"	1.84	1.39	1.17	.94	.82
H	.289" x .686"	2.76	2.08	1.74	1.40	1.23
J	.351" x .786"	3.60	2.71	2.27	1.82	1.60
K	.351" x .786"	3.60	2.71	2.27	1.82	1.60

6 WVDC±10% TOLERANCE

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
18F1354	565X900A2	18F2258	BB565K	5.6	B
18F1355	685X9006A2	18F2259	BB685K	6.8	B
18F1356	476X9006B2	18F2261	BB476K	47	D
18F1357	566X9006B2	18F2263	BB566K	56	D
18F1822	157X9006R2	18F2264	BB157K	150	F
18F1823	187X9006R2	18F2266	BB187K	180	F
18F1824	277X9006S2	18F2267	BB277K	270	J
18F1825	337X9006S2	18F2268	BB337K	330	J

10 WVDC±10% TOLERANCE

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
18F1358	395X9010A2	18F2270	BC395K	3.9	B
18F1359	475X9010A2	18F2271	BC475K	4.7	B
18F1360	276X9010B2	18F2273	BC276K	27	D
18F1361	336X9010B2	18F2274	BC336K	33	D
18F1362	396X9010B2	18F2276	BC396K	39	D
18F1245	826X9010R2	18F2277	BC826K	82	F
18F1246	107X9010R2	18F2278	BC107K	100	F
18F1247	127X9010R2	18F2280	BC127K	120	F
18F1248	187X9010S2	18F2281	BC187K	180	J
18F1249	227X9010S2	18F2282	BC227K	220	J

15 WVDC±10% TOLERANCE

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
18F1363	275X9015A2	18F2284	BD275K	2.7	B
18F1826	335X9015A2	18F2285	BD335K	3.3	B
18F1364	186X9015B2	18F2287	BD186K	18	D
18F1365	226X9015B2	18F2288	BD226K	22	D
18F1827	566X9015R2	18F2290	BD566K	56	F
18F1828	686X9015R2	18F2291	BD686K	68	F
18F1829	127X9015S2	18F2292	BD127K	120	J
18F1830	157X9015S2	18F2293	BD157K	150	J

20 WVDC±10% TOLERANCE

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
18F1366	125X9020A2	18F2296	BE125K	1.2	B
18F1367	155X9020A2	18F2297	BE155K	1.5	B
18F1368	185X9020A2	18F2299	BE185K	1.8	B
18F1369	225X9020A2	18F2300	BE225K	2.2	B
18F1370	825X9020B2	18F2302	BE825K	8.2	D
18F1371	106X9020B2	18F2303	BE106K	10	D
18F1372	126X9020B2	18F2305	BE126K	12	D
18F1373	156X9020B2	18F2306	BE156K	15	D
18F1831	276X9020R2	18F2308	BE276K	27	F
18F1832	336X9020R2	18F2309	BE336K	33	F
18F1833	396X9020R2	18F2311	BE396K	39	F
18F1834	476X9020R2	18F2312	BE476K	47	F
18F1835	566X9020S2	18F2314	BE566K	56	J
18F1836	686X9020S2	18F2315	BE686K	68	J
18F1837	826X9020S2	18F2317	BE826K	82	J
18F1838	107X9020S2	18F2318	BE107K	100	J

35 WVDC±10% TOLERANCE

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
18F1840	472X9035A2	.....	.....	.0047	A
18F1841	562X9035A2	.....	.....	.0056	A
18F1842	682X9035A2	.....	.....	.0068	A
18F1374	822X9035A2	.....	.....	.0082	A
18F1375	103X9035A2	.....	.....	.01	A
18F1376	123X9035A2	.....	.....	.012	A
18F1377	153X9035A2	.....	.....	.015	A

35 WVDC±10% TOLERANCE (Cont'd)

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
18F1378	183X9035A2	.....	.....	.018	A
18F1379	223X9035A2	.....	.....	.022	A
18F1380	273X9035A2	.....	.....	.027	A
18F1381	333X9035A2	.....	.....	.033	B
18F1382	393X9035A2	.....	.....	.039	B
18F1383	473X9035A2	.....	.....	.047	B
18F1384	563X9035A2	.....	.....	.056	B
18F1385	683X9035A2	.....	.....	.068	B
18F1386	823X9035A2	.....	.....	.082	B
18F1387	104X9035A2	.....	.....	.10	B
18F1388	124X9035A2	.....	.....	.12	B
18F1389	154X9035A2	.....	.....	.15	B
18F1390	184X9035A2	.....	.....	.18	B
18F1391	224X9035A2	.....	.....	.22	B
18F1392	274X9035A2	.....	.....	.27	B
18F1393	334X9035A2	18F2320	BF334K	.33	B
18F1843	394X9035A2	18F2322	BF394K	.39	B
18F1394	474X9035A2	18F2323	BF474K	.47	B
18F1395	564X9035A2	18F2325	BF564K	.56	B
18F1396	684X9035A2	18F2326	BF684K	.68	B
18F1397	824X9035A2	18F2328	BF824K	.82	B
18F1398	105X9035A2	18F2329	BF105K	1.0	B
18F1399	125X9035B2	18F2331	BF125K	1.2	D
18F1400	155X9035B2	18F2332	BF155K	1.5	D
18F1401	185X9035B2	18F2334	BF185K	1.8	D
18F1402	225X9035B2	18F2335	BF225K	2.2	D
18F1403	275X9035B2	18F2337	BF275K	2.7	D
18F1404	335X9035B2	18F2338	BF335K	3.3	D
18F1405	395X9035B2	18F2340	BF395K	3.9	D
18F1406	475X9035B2	18F2341	BF475K	4.7	D
18F1407	565X9035B2	18F2343	BF565K	5.6	D
18F1408	685X9035B2	18F2344	BF685K	6.8	D
18F1844	825X9035R2	18F2346	BF825K	8.2	F
18F1845	106X9035R2	18F2347	BF106K	10	F
18F1846	126X9035R2	18F2349	BF126K	12	F
18F1847	156X9035R2	18F2350	BF156K	15	F
18F1848	186X9035R2	18F2352	BF186K	18	F
18F1849	226X9035R2	18F2353	BF226K	22	F
18F1850	276X9035S2	18F2355	BF276K	27	J
18F1851	336X9035S2	18F2356	BF336K	33	J
18F1852	396X9035S2	18F2358	BF396K	39	J
18F1853	476X9035S2	18F2359	BF476K	47	J

50 WVDC±10% TOLERANCE

Commercial Stk. No.	150D	MIL-C-26655B Stk. No.	CS13	Mfd	Price & Size Key
47F198	472X9050A2	.....	.....	.0047	C
47F199	562X9050A2	.....	.....	.0056	C
47F200	682X9050A2	.....	.....	.0068	C
47F201	822X9050A2	.....	.....	.0082	C
47F202	103X9050A2	.....	.....	.01	C
18F1854	123X9050A2	.....	.....	.012	C
47F203	153X9050A2	.....	.....	.015	C
18F1855	183X9050A2	.....	.....	.018	C
47F204	223X9050A2	.....	.....	.022	C
18F1856	273X9050A2	.....	.....	.027	C
47F205	333X9050A2	.....	.....	.033	A
18F1857	393X9050A2	.....	.....	.039	A
47F206	473X9050A2	.....	.....	.047	A
18F1858	563X9050A2	.....	.....	.056	A
47F207	683X9050A2	.....	.....	.068	A
18F1859	823X9050A2	.....	.....	.082	A
47F208	184X9050A2	.....	.....	.1	A
18F1860	124X9050A2	.....	.....	.12	A
47F209	154X9050A2	.....	.....	.15	A
18F1861	184X9050A2	.....	.....	.18	A
47F210	224X9050A2	.....	.....	.22	A
18F1862	274X9050A2	.....	.....	.27	A
47F211	334X9050A2	.....	.....	.33	A
18F1863	390X9050A2	.....	.....	.39	A
47F212	474X9050A2	.....	.....	.47	A
18F1864	564X9050A2	.....	.....	.56	A
47F213	684X9050A2	.....	.....	.68	A
18F1865	824X9050A2	.....	.....	.82	A
18F2948	105X9050A2	18F2957	BG105K	1.0	A
18F1866	125X9050B2	18F2363	BG125K	1.2	E
18F2949	155X9050B2	18F2958	BG155K	1.5	E
18F1867	185X9050B2	18F2366	BG185K	1.8	E
18F2950	225X9050B2	18F2959	BG225K	2.2	E
18F1868	275X9050B2	18F2369	BG275K	2.7	E
18F2951	335X9050B2	18F2960	BG335K	3.3	E
18F1869	395X9050B2	18F2370	BG395K	3.9	E
18F2952	475X9050B2	18F2961	BG475K	4.7	E
18F1870	565X9050R2	18F2375	BG565K	5.6	G
18F2953	685X9050R2	18F2962	BG685K	6.8	G
18F1871	825X9050R2	18F2378	BG825K	8.2	G
18F2954	106X9050R2	18F2963	BG106K	10	G
18F1872	126X9050R2	18F2381	BG126K	12	H
18F2955	156X9050R2	18F2954	BG156K	15	H
18F1873	186X9050R2	18F2384	BG186K	18	H
18F2956	226X9050S2	18F2965	BG226K	22	K

Solid Tantalums Capacitors

SPRAGUE
THE MARK OF RELIABILITY

STANDARD SERIES 150D MILITARY TYPE CS13

Same characteristics as 10% model. True miniaturization with characteristics previously unobtainable in electrolytic capacitors. Type 150D same as above except commercial series.

Price and Size Location

Key	Sizes	1-24	25-49	50-99	100-499	500-999
A	.135x.286	.81	.61	.51	.41	.36
B	.185x.474	.89	.67	.56	.45	.40
C	.289x.686	1.81	1.36	1.14	.91	.79
D	.351x.786	3.57	2.68	2.24	1.79	1.57
E	.135x.286	.97	.73	.61	.49	.43
F	.135x.286	1.05	.79	.66	.53	.47
G	.185x.474	1.05	.79	.66	.53	.47
K	.289x.686	2.57	1.93	1.61	1.29	1.13
L	.289x.686	2.73	2.05	1.71	1.37	1.20
M	.351x.786	5.33	4.00	3.34	2.67	2.34

6 WVDC ±20% TOLERANCE

Commercial		Mil-C-26655B			Price
Stk. No.	150D	Stk. No.	CS13	MFD	Size Key
18F770	685X0006AS	18F2260	BB685M	6.8	A
18F1212	476X0006B2	18F2262	BB476M	47	B
18F1213	157X0006R2	18F2265	BB157M	150	C
18F1237	337X0006S2	18F2269	BB357M	330	D

10 WVDC ±20% TOLERANCE

18F772	475X0010A2	18F2272	BC475M	4.7	A
18F773	336X0010B2	18F2275	BC336M	33	B
18F1215	107X0010R2	18F2279	BC107M	100	C
18F1238	227X0010S2	18F2283	BC227M	220	D

15 WVDC ±20% TOLERANCE

18F775	335X0015A2	18F2286	BD335M	3.3	A
18F776	226X0015B2	18F2289	BD226M	22	B
18F1217	686X0015R2	18F2295	BD686M	68	C
18F1239	157X0015S2	18F2294	BD157M	150	D

35 WVDC ±20% TOLERANCE

Commercial		Mil-C-26655B			Price+
Stk. No.	150D	Stk. No.	CS13	MFD.	SizeKey
18F787	472X0035A2	. . . . .	. . . . .	.0047	E
18F788	682X0035A2	. . . . .	. . . . .	.0068	E
18F789	103X0035A2	. . . . .	. . . . .	.01	E
18F790	153X0035A2	. . . . .	. . . . .	.015	E
18F791	223X0035A2	. . . . .	. . . . .	.022	E

NEW TYPE 196D EPOXY DIPPED SOLID ELECTROLYTE TANTALEX CAPACITORS

- Low Dissipation
- Radial Leads

Capacitors Furnished in sizes which permit coverage of a broad range of capacitance ratings, from 0.1.F through 330.F. The standard capacitance tolerance of these capacitors is ±20%. Operating temperature range —55° to +85°C low leakage current. The maximum dissipation factor is 10%. Standard capacitors are furnished with long straight leads. Leads are electro-tinned nickel for ease in soldering. Solid-electrolyte tantalum pellet construction allows plug-in mntg. on printed wiring boards.

Price and Size Location

Case Code	Height	Width	Thickness	Lead Length	1-24	25-49	50-99	100-499	500-999
X	.375	.175	.175	.750	.50	.38	.32	.26	.23
Z	.425	.225	.225	.750	.58	.44	.37	.30	.27
Y	.450	.225	.225	.750	.66	.50	.42	.34	.30
W	.500	.450	.250	1.500	1.30	.98	.82	.66	.58
V	.800	.600	.275	1.500	2.26	1.70	1.42	1.14	1.00
U	.375	.175	.175	.75	.70	.53	.45	.36	.32
T	.425	.225	.225	.75	.78	.59	.50	.40	.35
S	.450	.225	.225	.75	.86	.65	.55	.44	.39
R	.800	.600	.275	.025	1.42	1.07	.90	.72	.63

4 WVDC

Stk. No	Type 196D	Cap MF	Case Size Code	Stk. No.	Type 196D	Cap MF	Case Size Code
47F347	106X9004HA1	10	Z	47F349	107X9004KA1	100	X
47F348	476X9004JA1	47	Y	47F350	227X9004LA3	220	W

6 WVDC

47F351	685X9006HA1	6.8	Z	47F354	686X9006KA1	68	X
47F352	336X9006JA1	33	Y	47F355	157X9006LA3	150	W
47F353	476X9006KA1	47	X	47F356	337X9006MA3	330	V

35WVDC ±20% Tolerance Cont.

Commercial		Mil-C-26655B			Price + Size Key
Stk. No.	150D	Stk. No.	CS13	MFD.	
18F792	333X0035A2	. . . . .	. . . . .	.033	A
18F793	473X0035A2	. . . . .	. . . . .	.047	A
18F794	683X0035A2	. . . . .	. . . . .	.068	A
18F795	104X0035A2	. . . . .	. . . . .	.10	A
18F1222	154X0035A2	. . . . .	. . . . .	.15	A
18F1223	224X0035A2	. . . . .	. . . . .	.22	A
18F1224	334X0035A2	18F2321	BF334M	2.33	A
18F1225	474X0035A2	18F2324	BF374M	.47	A
18F1226	684X0035A2	18F2327	BF684M	.68	A
18F1227	105X0035A2	18F2330	BF105M	1.0	A
18F1228	155X0035B2	18F2333	BF155M	1.5	B
18F1229	225X0035B2	18F2336	BF225M	2.2	B
18F1230	335X0035B2	18F2339	BF335M	3.3	B
18F1231	475X0035B2	18F2342	BF475M	4.7	B
18F1232	685X0035B2	18F2345	BF685M	6.8	B
18F1233	106X0035R2	18F2348	BF106M	10	C
18F1234	156X0035R2	18F2351	BF156M	15	C
18F1235	226X0035R2	18F2354	BF226M	22	C
18F1241	336X0035S2	18F2357	BF336M	33	D
18F1242	476X0035S2	18F2360	BF476M	47	D

50 WVDC ±20% TOLERANCE

Commercial		Mil-C-26655B			Price&
Stk. No.	150D	Stk. No.	CS13	MFD.	SizeKey
18F1800	103X0050A2	. . . . .	. . . . .	.01	F
18F1801	153X0050A2	. . . . .	. . . . .	.015	F
18F1802	223X0050A2	. . . . .	. . . . .	.022	F
18F1803	333X0050A2	. . . . .	. . . . .	.033	E
18F1804	473X0050A2	. . . . .	. . . . .	.047	E
18F1805	683X0050A2	. . . . .	. . . . .	.068	E
18F1806	104X0050A2	. . . . .	. . . . .	.1	E
18F1807	154X0050A2	. . . . .	. . . . .	.15	E
18F1809	224X0050A2	. . . . .	. . . . .	.22	E
18F1808	334X0050A2	. . . . .	. . . . .	.33	E
18F1810	474X0050A2	. . . . .	. . . . .	.47	E
18F1811	684X0050A2	. . . . .	. . . . .	.68	E
18F1812	105X0050A2	18F2362	BG105M	1.0	E
18F1813	155X0050B2	18F2365	BG155M	1.5	G
18F1814	225X0050B2	18F2368	BG225M	2.2	G
18F1815	335X0050B2	18F2371	BG335M	3.3	G
18F1816	475X0050B2	18F2374	BG475M	4.7	G
18F1817	685X0050R2	18F2377	BG685M	6.8	K
18F1818	106X0050R2	18F2380	BG106M	10	K
18F1819	156X0050R2	18F2383	BG156M	15	L
18F1820	226X0050S2	18F2386	BG226M	22	M

10 WVDC

Stk. No.	Type 196D	Cap MF	Case Size Code	Stk. No.	Type 196D	Cap MF	Case Size Code
47F357	475X9010HA1	4.7	Z	47F360	107X9010LA3	100	W
47F358	226X9010JA1	22	Y	47F361	227X9010MA3	220	V
47F359	336X9010KA1	33	X	. . . . .	. . . . .	. . .	. . .

15 WVDC

47F362	335X9015HA1	3.3	Z	47F365	686X9015LA3	68	W
47F363	156X9015JA1	15	Y	47F367	157X9015MA3	150	V
47F364	226X9015KA1	22	X	. . . . .	. . . . .	. . .	. . .

20 WVDC

47F386	106X9020JA1	10	Y	47F388	476X9020LA3	47	W
47F387	156X902KA1	15	X	47F389	107X9020MA3	100	V

25 WVDC

47F390	155X9025HA1	1.5	Z	47F394	226X9025LA3	22	W
47F391	225X9025HA1	2.2	Z	47F395	336X9025LA3	33	W
47F392	685X9025JA1	6.8	Y	47F396	476X9025MA3	47	V
47F393	106X9025KA1	10	X	47F397	686X9025MA3	68	V

35 WVDC

47F398	104X9035HA1	0.10	Z	47F367	225X9035JA1	2.2	Y
47F399	154X9035HA1	0.15	Z	47F368	335X9035JA1	3.3	Y
47F400	224X9035HA1	0.22	Z	47F369	475X9035JA1	4.7	Y
47F401	334X9035HA1	0.33	Z	47F370	685X9035KA1	6.8	X
47F402	474X9035HA1	0.47	Z	47F371	106X9035LA3	10	W
47F403	684X9035HA1	0.68	Z	47F372	156X9035LA3	15	W
47F404	105X9035HA1	1.0	Z	47F373	226X9035MA3	22	R
47F405	155X9035JA1	1.5	Y	47F374	336X9035MA3	33	V

50 WVDC

47F375	104X9050HA1	.01	U	47F381	105X9050HA1	1.0	U
47F376	154X9050HA1	0.15	U	47F382	155X9050JA1	1.5	T
47F377	224X9050HA1	0.22	U	47F383	225X9050JA1	2.2	T
47F378	334X9050HA1	0.33	U	47F384	335X9050JA1	3.3	T
47F379	474X9050HA1	0.47	U	47F385	475X9050KA1	4.7	S
47F380	684X9050HA1	0.68	U	. . . . .	. . . . .	. . .	. .

DEPEND ON NEWARK FOR EVERYTHING IN INDUSTRIAL ELECTRONICS

SPRAGUE Capacitors

THE MARK OF RELIABILITY

SIZE & PRICE CHART

Size	Dia. xL.	Price Code	1-24	25-49	50-99	100-499	500-999
A	.135x.286	1KL	.84	.64	.54	.44	.39
		1ML	.81	.61	.51	.41	.36
B	.185x.474	2KL	.92	.70	.59	.48	.43
		2ML	.89	.67	.56	.45	.40
		3KL	1.84	1.39	1.17	.94	.82
		3ML	1.81	1.36	1.14	.91	.79
C	.289x.686	4KL	3.60	2.71	2.27	1.82	1.60
		4ML	3.57	2.68	2.24	1.79	1.57
D	.351x.786	5KL	1.08	.82	.68	.56	.50
		5ML	1.05	.79	.65	.53	.47

TYPE CSR-13 2% "L" FAILURE RATE

Subminiature hermetically sealed units meet new MIL-C-39003/1A specifications. Tighter leakage current and dissipation factor over MIL-C-26655B. Low impedance above 1MHz. 2000-cycle vibration test. 50g shock test. Temp. range -55°C to 125°C. Leads type M1 of MIL-STD-1276, tin coated 0.50 to 1.50 mil. Temperature cycling and voltage aging Method 102, Condition C of MIL-STD-202 followed by exposure at 85C for 40 hours minimum, with rated voltage applied. Life test 10,000 hours. Plastic insulating sleeve. Weight 2 oz.

6 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F406	13B565KL	2001	5.6	A	1KL
47F407	13B685KL	2002	6.8	A	1KL
47F408	13B685ML	2003	6.8	A	1ML
47F409	13B476KL	2004	47	B	2KL
47F410	13B476ML	2005	47	B	2ML
47F411	13B566KL	2006	56	B	2KL
47F412	13B157KL	2007	150	C	3KL
47F413	13B157ML	2008	150	C	3ML
47F414	13B187KL	2009	180	C	3KL
47F415	13B277KL	2010	270	D	4KL
47F416	13B337KL	2011	330	D	4KL
47F417	13B337ML	2012	330	D	4ML

10 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F418	13C395KL	2013	3.9	A	1KL
47F419	13C475KL	2014	4.7	A	1KL
47F420	13C475ML	2015	4.7	A	1ML
47F421	13C276KL	2016	27	B	2KL
47F422	13C336KL	2017	33	B	2KL
47F423	13C336ML	2018	33	B	2ML
47F424	13C396KL	2019	39	B	2KL
47F425	13C826KL	2020	82	C	3KL
47F426	13C107KL	2021	100	C	3KL
47F427	13C107ML	2022	100	C	3ML
47F428	13C127KL	2023	120	C	3KL
47F429	13C187KL	2024	180	D	4KL
47F430	13C227KL	2025	220	D	4KL
47F431	13C227ML	2026	220	D	4ML

15 WVDC

Stk. No.	MIL Type CSR	M39003/ 01-	Mfd.	Size Code	Price Code
47F432	13D275KL	2027	2.7	A	1KL
47F433	13D335KL	2028	3.3	A	1KL
47F434	13D335ML	2029	3.3	A	1ML
47F435	13D186KL	2030	18	B	2KL
47F436	13D226KL	2031	22	B	2KL
47F437	13D226ML	2032	22	B	2ML
47F438	13D566KL	2033	56	C	3KL
47F439	13D686KL	2034	68	C	3KL
47F440	13D686ML	2035	68	C	3ML
47F441	13D127KL	2036	120	D	4KL
47F442	13D157KL	2037	150	D	4KL
47F443	13D157ML	2038	150	D	4ML

20 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F444	13E125KL	2039	1.2	A	1KL
47F445	13E155KL	2040	1.5	A	1KL
47F446	13E155ML	2041	1.5	A	1ML
47F447	13E185KL	2042	1.8	A	1KL
47F448	13E225KL	2043	2.2	A	1KL
47F449	13E225ML	2044	2.2	A	1ML
47F450	13E825KL	2045	8.2	B	2KL
47F451	13E106KL	2046	10	B	2KL
47F452	13E106ML	2047	10	B	2ML
47F453	13E126KL	2048	12	B	2KL
47F454	13E156KL	2049	15	B	2KL
47F455	13E156ML	2050	15	B	2ML
47F456	13E276KL	2051	27	C	3KL
47F457	13E336KL	2052	33	C	3KL
47F458	13E336ML	2053	33	C	3ML
47F459	13E396KL	2054	39	C	3KL
47F460	13E476KL	2055	47	C	3KL
47F461	13E476ML	2056	47	C	3ML
47F462	13E566KL	2057	56	D	4KL
47F463	13E686KL	2058	68	D	4KL
47F464	13E686ML	2059	68	D	4ML
47F465	13E826KL	2060	82	D	4KL
47F466	13E107KL	2061	100	D	4KL
47F467	13E107ML	2062	100	D	4ML

SIZE & PRICE CHART

Size	Dia. xL.	Price Code	1-24	25-49	50-99	100-499	500-999
A	.135x.286	6KL	1.00	.76	.64	.52	.46
		6ML	.97	.73	.61	.49	.43
B	.185x.474	7KL	1.08	.82	.69	.56	.50
		7ML	1.05	.79	.66	.53	.47
		8KL	2.60	1.96	1.64	1.32	1.16
		8ML	2.57	1.93	1.61	1.29	1.13
C	.289x.686	9KL	2.76	2.08	1.74	1.40	1.23
		9ML	2.73	2.05	1.71	1.37	1.20
D	.351x.786	10KL	5.36	4.03	3.37	2.70	2.37
		10ML	5.33	4.00	3.34	2.67	2.34

35 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F468	13F565KL	2063	5.6	B	2KL
47F469	13F685KL	2064	6.8	B	2KL
47F470	13F685ML	2065	6.8	B	2ML
47F471	13F226KL	2066	22	C	3KL
47F472	13F226ML	2067	22	C	3ML
47F473	13F276KL	2068	27	D	4KL
47F474	13F336KL	2069	33	D	4KL
47F475	13F336ML	2070	33	D	4ML
47F476	13F396KL	2071	39	D	4KL
47F477	13F476KL	2072	47	D	4KL
47F478	13F476ML	2073	47	D	4ML

50 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F479	13G472KL	2074	.0047	A	5KL
47F480	13G472ML	2075	.0047	A	5ML
47F481	13G562KL	2076	.0056	A	5KL
47F482	13G682KL	2077	.0068	A	5KL
47F483	13G682ML	2078	.0068	A	5ML
47F484	13G822KL	2079	.0082	A	5KL
47F485	13G103KL	2080	.01	A	5KL
47F486	13G103ML	2081	.01	A	5ML
47F487	13G123KL	2082	.012	A	5KL
47F488	13G153KL	2083	.015	A	5KL
47F489	13G153ML	2084	.015	A	5ML
47F490	13G183KL	2085	.018	A	5KL
47F491	13G223KL	2086	.022	A	5KL
47F492	13G223ML	2087	.022	A	5ML
47F493	13G273KL	2088	.027	A	5KL
47F494	13G333KL	2089	.033	A	6KL
47F495	13G333ML	2090	.033	A	6ML
47F496	13G393KL	2091	.039	A	6KL
47F497	13G473KL	2092	.047	A	6KL
47F498	13G473ML	2093	.047	A	6ML
47F499	13G563KL	2094	.056	A	6KL
47F500	13G683KL	2095	.068	A	6KL
47F501	13G683ML	2096	.068	A	6ML
47F502	13G823KL	2097	.082	A	6KL
47F503	13G104KL	2098	.1	A	6KL
47F504	13G104ML	2099	.1	A	6ML
47F505	13G124KL	2100	.12	A	6KL
47F506	13G154KL	2101	.15	A	6KL
47F507	13G154ML	2102	.15	A	6ML
47F508	13G184KL	2103	.18	A	6KL
47F509	13G224KL	2104	.22	A	6KL
47F510	13G224ML	2105	.22	A	6ML
47F511	13G274KL	2106	.27	A	6KL
47F512	13G334KL	2107	.33	A	6KL
47F513	13G334ML	2108	.33	A	6ML
47F514	13G394KL	2109	.39	A	6KL
47F515	13G474KL	2110	.47	A	6KL
47F516	13G474ML	2111	.47	A	6ML
47F517	13G564KL	2112	.56	A	6KL
47F518	13G684KL	2113	.68	A	6KL
47F519	13G684ML	2114	.68	A	6ML
47F520	13G824KL	2115	.82	A	6KL
47F521	13G105KL	2116	1	A	6KL
47F522	13G105ML	2117	1	A	6ML
47F523	13G125KL	2118	1.2	A	7KL
47F524	13G155KL	2119	1.5	B	7KL
47F525	13G155ML	2120	1.5	B	7ML
47F526	13G185KL	2121	1.8	B	7KL
47F527	13G225KL	2122	2.2	B	7KL
47F528	13G225ML	2123	2.2	B	7ML
47F529	13G275KL	2124	2.7	B	7KL
47F530	13G335KL	2125	3.3	B	7KL
47F531	13G335ML	2126	3.3	B	7ML
47F532	13G395KL	2127	3.9	B	7KL
47F533	13G475KL	2128	4.7	B	7KL
47F534	13G475ML	2129	4.7	B	7ML
47F535	13G565KL	2130	5.6	C	8KL
47F536	13G685KL	2131	6.8	C	8KL
47F537	13G685ML	2132	6.8	C	8ML
47F538	13G825KL	2133	8.2	C	8KL
47F539	13G106KL	2134	10	C	8KL
47F540	13G106ML	2135	10	C	8ML
47F541	13G126KL	2136	12	C	9KL
47F542	13G156KL	2137	15	C	9KL
47F543	13G156ML	2138	15	C	9ML
47F544	13G186KL	2139	18	C	9KL
47F545	13G226KL	2140	22	D	10KL
47F546	13G226ML	2141	22	D	10ML

1% Failure Rate Mil 39006 Tantalum Capacitors

SPRAGUE THE MARK OF RELIABILITY

SIZE AND PRICE CHART

Size	Dia. XL	Price Code	1-24	25-49	50-99	100-499	500-999
A	.135x.286	1KM	.89	.69	.59	.49	.44
		1MM	.86	.66	.56	.46	.41
		2KM	.97	.75	.64	.53	.48
B	.185x.474	2MM	.94	.72	.61	.50	.45
		3KM	1.89	1.44	1.22	.99	.87
		3MM	1.86	1.41	1.19	.96	.84
C	.289x.686	4KM	3.65	2.76	2.32	1.87	1.65
		4MM	3.62	2.73	2.29	1.84	1.62
		5KM	1.13	.87	.74	.61	.55
D	.351x.786	5MM	1.10	.84	.71	.58	.52

TYPE CSR-13 1% "M" FAILURE RATE

For specifications on Type CSR-13 1% see facing page. Possesses same characteristics as Type CSR-13 2%

6WVDC

Stk. No.	Miltype CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F547	13B565KM	2241	5.6	A	1KM
47F548	13B685KM	2242	6.8	A	1KM
47F549	13B685MM	2243	6.8	A	1MM
47F550	13B476KM	2244	47	B	2KM
47F551	13B476MM	2245	47	B	2MM
47F552	13B566KM	2246	56	B	2KM
47F553	13B157KM	2247	150	C	3KM
47F554	13B157MM	2248	150	C	3MM
47F555	13B187KM	2249	180	C	3KM
47F556	13B277KM	2250	270	D	4KM
47F557	13B337KM	2251	330	D	4KM
47F558	13B337MM	2252	330	D	4MM

10WVDC

Stk. No.	Mil Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F559	13C395KM	2253	3.9	A	1KM
47F560	13C475KM	2254	4.7	A	1KM
47F561	13C476MM	2255	4.7	A	1MM
47F562	13C276KM	2256	27	B	2KM
47F563	13C336KM	2257	33	B	2KM
47F564	13C336MM	2258	33	B	2MM
47F565	13C396KM	2259	39	B	2KM
47F566	13C826KM	2260	82	C	3KM
47F567	13C107KM	2261	100	C	3KM
47F568	13C107MM	2262	100	C	3MM
47F469	13C127KM	2263	120	C	3KM
47F570	13C187KM	2264	180	D	4KM
47F571	13C227KM	2265	220	D	4KM
47F572	13C227MM	2266	220	D	4MM

15 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F573	13D275KM	2267	2.7	A	1KM
47F574	13D335KM	2268	3.3	A	1KM
47F575	13D335MM	2269	3.3	A	1MM
47F576	13D186KM	2270	18	B	2KM
47F577	13D226KM	2271	22	B	2KM
47F578	13D226MM	2272	22	B	2MM
47F579	13D566KM	2273	56	C	3KM
47F580	13D686KM	2274	68	C	3KM
47F581	13D686MM	2275	68	C	3MM
47F582	13D127KM	2276	120	D	4KM
47F583	13D157KM	2277	150	D	4KM
47F584	13D157MM	2278	150	D	4MM

20 WVDC

Stk. No.	MILTYPE CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F585	13E125KM	2279	1.2	A	1KM
47F586	13E155KM	2280	1.5	A	1KM
47F587	13E155MM	2281	1.5	A	1MM
47F588	13E185KM	2282	1.8	A	1KM
47F589	13E225KM	2283	2.2	A	1KM
47F590	13E225MM	2284	2.2	A	1MM
47F591	13E825KM	2285	8.2	B	2KM
47F592	13E106KM	2286	10	B	2KM
47F593	13E106MM	2287	10	B	2MM
47F594	13E126KM	2288	12	B	2KM
47F595	13E156KM	2289	15	B	2KM
47F596	13E156MM	2290	15	B	2MM
47F597	13E276KM	2291	27	C	3KM
47F598	13E336KM	2292	33	C	3KM
47F599	13E336MM	2293	33	C	3MM
47F600	13E396KM	2294	39	C	3KM
47F601	13E476KM	2295	47	C	3KM
47F602	13E476MM	2296	47	C	3MM
47F603	13E566KM	2297	56	D	4KM
47F604	13E686KM	2298	68	D	4KM
47F605	13E686MM	2299	68	D	4MM
47F606	13E826KM	2300	82	D	4KM
47F607	13E107KM	2301	100	D	4KM
47F608	13E107MM	2302	100	D	4MM

SIZE AND PRICE CHART

Size	Dia. XL	Price Code	1-24	25-49	50-99	100-499	500-999
A	.135x286	6KM	1.05	.81	.69	.57	.51
		6MM	1.02	.78	.66	.54	.48
B	.185x.474	7KM	1.13	.87	.74	.61	.55
		7MM	1.10	.84	.71	.58	.52
		8KM	2.65	2.01	1.69	1.37	1.21
		8MM	2.62	1.98	1.65	1.33	1.17
C	.289x.686	9KM	2.81	2.13	1.79	1.45	1.28
		9MM	2.78	2.10	1.76	1.42	1.25
D	.351x.786	10KM	5.41	4.08	3.42	2.75	2.42
		10MM	5.38	4.05	3.39	2.72	2.39

35WVDC

Stk. No.	MILTYPE CSR-	M39003/ 01-	Mfd.	Size Code	Price Code
47F609	13F565KM	2303	5.6	B	2KM
47F610	13F685KM	2304	6.8	B	2KM
47F611	13F685MM	2305	6.8	B	2MM
47F612	13F226KM	2306	22	C	3KM
47F613	13F226MM	2307	22	C	3MM
47F614	13F276KM	2308	27	D	4KM
47F615	13F336KM	2309	33	D	4KM
47F617	13F336MM	2310	33	D	4MM
47F618	13F396KM	2311	39	D	4KM
47F619	13F476KM	2312	47	D	4KM
47F620	13F476MM	2313	47	D	4MM

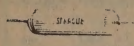
50WVDC

Stk. No.	Military Type CSR-	M39003/ 01-	Mfd.	Size Code	
47F607	13G472KM	2314	.0047	A	5KM
47F622	13G472MM	2315	.0047	A	5MM
47F623	13G562KM	2416	.0056	A	5KM
47F624	13G682KM	2317	.0068	A	5KM
47F625	13G682MM	2318	.0068	A	5MM
47F626	13G822KM	2319	.0082	A	5KM
47F090	13G103KM	2320	.01	A	5KM
47F627	13G103MM	2321	.01	A	5MM
47F628	13G123KM	2322	.012	A	5KM
47F629	13G153KM	2323	.015	A	5KM
47F630	13G153MM	2324	.015	A	5MM
47F631	13G183KM	2325	.018	A	5KM
47F632	13G223KM	2326	.022	A	5KM
47F633	13G223MM	2327	.022	A	5MM
47F634	13G273KM	2328	.027	A	5KM
47F635	13G333KM	2329	.033	A	6KM
47F636	13G333MM	2330	.033	A	6MM
47F637	13G393KM	2331	.039	A	6KM
47F638	13G473KM	2332	.047	A	6KM
47F639	13G473MM	2333	.047	A	6MM
47F640	13G563KM	2334	.056	A	6KM
47F641	13G683KM	2335	.068	A	6KM
47F642	13G683MM	2336	.068	A	6MM
47F643	13G823KM	2337	.082	A	6KM
47F644	13G104KM	2338	.1	A	6KM
47F645	13G104MM	2339	.1	A	6KM
47F646	13G124KM	2340	.12	A	6MM
47F647	13G154KM	2341	.15	A	6KM
47F648	13G154MM	2342	.15	A	6KM
47F649	13G184KM	2343	.18	A	6MM
47F650	13G224KM	2344	.22	A	6KM
47F651	13G224MM	2345	.22	A	6KM
47F652	13G274KM	2346	.27	A	6MM
47F653	13G334KM	2347	.33	A	6KM
47F654	13G334MM	2348	.33	A	6MM
47F655	13G394KM	2349	.39	A	6KM
47F656	13G474KM	2350	.47	A	6KM
47F657	13G474MM	2351	.47	A	6MM
47F658	13G564KM	2352	.56	A	6KM
47F669	13G684KM	2353	.68	A	6KM
47F660	13G684MM	2354	.68	A	6MM
47F661	13G824KM	2355	.82	A	6KM
47F662	13G105KM	2356	1	A	6KM
47F663	13G105MM	2357	1	A	6MM
47F664	13G125KM	2358	1.2	B	7KM
47F665	13G155KM	2359	1.5	B	7KM
47F666	13G155MM	2360	1.5	B	7MM
47F667	13G185KM	2361	1.8	B	7KM
47F668	13G225KM	2362	2.2	B	7KM
47F669	13G225MM	2363	2.2	B	7MM
47F670	13G275KM	2364	2.7	B	7KM
47F671	13G335KM	2365	3.3	B	7KM
47F672	13G335MM	2366	3.3	B	7MM
47F673	13G395KM	2367	3.9	B	7KM
47F674	13G475KM	2368	4.7	B	7KM
47F675	13G475MM	2369	4.7	B	7MM
47F676	13G565KM	2370	5.6	C	8KM
47F677	13G685KM	2371	6.8	C	8KM
47F678	13G685MM	2372	6.8	C	8MM
47F679	13G825KM	2373	8.2	C	8KM
47F680	13G106KM	2374	10	C	8KM
47F681	13G106MM	2375	10	C	8MM
47F682	13G126KM	2376	12	C	9KM
47F683	13G156KM	2377	15	C	9KM
47F684	13G156MM	2378	15	C	9MM
47F685	13G186KM	2379	18	C	9KM
47F686	13G226KM	2380	22	D	10KM
47F687	13G226MM	2381	22	D	10MM

SPRAGUE — THE MARK OF RELIABILITY

Electrolytic Capacitors

POWERLYTIC TUBULAR ELECTROLYTICS



Type 39D. End seals are made of molded phenolic, for operation at temperatures up to 85°C. Low effective series resistance and leakage current.

SIZE CHART FOR TYPE 39D

EE	9/16x1 1/4	GE	13/16x1 1/4	HS	15/16x3 1/4
EJ	9/16x1 3/4	GJ	13/16x1 3/4	JE	11/16x1 1/4
EL	9/16x2 1/4	GL	13/16x2 1/4	JL	11/16x2 1/4
FJ	11/16x1 3/4	GP	13/16x2 3/4	JP	11/16x2 3/4
FL	11/16x2 1/4	HE	15/16x1 1/4	JS	11/16x3 1/4
FP	11/16x2 3/4	HL	15/16x2 1/4	JT	11/16x3 3/4
		HP	15/16x2 3/4		

3 WVDC

Stk. No	Type	Mfd.	Size	1-24	25-49	50-99	100-499
18F2613	39D138G003EL4	1,300	EL	1.67	.98	.75	.67
18F2614	39D218G003HE4	2,100	HE	1.83	1.07	.83	.74
18F2615	39D308G003JE4	3,000	JE	1.89	1.11	.85	.76
18F2616	39D578G003GP4	5,700	GP	2.01	1.18	.91	.81
18F2617	39D109G003HS4	10,000	HS	2.52	1.48	1.14	1.01
18F2618	39D189G003JT4	18,000	JT	3.15	1.84	1.42	1.26

6 WVDC

18F2619	39D607G006EJ4	600	EJ	1.62	.95	.73	.64
18F2620	39D108G006GE4	1,000	GE	1.74	1.02	.79	.70
18F2621	39D208G006GJ4	2,000	GJ	1.89	1.11	.85	.76
18F2622	39D408G006GP4	4,000	GP	2.01	1.18	.91	.81
18F2623	39D608G006HP4	6,000	HP	2.40	1.41	1.08	.97
18F2624	39D109G006JS4	10,000	JS	2.91	1.70	1.31	.117

10 WVDC

18F2625	39D507G010EJ4	500	EJ	1.62	.95	.73	.65
18F2626	39D108G010FJ4	1,000	FJ	1.71	1.00	.77	.69
18F2627	39D168G010FL4	1,600	FL	1.83	1.07	.83	.74
18F2628	39D258G010GL4	2,500	GL	1.95	1.14	.88	.79
18F2629	39D508G010HP4	5,000	HP	2.40	1.41	1.08	.97
18F2630	39D109G010JT4	10,000	JT	3.15	1.84	1.42	1.26

15 WVDC

18F2631	39D607G015EL4	600	EL	1.67	.98	.75	.67
18F2632	39D128G015FL4	1,200	FL	1.83	1.07	.83	.74
18F2633	39D258G015GP4	2,500	GP	2.01	1.18	.91	.81
18F2634	39D408G015JL4	4,000	JL	2.55	1.49	1.15	1.03
18F2635	39D808G015JT4	8,000	JT	3.15	1.84	1.42	1.26

25 WVDC

18F2636	39D207G025EJ4	200	EJ	1.62	.95	.73	.65
18F2637	39D507G025HE4	500	HE	1.83	1.07	.83	.74
18F2638	39D108G025GL4	1,000	GL	1.95	1.14	.88	.79

25 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499
18F2639	39D228G025HP4	2,200	HP	2.40	1.41	1.08	.97
18F2640	39D408G025JS4	4,000	JS	2.91	1.70	1.31	1.17

30 WVDC

18F2641	39D756G030EE4	75	EE	1.59	.93	.72	.64
18F2642	39D157G030EJ4	150	EJ	1.62	.95	.73	.65
18F2643	39D257G030EL4	250	EL	1.67	.98	.75	.67
18F2644	39D507G030FL4	500	FL	1.83	1.07	.83	.74
18F2645	39D118G030GP4	1,100	GP	2.01	1.18	.91	.81
18F2646	39D218G030HS4	2,100	HS	2.52	1.48	1.14	1.01
18F031	39D308G030JS4	3,100	JS	2.91	1.70	1.31	1.17

50 WVDC

18F2647	39D506G050EE4	50	EE	1.59	.93	.72	.64
18F2648	39D107G050EJ4	100	EJ	1.62	.95	.73	.65
18F2649	39D157G050EL4	150	EL	1.67	.98	.75	.67
18F2650	39D257G050HE4	250	HE	1.83	1.07	.83	.74
18F2651	39D507G050GL4	500	GL	1.95	1.14	.88	.79
18F2652	39D118G050HP4	1,100	HP	2.40	1.41	1.08	.97
18F2653	39D238G050JT4	2,300	JT	3.15	1.84	1.42	1.26

250 WVDC

18F2654	39D256F150EJ4	25	EJ	1.62	.95	.73	.65
18F2655	39D506F150FJ4	50	FJ	1.71	1.00	.77	.69
18F2656	39D107F150FP4	100	FP	1.95	1.14	.88	.79
18F2657	39D257F150HP4	250	HP	2.40	1.41	1.08	.97
18F2658	39D537F150JT4	530	JT	3.15	1.84	1.42	1.26

250 WVDC

18F2659	39D206F250EL4	20	EL	1.67	.98	.75	.67
18F2660	39D506F250JE4	50	JE	1.89	1.11	.85	.76
18F2661	39D107F250HL4	100	HL	2.37	1.39	1.07	.95
18F2662	39D207F250JP4	200	JP	2.58	1.51	1.16	1.04
18F2663	39D307F250JT4	300	JT	3.15	1.84	1.42	1.26

350 WVDC

18F2664	39D206F350FL4	20	FL	1.83	1.07	.83	.74
18F2665	39D306F350FP4	30	FP	1.95	1.14	.88	.79
18F2666	39D406F350GL4	40	GL	1.95	1.14	.88	.79
18F2667	39D506F350GP4	50	GP	2.01	1.18	.91	.81
18F2668	39D107F350HS4	100	HS	2.52	1.48	1.14	1.01
18F2669	39D167F350JT4	160	JT	3.15	1.84	1.42	1.26

450 WVDC

18F2670	39D505F450EL4	5	EL	1.67	.98	.75	.67
18F2671	39D106F450FL4	10	FL	1.83	1.07	.83	.74
18F2672	39D206F450GL4	20	GL	1.95	1.14	.88	.79
18F2673	39D506F450JP4	50	JP	2.58	1.51	1.16	1.04
18F2674	39D756F450JT4	75	JT	3.15	1.84	1.42	1.26

HIGH GRADE ALUMINUM ELECTROLYTICS—125° C OPERATING-TEMP

Type 600D—2000 hr. life test at either temp. and corresponding working voltage. Features excellent capacitance stability dissipation factor and DC leakage current after high temp. shelf testing. Closely approximate requirements of MIL-C-3965 aluminum foil capacitors. Tolerance is - 10% +75% up to 75 WVDC; -10% +50% for 100 WVDC up. Sizes shown in chart are bare. Average shipping wt. 3 oz.

PRICE AND SIZE LOCATOR CHART

Key Code	Dia. X L. Inches	1-9	10-24	25-49	50-99	100-499	500-999
A	9/32 x 15/16	3.06	2.29	1.54	1.34	.97	.89
B	3/8 x 15/16	3.06	2.29	1.54	1.34	.97	.89
C	3/8 x 1 1/8	3.98	2.98	2.00	1.75	1.26	1.16
D	3/8 x 1 3/8	5.98	4.48	3.00	2.62	1.88	1.73
E	3/8 x 1 5/8	6.14	4.60	3.08	2.69	1.93	1.78
F	3/8 x 2 3/16	6.58	4.93	3.30	2.88	2.07	1.90
G	3/8 x 2 11/16	7.74	5.80	3.88	3.39	2.43	2.24

Stock No.	Mfr's Type 600D-	µF	WVDC@ 85° C	WVDC@ 125° C	Key
18F2834	127G007KD4	120	7	5	A
18F2835	227Goo7DD4	220	7	5	B
18F2836	277G007DE4	270	7	5	C
18F2837	397G007DG4	390	7	5	D
18F2769	567G007DJ4	560	7	5	E
18F2838	827G007DL4	820	7	5	F
18F2839	108G007DX4	1000	7	5	G
18F2840	107G010KD4	100	10	7	A
18F2841	187G010DD4	180	10	7	B
18F2842	227G010DE4	220	10	7	C
18F2843	337G010DG4	330	10	7	D
18F2844	477G010DJ4	470	10	7	E
18F2845	687G010DL4	680	10	7	F
18F2846	827G010DX4	820	10	7	G
18F2847	686G015KD4	68	15	10	A
18F2848	826G015KD4	82	15	10	A
18F2849	157G015DD4	150	15	10	B
18F2850	187G015DE4	180	15	10	C
18F2851	277G015DG4	270	15	10	D
18F2775	397G015DJ4	390	15	10	E
18F2852	567G015DL4	560	15	10	F
18F2853	687G015DX4	680	15	10	G
18F2854	686G020KD4	68	20	15	A
18F2778	107G020DD4	100	20	15	B
18F2779	147G020DE4	140	20	15	C
18F2780	227G020DG4	220	20	15	D
18F2781	297G020DJ4	290	20	15	E
18F2782	447G020DL4	440	20	15	F
18F2855	607G020DX4	600	20	15	G
18F2856	336G030KD4	33	30	20	A
18F2857	476G030KD4	47	30	20	A
18F2858	826G030DD4	82	30	20	B

Stock No.	Mfr's Type 600D	µF	WVDC@ 85° C	WVDC@ 125° C	Key
18F2859	107G030DE4	100	30	20	C
18F2860	127G030DG4	120	30	20	D
18F2861	157G030DG4	150	30	20	D
18F2862	227G030DJ4	220	30	20	E
18F2863	337G030DL4	330	30	20	F
18F2864	397G030DX4	390	30	20	G
18F2865	306G040KD4	30	40	30	A
18F2790	506G040DD4	50	40	30	B
18F2791	706G040DE4	70	40	30	C
18F2792	107G040DG4	100	40	30	D
18F2793	147G040DJ4	140	40	30	E
18F2794	217G040DL4	210	40	30	F
18F2866	287C040DX4	280	40	30	G
18F2867	226G050KD4	22	50	40	A
18F2868	336G050DD4	33	50	40	B
18F2869	476G050DE4	47	50	40	C
18F2870	566G050DG4	56	50	40	D
18F2871	686G050DG4	68	50	40	D
18F2799	107G050DJ4	100	50	40	E
18F2800	157G050DL4	150	50	40	F
18F2872	187G050DX4	180	50	40	G
18F2873	176G060KD4	17	60	50	A
18F2802	256G060DD4	25	60	50	B
18F2803	406G060DE4	40	60	50	C
18F2804	606G060EG4	60	60	50	D
18F2805	806G060DJ4	80	60	50	E
18F2806	127G060DL4	120	60	50	F
18F2874	167G060DX4	160	60	50	G
18F2875	126F075KD4	12	75	60	A
18F2876	226F075DD4	22	75	60	B
18F2877	336F075DE4	33	75	60	C
18F2878	476F075DG4	47	75	60	D

Stock No.	Mfr's Type 600D-	µF	WVDC@ 85° C	WVDC@ 125° C	Key
18F2879	686F075DJ4	68	75	60	E
18F2880	107F075DL4	100	75	60	F
18F2881	127F075DX4	120	75	60	G
18F2882	825F100KD4	8.2	100	75	A
18F2883	126F100DD4	12	100	75	B
18F2884	156F100DE4	15	100	75	C
18F2885	226F100DG4	22	100	75	D
18F2886	336F100DJ4	33	100	75	E
18F2887	476F100DL4	47	100	75	F
18F2888	686F100DX4	68	100	75	G
18F2889	475F150KD4	4.7	150	100	A
18F2890	565F150KD4	5.6	150	100	A
18F2891	825F150DD4	8.2	150	100	B
18F2821	126F150DE4	12	150	100	C
18F2822	186F150DG4	18	150	100	D
18F2892	226F150DJ4	22	150	100	E
18F2893	336F150DL4	33	150	100	F
18F2894	566F150DX4	56	150	100	G
18F2895	405F200KD4	4	200	150	A
18F2826	605F200DD4	6	200	150	B
18F2827	805F200DE4	8	200	150	C
18F2828	136F200DG4	13	200	150	D
18F2829	176F200DJ4	17	200	150	E
18F2830	266F200DL4	26	200	150	F
18F2896	396F200DX4	39	200	150	G
18F2897	335F250KD4	3.3	250	200	A
18F2898	565F250DD4	5.6	250	200	B
18F2899	685F250DE4	6.8	250	200	C
18F2900	106F250DG4	10	250	200	D
18F2901	126F250DJ4	12	250	200	E
18F2902	226F250DL4	22	250	200	F
18F2903	276F250DX4	27	250	200	G

TYPE TE LITTL-LYTICS (30D)

Ultra-small electrolytic capacitors made for transistor circuitry and other sub-min. applications. Temp. Range:—20°C to +85°C. Ultra-low leakage current. Clear Plastic Sleeves. Life Test to 1000 hrs.

Case Size

Key	Size	Key	Size	Key	Size
BA	17/64 x 35/64	CC	21/64 x 55/64	DD	25/64 x 63/64
BB	17/64 x 47/64	DB	25/64 x 47/64	DF	25/64 x 19/64
CB	21/64 x 37/64	DC	25/64 x 55/64	DG	25/64 x 135/64

Stock No.	Type	Mfd.	WV DC	DxL	1-24	25-49	50-99	100-249	250-Up
18F532	TE1050	1	3	BA					
18F533	TE1052	3	3	BA					
18F534	TE1052.1	4	3	BA					
18F535	TE1052.2	5	3	BA					
18F536	TE1052.3	6	3	BA					
18F537	TE1052.5	8	3	BA					
18F2929	TE1053	10	3	BA	.57	.39	.31	.233	.194
18F538	TE1053.5	15	3	BA					
18F539	TE1054	20	3	BA					
18F501	TE1055	25	3	BA					
18F000	TE1055.5	30	3	BA					
18F542	TE1058	50	3	BB					
18F001	TE1058.5	65	3	BB					
18F544	TE1059.5	100	3	CB	.63	.44	.35	.26	.22
18F2930	TE1060.1	130	3	CB	.63	.44	.35	.26	.22
18F545	TE1061	150	3	CC	.81	.55	.44	.33	.28
18F546	TE1065	250	3	DC	.84	.58	.46	.35	.29
18F2928	TE1064	200	3	CC	.81	.55	.44	.33	.28
17F1900	TE1066	300	3	DC	.84	.58	.46	.35	.29
17F1901	TE1067	400	3	DD	.87	.60	.48	.36	.30
18F548	TE1068	500	3	DF	.90	.63	.50	.38	.31
18F002	TE1069	590	3	DF	.90	.63	.50	.38	.31
17F1902	TE1070.1	800	3	DG	.96	.65	.52	.39	.33
18F503	TE1080	1	6	BA	.57	.39	.31	.23	.19
18F504	TE1081	2	6	BA	.57	.39	.31	.23	.19
18F505	TE1082	3	6	BA					
18F506	TE1083	4	6	BA					
18F507	TE1084	5	6	BA					
18F549	TE1085	6	6	BA					
18F508	TE1086	8	6	BA					
18F509	TE1087	10	6	BA	.57	.39	.31	.23	.19
18F510	TE1089	15	6	BA					
18F807	TE1090	20	6	BA					
18F511	TE1091	25	6	BB					
18F808	TE1093	35	6	BB					
18F004	TE1101.7	90	6	CB	.63	.44	.35	.26	.22
18F2933	TE1102	100	6	CC	.81	.55	.44	.33	.28
18F005	TE1102.5	140	6	CC	.81	.55	.44	.33	.28
18F810	TE1103	150	6	DC	.84	.58	.46	.35	.29
18F811	TE1104	200	6	DC	.84	.58	.46	.35	.29
18F812	TE1105	250	6	DD	.87	.60	.48	.36	.30
18F006	TE1105.5	280	6	DD	.87	.60	.48	.36	.30
18F813	TE1106	300	6	DF	.87	.60	.48	.36	.30
18F007	TE1107	400	6	DF	.90	.63	.50	.38	.31
17F1904	TE1107.5	500	6	DG	.96	.65	.52	.39	.33
17F1903	TE1108.5	600	6	DG	.96	.65	.52	.39	.33
18F817	TE1120	1	12	BA					
18F818	TE1121	2	12	BA					
18F819	TE1122	3	12	BA					
18F820	TE1123	4	12	BA					
18F821	TE1127.1	6	12	BA					
18F822	TE1127.3	8	12	BA	.57	.39	.31	.23	.19
18F2934	TE1128	10	12	BA					
18F823	TE1129	15	12	BB					
18F824	TE1130	20	12	BA					
18F825	TE1131	25	12	BB					
18F2935	TE1132.1	0	12	BB					
18F827	TE1133	50	12	CB	.63	.44	.35	.26	.22
18F009	TE1133.5	60	12	CB	.63	.44	.35	.26	.22
18F828	TE1134	75	12	CC	.81	.55	.44	.33	.28
18F010	TE1134.5	90	12	DB	.81	.56	.45	.34	.28
18F829	TE1135	100	12	CC	.84	.58	.46	.35	.29
18F011	TE1135.5	140	12	DC	.84	.58	.46	.35	.29
18F830	TE1136	150	12	DD	.87	.60	.48	.36	.30
18F012	TE1136.5	190	12	DD	.87	.60	.48	.36	.30
18F831	TE1137	200	12	DF	.90	.63	.50	.38	.31
18F832	TE1138	250	12	DH	.90	.63	.50	.38	.31
18F013	TE1139	290	12	DF	.90	.63	.50	.38	.31
18F014	TE1140	390	12	DG	.96	.65	.52	.39	.33
18F833	TE1148	1	15	BA	.57	.39	.31	.23	.19
18F834	TE1149	2	15	BA	.57	.39	.31	.23	.19
18F835	TE1150	3	15	BA	.57	.39	.31	.23	.19
18F520	TE1151	4	15	BA	.57	.39	.31	.23	.19
18F836	TE1152	5	15	BA	.57	.39	.31	.23	.19
18F837	TE1153	6	15	BA	.57	.39	.31	.23	.19
18F838	TE1154	8	15	BA	.57	.39	.31	.23	.19
18F521	TE1155	10	15	BA	.57	.39	.31	.23	.19
18F839	TE1156	15	15	BB	.57	.39	.31	.23	.19
18F522	TE1157	20	15	BB	.57	.39	.31	.23	.19
18F840	TE1157.1	25	15	BB	.57	.39	.31	.23	.19
18F523	TE1158	30	15	CB	.63	.44	.35	.26	.22
18F841	TE1159	35	15	CB	.63	.44	.35	.26	.22
18F842	TE1160	50	15	CB	.63	.44	.35	.26	.22
18F843	TE1161	75	15	CC	.81	.55	.44	.33	.28
18F015	TE1161.5	85	15	DB	.81	.56	.45	.34	.28
18F016	TE1161.7	90	15	CC	.84	.58	.46	.35	.29
18F844	TE1162	100	15	DC	.84	.58	.46	.35	.29
18F017	TE1162.5	130	15	DC	.84	.58	.46	.35	.29
18F845	TE1163	150	15	DD	.87	.60	.48	.36	.30
17F1905	TE1163.7	180	15	DD	.87	.60	.48	.36	.30
18F846	TE1164	200	15	DF	.90	.63	.50	.38	.31
17F1906	TE1164.5	250	15	DF	.90	.63	.50	.38	.31
18F020	TE1166	350	15	DG	.96	.65	.52	.39	.33
18F847	TE1200	1	25	BA	.57	.39	.31	.23	.19
18F848	TE1201	2	25	BA	.57	.39	.31	.23	.19
18F849	TE1201.1	3	25	BA	.57	.39	.31	.23	.19
18F850	TE1201.2	4	25	BA	.57	.39	.31	.23	.19
18F524	TE1202	5	25	BA	.57	.39	.31	.23	.19
18F525	TE1203	6	25	BA	.57	.39	.31	.23	.19
18F851	TE1203.5	8	25	BA	.57	.39	.31	.23	.19
18F526	TE1204	10	25	BB	.57	.39	.31	.23	.19
18F527	TE1205	15	25	BB	.57	.39	.31	.23	.19
17F1907	TE1206	20	20	CB	.63	.44	.35	.263	.219
18F852	TE1207	25	25	CB	.63	.44	.35	.26	.22
18F021	TE1207.5	30	25	CB	.63	.44	.35	.26	.22
18F853	TE1208	35	25	CB	.63	.44	.35	.26	.22
18F854	TE1209	50	25	CC	.81	.55	.44	.33	.28
18F855	TE1210	75	25	DC	.84	.58	.46	.35	.29
18F856	TE1211	100	25	DD	.87	.60	.48	.36	.30
18F022	TE1212	150	25	DF	.90	.63	.50	.38	.31
18F023	TE1213	200	25	DG	.96	.65	.52	.39	.33
18F857	TE1300	1	50	BA	.57	.39	.31	.23	.19
18F858	TE1301	2	50	BA	.57	.39	.31	.23	.19
18F859	TE1302	3	50	BA	.57	.39	.31	.23	.19
18F860	TE1302.1	4	50	BA	.57	.39	.31	.23	.19
18F529	TE1303	5	50	BB	.57	.39	.31	.23	.19
18F861	TE1303.1	6	50	BB	.57	.39	.31	.23	.19
18F862	TE1303.3	8	50	BB	.57	.39	.31	.23	.19
18F530	TE1304	10	50	CB	.63	.44	.35	.26	.22
18F863	TE1304.2	15	50	CB	.63	.44	.35	.26	.22
18F531	TE1305	20	50	CC	.81	.55	.44	.33	.28
18F024	TE1305.5	25	50	CC	.81	.55	.44	.33	.28
18F864	TE1306	35	50	DC	.84	.58	.46	.35	.29
18F865	TE1307	50	50	DD	.87	.60	.48	.36	.30
18F025	TE1308	75	50	DF	.90	.63	.50	.38	.31
18F026	TE1309	100	50	DG	.96	.65	.52	.39	.33
18F866	TE1400	1	100	BA	.63	.43	.34	.26	.21
18F867	TE1401	2	100	BB	.63	.44	.35	.26	.22
18F868	TE1402	3	100	CB	.72	.49	.39	.29	.24
18F869	TE1403	4	100	CB	.72	.49	.39	.29	.24
18F870	TE1404	5	100	CC	.81	.55	.44	.33	.28
18F871	TE1405	6	100	CC	.81	.55	.44	.33	.28
18F872	TE1406	8	100	DC	.84	.58	.46	.35	.29
18F873	TE1407	10	100	DC	.84	.58	.46	.35	.29
18F874	TE1408	15	100	DD	.87	.60	.48	.36	.31
18F875	TE1409	20	100	DF	.90	.63	.50	.38	.33
18F027	TE1410	25	100	DG	.96	.65	.52	.39	.31
18F028	TE1411	30	100	DG	.96	.65	.52	.39	.33
18F876	TE1500	1	150	BA	.63	.43	.34	.26	.21
18F877	TE1501	2	150	BB	.63	.44	.35	.26	.22
18F878	TE1502	3	150	CB	.72	.49	.39	.29	.24
18F879	TE1503	4	150	CC	.81	.55	.44	.33	.28
18F880	TE1504	5	150	CC	.81	.55	.44	.33	.28
18F881	TE1505	6	150	DC	.84	.58	.46	.35	.29
18F029	TE1505.5	7	150	DC	.84	.58	.46	.35	.29
18F882	TE1506	8	150	DC	.84	.58	.46	.35	.29
18F883	TE1507	10	150	DD	.87	.60	.48	.36	.30
18F2936	TE1508.1	15	150	DF	.90	.63	.50	.38	.31
18F030	TE1509	20	150	DG	.96	.65	.52	.39	.33

TYPE 500D MINIATURE METAL-CASE ALUMINUM ELECTROLYTICS

Ultra-small 500D series electrolytic capacitors. All welded construction, no pressure joints to cause open or intermittent circuits. Effective in temperatures up to 85°C (185°F) without derating. Leakage current extremely low. Avg. shipping wt. 2 oz.

SIZE CHART

Size	DxL	Size	DxL	Size	DxL
BA7	.260x.536	DC7	.385x.848	DF7	.385x1.286
CB7	.322x.723	DD7	.385x.973	BB7	.260x.723
CC7	.322x.848	DH7	.385x1.536	DB7	.385x.723

PRICE CHART

Key	1-24	25-49	50-99	100-249	250-499	500-999
A	.45	.30	.24	.18	.150	.132
B	.72	.50	.40	.30	.248	.218
C	.48	.33	.26	.20	.165	.146
D	.57	.39	.31	.23	.195	.172
E	.63	.43	.34	.25	.210	.185
F	.51	.35	.28	.21	.173	.152
G	.60	.41	.32	.24	.203	.179
H	.66	.45	.36	.27	.225	.198
J	.69	.47	.37	.28	.233	.205
K	.78	.53	.42	.32	.263	.231
L	.75	.51	.41	.31	.255	.225
M	.54	.38	.30	.23	.188	.165
N	.48	.34	.25	.19	.158	.139
P	.54	.36	.29	.22	.180	.159
R	.63	.44	.35	.26	.218	.192
S	.60	.41	.33	.25	.206	.182
T	.72	.48	.38	.29	.240	.212

3WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F307	106G003BA7	A	10
47F308	256G003BA7	C	25
47F309	506G003BB7	C	50
47F310	756G003CB7	F	75
47F311	107G003CB7	M	100
47F312	157G003CC7	D	150
47F313	207G003CC7	M	200
47F314	507G003DF7	J	500

6WVDC

47F315	156G006 BA7	C	15
47F316	256G006 BB7	F	25
47F317	506G006 BB7	F	50
47F318	756G006 CB7	M	75
47F319	107G006 CC7	D	100
47F320	157G006 DC7	G	150
47F321	207G006 DC7	D	200
47F322	307G006 DD7	J	300
47F323	507G006 DH7	B	500

16WVDC

47F324	505G016 BA7	A	5
47F325	106G016 BA7	N	10
47F326	206G016 BB7	C	20
47F287	256G016 BB7	P	25
47F288	306G016 CB7	F	30
47F289	356G016 CB7	M	35

16WVDC (Cont.)

47F290	506G016 CB7	P	50
47F291	107G016 DC7	D	100
47F292	157G016 DD7	G	150
47F293	207G016 DF7	H	200
47F294	307G016 DH7	B	300
47F295	357G016 DH7	K	350

25WVDC

47F296	205G025 BA7	A	2
47F297	405G025 BA7	C	4
47F298	505G025 BA7	C	5
47F299	605G025 BA7	N	6
47F300	805G025 BA7	F	8
47F301	106G025 BB7	C	10
47F302	156G025 BB7	F	15
47F303	256G025 CB7	P	25
47F304	306G025 CB7	D	30
47F305	356G025 CB7	D	35
47F306	506G025 CC7	G	50
47F327	756G025 DC7	R	75
47F328	107G025 DD7	E	100
47F329	157G025 DF7	H	150
47F330	207G025 DH7	B	200

50 WVDC

47F331	105G050 BA7	A	1
47F332	205G050 BA7	C	2
47F333	305G050 BA7	N	3

50WVDC (Cont.)

47F334	405G050 BA7	F	4
47F335	505G050 BB7	F	5
47F336	805G050 BB7	F	8
47F337	106G050 CB7	M	10
47F338	156G050 CB7	P	15
47F339	206G050 CC7	M	20
47F340	256G050 CC7	G	25
47F341	356G050 DC7	D	35
47F342	506G050 DD7	E	50
47F343	756G050 DF7	H	75
47F344	107G050 DH7	B	100

100 WVDC

47F345	405F100 CB7	R	4
47F346	605F100 CC7	J	6
47F275	106F100 DC7	B	10
47F276	206F100 DF7	K	20
47F278	256F100 DH7	K	25

150 WVDC

47F278	105F150 BA7	P	1
47F279	205F150 BB7	M	2
47F280	305F150 CB7	D	3
47F281	405F150 CC7	S	4
47F282	505F150 CC7	R	5
47F283	805F150 DC7	J	8
47F284	106F150 DD7	T	10
47F285	156F150 DF7	B	15
47F286	206F150 DH7	L	20

TVL TWIST LOK ELECTROLYTIC

Withstand extremely high temperatures, ripple current and surge voltages. Self-mounting with twist-prong tabs that go through chassis or connect to washer for above-chassis mounting. For 85°C operation up to 450 Working Volts DC. Hermetically sealed in aluminum cans for long life and dependable performance in TV, radio, and Hi-Fi. Furnished complete with both phenolic and metal mounting plates on 1" and 1⅜" dia. cans only. Shpg. wt. 6 ounces.

CASE SIZES

A—1⅜x2"
B—¾x2"
C—¾x2½"
D—1⅜x2½"
E—1x2"
F—1x2½"
G—1x3"
H—1⅜x3"
J—1⅜x4"
K—1⅜x3½"
L—1x3½"
M—1⅜x4"
N—1x4"
P—1x1½"

SINGLE UNITS

Stock No.	TVL No.	MF	WVDC	Size	1-24	25-49	50-99	100-249
18F550	1168	2000	15	A	2.37	1.60	1.28	.96
18F1603	1220	500	25	P	1.77	.96	.77	.58
18F552	1230	1000	25	A	2.46	1.44	1.15	.87
18F554	1330	500	50	A	1.83	1.20	.96	.72
18F557	1415	50	150	P	1.14	.73	.59	.44
18F559	1423	100	150	P	1.38	.82	.66	.49
18F1780	1426	120	150	D	1.50	1.01	.81	.61
18F561	1431	200	150	A	1.68	1.15	.92	.69
18F562	1434	300	150	A	1.95	1.33	1.06	.80
18F668	1509	20	250	E	1.11	.71	.57	.43
18F684	1519	40	250	E	1.26	.78	.62	.47
18F1782	1535	100	250	G	1.86	.98	.79	.59
18F1783	1540	150	250	D	2.13	1.29	1.04	.78
18F690	1547	200	250	D	2.52	1.46	1.17	.88
18F566	1584	150	300	K	2.43	1.49	1.19	.90
18F692	1590	250	300	J	3.84	1.89	1.51	1.14
18F669	1617	30	350	E	1.32	.80	.64	.48
18F567	1621	40	350	E	1.38	.86	.69	.51
18F568	1638	125	350	D	2.73	1.46	1.17	.88
18F693	1642	150	350	D	2.73	1.60	1.28	.96
18F569	1705	10	450	P	1.02	.72	.58	.44
18F570	1714	20	450	E	1.26	.80	.64	.48
18F571	1720	30	450	F	1.35	.89	.71	.54
18F572	1725	40	450	F	1.41	.97	.78	.58
18F573	1735	80	450	D	2.10	1.45	1.16	.87
18F574	1760	125	450	J	2.64	1.83	1.47	1.10
18F578	1940	10	500	P	1.17	.75	.60	.45
18F670	1947	30	500	F	1.38	.98	.78	.59

SINGLE UNITS (Cont.)

Stock No.	TVL No.	MF	WVDC	Size	1-24	25-49	50-99	100-249
18F1604	1950	40	500	F	1.71	1.09	.87	.65
18F694	1958	80	500	D	2.49	1.69	1.35	1.01
18F687	1960	90	500	H	2.40	1.80	1.44	1.08

DUAL UNITS

18F1605	2160	1000-1000	15-15	F	3.03	1.54	1.23	.93
18F584	2432	50-30	150-150	P	1.38	.88	.70	.53
18F585	2435	50-50	150-150	P	1.50	.91	.73	.55
18F685	2628	30-30	350-350	F	2.01	1.06	.85	.64
18F1786	2641	100-100	350-350	H	4.23	1.99	1.60	1.20
18F598	2750	10-10	450-450	E	1.32	.90	.72	.54
18F600	2755	20-20	450-450	F	1.77	1.06	.85	.64
18F601	2759	30-30	450-450	A	2.10	1.38	1.11	.83
18F602	2764	40-40	450-450	D	2.37	1.56	1.25	.94

TRIPLE UNITS

18F1788	3437	40-20-20	150-150-150	P	1.65	.96	.77	.58
18F613	3440	40-40-40	150-150-150	E	1.80	1.03	.83	.62
18F614	3442	50-50-50	150-150-150	G	2.07	1.09	.87	.65
18F631	3642	80-60-60	350-350-350	K	3.84	2.10	1.69	1.26
18F1790	3689.3	100-10-80	400-400-350	K	4.20	2.25	1.80	1.35
18F634	3731	10-10-20	450-450-25	E	1.65	.99	.80	.60
18F635	3739	20-20-20	450-450-25	G	2.10	1.17	.94	.70
18F642	3776	10-10-10	450-450-450	E	1.80	1.06	.85	.64
18F644	3780	20-20-20	450-450-450	A	2.49	1.48	1.18	.89
18F1791	3784	40-30-20	450-450-450	D	2.97	1.73	1.39	1.04
18F646	3785	40-40-10	450-450-450	D	2.85	1.73	1.39	1.04
18F647	3786	40-40-20	450-450-450	D	3.06	1.81	1.45	1.09
18F648	3787	40-40-40	450-450-450	H	3.39	1.99	1.59	1.20
18F649	3789	60-20-20	450-450-450	H	3.18	1.83	1.46	1.10
18F681	3793	80-40-20	450-450-450	H	3.72	2.15	1.72	1.29
18F682	3952	10-10-10	500-500-500	F	1.86	1.16	.93	.70

QUADRUPLE UNITS

18F664	4760	10-10-10-10	450-450-450-450-	A	2.31	1.39	1.10	.84
18F665	4763	20-20-20-20	450-450-450-450-	D	3.24	1.73	1.39	1.04
18F1792	4773	40-40-20-20	450-450-450-450-	D	3.84	2.04	1.63	1.22
18F699	4775	40-40-40-40	450-450-450-450-	K	4.44	2.41	1.93	1.45

Powerlytic and Capacitors

SPRAGUE
THE MARK OF RELIABILITY

36D "POWERLYTIC" ALUMINUM ELECTROLYTICS

For applications requiring maximum capacitance in a given case size. Low ESR and leakage current; extremely long shelf life. Withstands military environmental conditions including —55°C storage tests. Tol. 3-50v, +75% to —10%; 75-450v, +50% to —10%. Av. shpg. wt., 4 oz. With plastic outer tube.

SIZES FOR 36D CAPACITORS
D. x L. Including plastic outer case

AA, $1\frac{13}{32}$X$2\frac{3}{16}$ BC, $2\frac{3}{32}$X$4\frac{3}{16}$ DC. $3\frac{1}{32}$X$4\frac{3}{16}$
AB, $1\frac{13}{32}$X$3\frac{3}{16}$ CB, $2\frac{17}{32}$X$3\frac{3}{16}$ DD. $3\frac{1}{16}$X$4\frac{11}{16}$
AC, $1\frac{13}{32}$X$4\frac{3}{16}$ CC, $2\frac{17}{32}$X$4\frac{3}{16}$ DF, $3\frac{1}{32}$X$5\frac{11}{16}$
BB, $2\frac{1}{32}$X$3\frac{3}{16}$ CD, $2\frac{17}{32}$X$4\frac{17}{16}$

3 WORKING VOLTS DC

Stk. No.	Type 36D-	Mfd.	Size	1-24	25-49	50-99	100-249
18F2433	274G003DF2A	270,000	DF	13.80	11.04	9.66	7.45

6 WORKING VOLTS DC

18F2434	124G006DC2A	120,000	DC	10.25	8.20	7.17	5.53
18F2435	194G006DF2A	190,000	DF	13.80	11.04	9.66	7.45

10 WORKING VOLTS DC

18F2436	602G010AA2A	6,000	AA	2.31	1.85	1.62	1.25
18F2437	123G010AB2A	12,000	AB	2.79	2.23	1.95	1.50
18F2438	183G010AC2A	18,000	AC	3.21	2.57	2.25	1.73
18F2439	283G010BB2A	28,000	BB	4.29	3.43	3.00	2.31
18F2440	423G010BC2A	42,000	BC	5.19	4.15	3.64	2.80
18F2441	483G010CB2A	48,000	CB	5.82	4.66	4.08	3.14
18F2442	104G010DC2A	100,000	DC	10.34	8.27	7.24	5.58
18F2443	164G010DF2A	160,000	DF	13.87	11.10	9.71	7.49

15 WORKING VOLTS DC

Stk. No.	Type 36D-	Mfd.	Size	1-24	25-49	50-99	100-249
18F2444	462G015AA2A	4,600	AA	2.31	1.85	1.62	1.25
18F2445	922G015AB2A	9,200	AB	2.79	2.24	1.96	1.51
18F2446	133G015AC2A	13,000	AC	3.22	2.58	2.26	1.74
18F2447	213G015BB2A	21,000	BB	4.31	3.45	3.02	2.33
18F2448	313G015BC2A	31,000	BC	5.20	4.16	3.64	2.81
18F2449	363G015CB2A	36,000	CB	5.86	4.68	4.09	3.16
18F2450	543G015CC2A	54,000	CC	7.67	6.14	5.37	4.14
18F2451	633G015CD2A	63,000	CD	8.59	6.87	6.01	4.64
18F2452	803G015DC2A	80,000	DC	9.96	7.97	6.97	5.38

25 WORKING VOLTS DC

18F2453	272G025AA2A	2,700	AA	2.31	1.84	1.61	1.25
18F2454	552G025AB2A	5,500	AB	2.80	2.24	1.96	1.51
18F2455	822G025AC2A	8,200	AC	3.23	2.59	2.26	1.74
18F2456	183G025BC2A	18,000	BC	5.22	4.18	3.66	2.82
18F2457	323G025CC2A	32,000	CC	7.72	6.18	5.41	4.17
18F2460	713G025DF2A	71,000	DF	13.74	10.99	9.62	7.42

30 WORKING VOLTS DC

18F2461	363G030DC2A	36,000	DC	10.07	8.05	7.05	5.43
18F2462	423G030DD2A	42,000	DD	11.94	9.56	8.36	6.45

40 WORKING VOLTS DC

18F2463	552G040AC2A	5,500	AC	3.25	2.60	2.28	1.76
18F2464	842G040BB2A	8,400	BB	4.37	3.50	3.06	2.36
18F2465	123G040BC2A	12,000	BC	5.32	4.26	3.73	2.87
18F2466	213G040CC2A	21,000	CC	7.78	6.22	5.45	4.20
18F2467	253G040CD2A	25,000	CD	8.77	7.02	6.14	4.73

50 WORKING VOLTS DC

Stk. No.	Type 36D	Mfd.	Size	1-24	25-49	50-99	100-249
18F2468	132G050AA2A	1,300	AA	2.32	1.86	1.63	1.25
18F2469	262G050AB2A	2,600	AB	2.82	2.26	1.98	1.52
18F2470	392G050AC2A	3,900	AC	3.26	2.61	2.29	1.76
18F2471	602G050BB2A	6,000	BB	4.39	3.51	3.07	2.37
18F2472	902G050BC2A	9,000	BC	5.34	4.27	3.74	2.88
18F2473	153G050CC2A	15,000	CC	7.80	6.24	5.46	4.21

75 WORKING VOLTS DC

18F2475	252F075AC2A	2,500	AC	3.27	2.62	2.29	1.76
18F2476	392F075BB2A	3,900	BB	4.41	3.53	3.09	2.38
18F2477	592F075BC2A	5,900	BC	5.34	4.28	3.74	2.88
18F2478	113F075CD2A	11,000	CD	8.85	7.08	6.20	4.78
18F2479	143F075DC2A	14,000	DC	10.17	8.14	7.12	5.49
18F2480	223F075DF2A	22,000	DF	14.40	11.52	10.08	7.77

100 WORKING VOLTS DC

18F2481	451F100AA2A	450	AA	2.32	1.86	1.63	1.25
18F2482	132F100AC2A	1,300	AC	3.25	2.60	2.28	1.75
18F2483	302F100BC2A	3,000	BC	5.30	4.24	3.71	2.86
18F2484	532F100CC2A	5,300	CC	7.77	6.22	5.44	4.20
18F2485	782F100DC2A	7,800	DC	10.62	8.50	7.44	5.74

150 WORKING VOLTS DC

18F2486	301F150A-A2A	300	AA	2.32	1.86	1.63	1.25
18F2487	901F150AC2A	900	AC	3.22	2.57	2.25	1.74
18F2488	142F150BB2A	1,400	BB	4.31	3.45	3.02	2.32
18F2489	212F150BC2A	2,100	BC	5.22	4.18	3.66	2.82
18F2490	362F150CC2A	3,600	CC	7.80	6.24	5.46	4.21
18F2491	532F150DC2A	5,300	DC	10.52	8.42	7.37	5.68
18F2492	782F150DF2A	7,800	DF	14.24	11.39	9.97	7.69

200 WORKING VOLTS DC

Stk. No.	Type 36D	Mfd.	Size	1-24	25-49	50-99	100-249
18F2493	251F200AA2A	250	AA	2.31	1.85	1.62	1.25
18F2494	431F200AB2A	430	AB	2.77	2.22	1.94	1.49
18F2495	641F200AC2A	640	AC	3.20	2.56	2.24	1.73
18F2496	142F200BC2A	1,400	BC	5.14	4.11	3.60	2.77
18F2497	162F200CB2A	1,600	CB	5.87	4.70	4.11	3.17
18F2498	372F200DC2A	3,700	DC	10.26	8.21	7.18	5.54
18F2499	552F200DF2A	5,500	DF	14.19	11.35	9.93	7.66

250 WORKING VOLTS DC

18F2500	531F250AC2A	530	AC	3.19	2.55	2.23	1.72
18F2501	122F250BC2A	1,200	BC	5.11	4.09	3.58	2.76
18F2502	302F250DC2A	3,000	DC	10.23	8.19	7.16	5.52
18F2503	452F250DF2A	4,500	DF	14.11	11.29	9.88	7.62

300 WORKING VOLTS DC

18F2504	241F300AB2A	240	AB	2.75	2.20	1.92	1.48
18F2505	821F300BC2A	820	BC	5.09	4.07	3.56	2.75
18F2506	212F300DC2A	2,100	DC	10.20	8.16	7.14	5.51

350 WORKING VOLTS DC

18F2507	950F350AA2A	95	AA	2.30	1.84	1.61	1.24
18F2508	191F350AB2A	190	AB	2.72	2.17	1.90	1.47
18F2511	112F350CC2A	1,100	CC	7.38	5.91	5.16	3.98
18F2512	162F350DC2A	1,600	DC	10.07	8.05	7.05	5.43
18F2513	252F350DF2A	2,500	DF	13.84	11.08	9.69	7.48

400 WORKING VOLTS DC

18F2514	36D421F400BC2A	420	BC	5.02	4.02	3.52	2.71

450 WORKING VOLTS DC

18F2515	36D500F450AA2A	50	AA	2.25	1.80	1.58	1.21
18F2516	36D141F450AC2A	140	AC	3.13	2.51	2.20	1.69
18F2517	36D221F450BB2A	220	BB	4.03	3.23	2.82	2.18
18F2518	36D331F4505BC2A	330	BC	4.99	3.99	3.49	2.69
18F2519	36D861F450DC2A	860	DC	10.47	8.37	7.33	5.65

•NEW TYPE 502D VERTI-LYTIC MINIATURE ELECTROLYTICS

Single Ended miniature aluminum electrolytic capacitors for vertical installation on high density printed wiring boards. Application in high quality industrial instrumentation. For use in radio receivers, automobile receivers, portable tape recorders and entertainment electronics. Excellent stability low leakage current. Operating temp. range —20°C to 85°C. Welds at all critical anode and cathode terminations. Assure freedom from open circuits in the millivolt or microvolt range. Sizes: CC: .410 x .577—CE: .410x.827.

Stk. No.	Type 502D	MFD	WV DC	Size Code	1-99	100-249	250-499	500-999
47F178	105G050CC1C	1	50	CC	.45	.24	.18	.15
47F179	155G050CC1C	1.5	50	CC	.45	.24	.18	.15
47F180	225G050CC1C	2.2	50	CC	.45	.24	.18	.15
47F181	335G050CC1C	3.3	50	CC	.45	.24	.18	.15
47F182	475G050CC1C	4.7	50	CC	.45	.24	.18	.15
47F183	685G050CC1C	6.8	50	CC	.45	.24	.18	.15
47F184	106G050CC1C	10	50	CC	.45	.24	.18	.15
47F185	156G025CC1C	15	25	CC	.48	.264	.198	.165
47F186	156G050CC1C	15	50	CC	.54	.288	.216	.18
47F187	226G025CC1C	22	25	CC	.48	.264	.198	.165
47F188	226G050CE1C	22	50	CE	.57	.312	.234	.195
47F189	336G016CC1C	33	16	CC	.48	.264	.198	.165
47F190	336G025CC1C	33	25	CC	.54	.288	.216	.18
47F191	336G050CE1C	33	50	CE	.57	.312	.234	.195
47F192	476G006CC1C	47	6	CC	.48	.264	.198	.165
47F193	476G016CC1C	47	16	CC	.54	.288	.216	.18
47F194	476G050CE1C	47	50	CE	.57	.312	.234	.195
47F195	686G003CC1C	68	3	CC	.48	.264	.198	.165
47F196	686G016CC1C	68	16	CC	.54	.30	.225	.188
47F197	686G025CE1C	68	25	CE	.57	.312	.234	.195
47F172	107G006CC1C	100	6	CC	.54	.30	.225	.188
47F173	107G025CE1C	100	25	CE	.57	.312	.234	.195
47F174	157G003CC1C	150	3	CC	.54	.30	.225	.188
47F175	157G016CE1C	150	16	CE	.57	.312	.234	.195
47F176	227G006CE1C	220	6	CE	.57	.312	.234	.195
47F177	337G003CE1C	330	3	CE	.57	.312	.234	.195

SPRAGUE TVA Atom Electrolytics

THE MARK OF RELIABILITY

The only small size electrolytic especially designed for 85°C (185°F) operation on voltages to 450 working volts D.C. Unit is engineered to withstand extra high temperature, high ripple current, plus high surge voltages. Metal case construction with outer insulating tube. Wt., 3 oz.

SINGLE UNITS 6 WVDC

Stock No.	TVA No.	Mfd.	D. x L.	1-24	25-49	50-99	100-249	250-Up
18F955	1100	50	3/8" x 13/16"	.57	.45	.36	.272	.220
18F957	1102	250	9/16" x 15/16"	.81	.64	.56	.423	.353
18F958	1103	500	5/8" x 19/16"	.93	.74	.64	.483	.403
18F959	1104	1000	3/4" x 1 13/16"	1.14	.90	.79	.593	.494
18F960	1104	1500	13/16" x 2 11/16"	1.26	.99	.87	.650	.541
18F151	1106	2000	13/16" x 2 15/16"	1.38	1.09	.96	.719	.599

12 WVDC

18F961	1130	100	9/16" x 1 5/16"	.72	.57	.45	.341	.284
18F962	1131	250	5/8" x 1 5/16"	.87	.69	.60	.452	.376
18F153	1132	500	3/4" x 1 11/16"	1.02	.80	.70	.525	.438
18F963	1133	1000	13/16" x 1 13/16"	1.35	1.07	.93	.071	.584

15 WVDC

18F964	1160	100	9/16" x 1 5/16"	.75	.58	.46	.345	.288
18F965	1161	250	5/8" x 1 9/16"	.93	.74	.65	.489	.408
18F966	1162	500	11/16" x 1 13/16"	1.05	.83	.73	.548	.456
18F228	1163	1000	13/16" x 1 13/16"	1.38	1.09	.95	.713	.594
18F2132	1170	2000	15/16" x 2 13/16"	1.92	1.43	1.14	.858	.715
18F2904	1175	3000	1 1/16" x 4 1/16"	1.02	.79	.68	.510	.425

25 WVDC

18F967	1201	2	5/16" x 5/8"	.54	.43	.35	.260	.216
18F968	1203	5	5/16" x 5/8"	.60	.46	.37	.275	.229
18F154	1204	10	5/16" x 13/16"	.60	.47	.37	.281	.234
18F2133	1204.5	20	3/8" x 13/16"	.60	.48	.38	.287	.239
18F155	1205	25	3/8" x 13/16"	.60	.46	.39	.293	.244
18F156	1206	50	9/16" x 15/16"	.66	.52	.42	.312	.260
18F157	1207	100	9/16" x 1 1/16"	.81	.64	.51	.381	.318
18F2905	1207.5	150	13/16" x 1 9/16"	.87	.69	.55	.416	.348
18F969	1208	250	11/16" x 1 9/16"	1.02	.80	.70	.524	.436
18F159	1209	500	3/4" x 1 13/16"	1.38	1.09	.95	.713	.594
18F2134	1211	1000	1" x 2 5/16"	1.98	.60	.48	.362	.301

50 WVDC

18F970	1300	1	5/16" x 5/8"	.54	.43	.35	.260	.216
18F971	1301	2	5/16" x 5/8"	.54	.43	.35	.260	.216
18F972	1303	5	5/16" x 13/16"	.60	.46	.37	.275	.229
18F163	1304	10	3/8" x 13/16"	.60	.47	.37	.281	.234
18F2136	1305	15	3/8" x 13/16"	.60	.48	.38	.285	.238
18F973	1305.5	20	3/8" x 15/16"	.60	.48	.38	.287	.239
18F164	1306	25	3/8" x 15/16"	.63	.49	.39	.293	.244
18F165	1308	50	5/8" x 15/16"	.72	.57	.46	.342	.285
18F166	1310	100	5/8" x 15/16"	.84	.66	.53	.396	.330
18F974	1311	150	3/4" x 19/16"	.93	.73	.58	.437	.364
18F229	1312	250	15/16" x 1 11/16"	1.05	.83	.73	.549	.458
18F975	1315	500	1" x 1 5/16"	1.44	1.13	.98	.738	.615

150 WVDC

Stock No.	TVA No.	Mfd.	D. x L.	1-24	25-49	50-99	100-249	250-Up
18F2137	1400	1	5/16" x 5/8"	.57	.45	.36	.270	.225
18F976	1402	4	3/8" x 15/16"	.60	.47	.38	.282	.235
18F977	1403	5	3/8" x 15/16"	.60	.48	.38	.285	.238
18F978	1405	8	7/16" x 17/8"	.63	.49	.39	.296	.246
18F222	1406	10	9/16" x 1 5/16"	.63	.48	.41	.305	.254
18F979	1407	12	9/16" x 1 5/16"	.66	.52	.41	.311	.259
18F980	1409	16	9/16" x 1 5/16"	.69	.54	.43	.326	.271
18F175	1410	20	5/8" x 19/16"	.72	.56	.44	.333	.278
18F981	1411	25	3/4" x 19/16"	.75	.59	.47	.353	.294
18F167	1412	30	13/16" x 15/16"	.78	.61	.49	.366	.305
18F176	1413	40	13/16" x 19/16"	.81	.64	.51	.386	.321
18F230	1414	50	13/16" x 1 13/16"	.84	.66	53	.398	.331
18F223	1415	60	15/16" x 19/16"	.90	.70	.56	.420	.350
18F168	1418	80	15/16" x 19/16"	.96	.76	.61	.456	.380
18F231	1420	100	15/16" x 2 1/16"	1.05	.83	.66	.495	.413
18F224	1422	150	1 1/16" x 2 1/16"	1.14	.90	.72	.542	.451
18F982	1423	200	1 1/16" x 2 9/16"	1.32	1.03	.82	.615	.513
18F2138	1424	250	1 1/8" x 4 3/8"	2.16	1.67	1.42	1.068	.890
18F983	1425	300	1 1/16" x 3 5/16"	1.68	1.30	1.11	.830	.691

175 WVDC

18F2906	1430	80	1 1/16" x 2 1/2"	.99	.76	.61	.456	.380

200 WVDC

18F984	1447	150	13/8" x 3 3/8"	1.68	1.30	1.12	.84	.70
18F985	1480	200	13/8" x 3 3/8"	1.89	1.47	1.26	9.45	.88

250 WVDC

18F986	1501	4	9/16" x 1 5/16"	.66	.52	.42	.317	.264
18F987	1503	8	9/16" x 19/16"	.69	.54	.47	.356	.296
18F232	1504	10	5/8" x 19/16"	.72	.57	.49	.369	.308
18F988	1505	12	5/8" x 19/16"	.75	.59	.51	.380	.316
18F989	1507	16	13/16" x 15/16"	.78	.61	.53	.401	.334
18F233	1508	20	13/16" x 15/16"	.81	.64	.57	.425	.354
18F990	1510	30	13/16" x 1 13/16"	.87	.69	.60	.453	.378
18F234	1511	40	13/16" x 2 1/16"	.93	.74	.65	.488	.406
18F991	1512	50	15/16" x 1 13/16"	1.02	.81	.71	.534	.445
18F992	1513	60	1" x 1 13/16"	1.08	.85	.75	.560	.446
18F2139	1522	100	1 1/16" x 2 5/16"	1.47	1.06	.85	.636	.530
18F2907	1528	200	13/8" x 3 1/8"	2.10	1.49	1.19	.896	.746

300 WVDC

18F2908	1576	150	13/8" x 37/8"	1.95	1.50	1.20	.900	.750
18F2142	1578	200	13/8" x 45/8"	2.70	1.67	1.33	.999	.833

350 WVDC

18F994	1601	4	1 1/16" x 1 9/16"	.63	.50	.43	.323	.269
18F995	1603	8	1 1/16" x 1 5/16"	.72	.56	.49	.366	.305
18F996	1604	10	3/4" x 1 9/16"	.75	.60	.52	.392	.326
18F998	1607	16	13/16" x 1 9/16"	.84	.67	.58	.438	.365
18F999	1608	20	13/16" x 1 13/16"	.87	.69	.60	.450	.375
18F1529	1610	30	13/16" x 2 1/16"	.99	.78	.68	.512	.426
18F1530	1611	40	15/16" x 2 5/16"	1.05	.82	.71	.530	.441
18F1531	1613	60	1 1/16" x 2 1/16"	1.17	.93	.81	.608	.506
18F2144	1620	100	1 1/16" x 2 13/16"	1.86	1.11	.86	.69	.57
18F2909	1622	150	13/8" x 33/8"	2.22	1.62	1.29	.97	.81
18F2910	1624	200	13/8" x 4 1/8"	3.12	1.85	1.48	1.11	.92

400 WVDC (Nonpolarized)

18F1532	1650	10	1 1/16" x 2 1/16"	1.05	.81	.68	512	.426
18F2143	1652	20	1 1/16" x 2 5/16"	1.17	.91	.78	.587	.489

450 WVDC

18F1533	1700	1	9/16" x 1 5/16"	.66	.52	.45	.338	.281
18F1534	1701	2	9/16" x 1 5/16"	.66	.53	.46	.344	.286
18F1535	1702	4	11/16" x 1 5/16"	.69	.54	.47	.356	.296
18F2146	1703	5	11/16" x 1 9/16"	.72	.62	.49	.371	.309
18F225	1704	8	3/4" x 1 9/16"	.75	.60	.53	.395	.329
18F169	1705	10	13/16" x 1 9/16"	.78	.61	.53	.396	.330
18F1536	1706	12	13/16" x 1 13/16"	.81	.65	.57	.426	.355
18F187	1708	16	13/16" x 1 13/16"	.84	.66	.58	.450	.375
18F170	1709	20	15/16" x 2 1/16"	.93	.74	.64	.483	.403
18F171	1711	30	15/16" x 2 1/16"	1.02	.81	.71	.533	.444
18F172	1712	40	1 1/16" x 2 1/16"	1.08	.85	.74	.552	.460
18F226	1713	50	1 1/16" x 2 1/16"	1.26	.99	.86	.648	.540
18F227	1714	60	1 1/16" x 2 13/16"	1.41	1.12	.99	.770	.641
18F235	1716	80	1 1/16" x 3 13/16"	1.95	1.51	1.30	.974	.811
18F1537	1718	100	1 1/16" x 4 1/16"	1.92	1.53	1.49	1.121	.934
18F2911	1719	150	13/8" x 35/8"	2.85	2.24	1.79	1.344	1.120
18F2912	1720	200	1 1/2" x 4 5/8"	3.00	2.33	2.00	1.499	1.249

500 WVDC

18F236	1902	8	15/16" x 1 13/16"	.78	.62	.54	.405	.338
18F238	1906	20	1 1/16" x 2 5/16"	.96	.83	.66	.497	.414
18F2147	1908	40	1 1/16" x 3 1/16"	1.35	.85	.68	.510	.425

600 WVDC

18F240	1962	8	1 1/16" x 3 3/16"	1.83	1.42	1.21	.911	.759
18F241	1963	10	1 1/16" x 3 9/16"	2.19	1.70	1.45	1.091	.909
18F242	1965	16	1 1/16" x 4 3/16"	2.49	1.93	1.66	1.245	1.038
18F243	1966	20	1 1/16" x 4 3/16"	2.58	2.00	1.71	1.283	1.069

DUAL UNITS (COMMON NEGATIVE) 150-150 WVDC

18F173	2428	20-20	13/16" x 19/16"	1.05	.81	.70	.524	.436
18F188	2434	30-30	15/16" x 19/16"	1.08	.86	.75	.563	.469
18F1546	2438	40-20	15/16" x 15/16"	1.14	.88	.74	.558	.465
18F178	2445	40-40	15/16" x 21/16"	1.11	.88	.78	.587	.489
18F185	2450	50-30	15/16" x 21/16"	1.17	.91	.78	.587	.489
18F1548	2453	50-50	15/16" x 21/16"	1.26	.96	.81	.611	.509
18F1549	2460	80-30	15/16" x 29/16"	1.32	1.05	.84	.627	.523
18F1550	2461	80-40	15/16" x 29/16"	1.32	1.01	.85	.639	.533
18F1551	2462	80-50	15/16" x 29/16"	1.41	1.09	.87	.651	.543
18F036	2463	100-50	1 1/16" x 2 13/16"	1.59	1.17	.94	.704	.586

450-450 WVDC

18F179	2720	8-8	15/16" x 1 13/16"	1.17	.91	.78	.587	.489
18F174	2722	10-10	15/16" x 21/16"	1.23	.98	.81	.611	.509
18F180	2730	20-20	15/16" x 2 13/16"	1.50	1.18	1.03	.770	.641
18F038	2735	30-30	1 1/16" x 35/16"	1.95	1.51	1.29	.969	.808
18F181	2740	40-40	1 1/16" x 4 1/16"	2.25	1.75	1.50	1.124	.936

TRIPLE UNITS 150-150-150 WVDC

18F039	3440	20-20-20	15/16" x 1 13/16"	1.77	1.37	1.17	.878	.731
18F041	3448	40-30-20	15/16" x 25/16"	1.86	1.44	1.23	.923	.769
18F042	3450	40-40-20	15/16" x 29/16"	1.86	1.45	1.25	.935	.779
18F045	3455	80-40-20	1 1/16" x 3 1/16"	1.98	1.54	1.32	.990	.825
18F046	3456	80-40-40	1 1/16" x 3 1/16"	2.04	1.58	1.35	1.016	.846

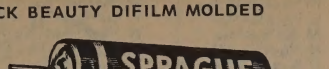
QUAD UNITS 450-450-450-450 WVDC

18F047	4748	40-20-20-10	13/8" x 43/8"	3.18	2.46	2.11	1.583	1.319
18F048	4750	40-40-20-20	1 1/2" x 4 1/4"	3.27	2.60	2.08	1.559	1.299

NEWARK OFFERS SPECIAL CAPACITOR SERVICES.

- Close Tolerance Testing to 0.1
- Mathing Units
- Special Packaging

TYPE 160P BLACK BEAUTY DIFILM MOLDED



For high humidity and high temperature operation up to 105°C. From 220v. through 1600v. the units will operate at 105°C. (221°F) with no voltage derating. From 6000v thru 12,500v. they will operate at 85°C. (185°F). Wt. 3 oz. Tolerance ±10%.

TYPE 2TM 200 VOLTS

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
18F088	2TMS10	.01	5/16x1"	.21	.14	.11	.09
18F130	2TMS20	.02	3/8x1 1/4"	.24	.17	.13	.10
18F131	2TMS47	.047	7/16x1 1/4"	.24	.17	.13	.10
18F132	2TMS50	.05	7/16x1 1/4"	.24	.17	.13	.10
18F133	2TMP10	.1	1/2x1 1/2"	.24	.18	.14	.12
18F134	2TMP15	.15	1/2x1 1/2"	.30	.22	.18	.14
18F135	2TMP22	.22	5/8x1 7/8"	.48	.36	.28	.23
18F137	2TMP47	.47	3/4x2 1/4"	.48	.36	.28	.23
18F138	2TMP50	.5	3/4x2 1/4"	.48	.36	.28	.23
18F139	2TMM1	1.0	3/4x2 1/4"	.84	.62	.48	.39

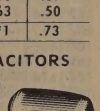
TYPE 4TM 400 VOLTS

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
18F089	4TMS10	.01	3/8x1 1/4"	.21	.14	.11	.09
18F368	4TMS15	.015	3/8x1 1/4"	.24	.17	.13	.10
18F091	4TMS22	.022	3/8x1 1/4"	.24	.17	.13	.10
18F370	4TMS30	.03	7/16x1 1/4"	.24	.17	.13	.10
18F092	4TMS47	.047	7/16x1 1/4"	.24	.18	.14	.12
18F093	4TMS50	.05	7/16x1 1/4"	.30	.22	.18	.14
18F094	4TMS68	.068	1/2x1 1/2"	.30	.22	.18	.14
18F095	4TMP10	.1	1/2x1 1/2"	.30	.22	.18	.14
18F097	4TMP22	.22	5/8x1 7/8"	.48	.36	.28	.23
18F098	4TMP25	.25	3/4x2 1/4"	.84	.62	.48	.39
18F373	4TMP47	.47	3/4x2 1/4"	.84	.62	.48	.39
18F099	4TMP50	.5	3/4x2 1/4"	.84	.62	.48	.39
18F258	4TMM1	1.0	1x2 1/2"	1.08	.81	.63	.50

TYPE 6TM 600 VOLTS

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
18F140	6TMT10	.0001	5/16x1"	.45	.34	.27	.21
18F141	6TMT25	.00025	5/16x1"	.45	.34	.27	.21
18F143	6TMT50	.0005	5/16x1"	.45	.34	.27	.21
18F100	6TMD10	.001	5/16x1"	.21	.15	.12	.09
18F144	6TMD15	.0015	5/16x1"	.21	.15	.12	.09
18F101	6TMD20	.002	5/16x1"	.21	.15	.12	.09
18F145	6TMD22	.0022	5/16x1"	.21	.15	.12	.09
18F374	6TMD25	.0025	5/16x1"	.21	.15	.12	.09
18F102	6TMD30	.003	5/16x1"	.21	.15	.12	.09
18F375	6TMD33	.0033	5/16x1"	.21	.15	.12	.09
18F103	6TMD40	.004	3/8x1 1/4"	.24	.17	.13	.10
18F146	6TMD47	.0047	3/8x1 1/4"	.24	.17	.13	.10
18F104	6TMD50	.005	3/8x1 1/4"	.24	.17	.13	.10
18F147	6TMD68	.0068	3/8x1 1/4"	.24	.17	.13	.10
18F106	6TMS10	.01	3/8x1 1/4"	.24	.17	.13	.10
18F148	6TMS15	.015	3/8x1 1/4"	.24	.17	.13	.10
18F107	6TMS20	.02	7/16x1 1/4"	.24	.18	.14	.12
18F377	6TMS22	.022	7/16x1 1/4"	.24	.18	.14	.12
18F108	6TMS30	.03	7/16x1 1/4"	.24	.18	.14	.12
18F378	6TMS33	.033	7/16x1 1/4"	.24	.18	.14	.12
18F109	6TMS40	.04	1/2x1 1/2"	.30	.22	.18	.14
18F379	6TMS47	.047	1/2x1 1/2"	.30	.22	.18	.14
18F110	6TMS50	.05	1/2x1 1/2"	.30	.22	.18	.14
18F380	6TMS68	.068	1/2x1 1/2"	.30	.22	.18	.14
18F112	6TMP10	.1	5/8x1 7/8"	.48	.36	.28	.23
18F381	6TMP15	.15	5/8x1 7/8"	.48	.36	.28	.23
18F382	6TMP20	.2	3/4x2 1/4"	.84	.62	.48	.39
18F383	6TMP22	.22	3/4x2 1/4"	.84	.62	.48	.39
18F113	6TMP25	.25	3/4x2 1/4"	.84	.62	.48	.39
18F384	6TMP50	.5	1x2 1/2"	1.08	.81	.63	.50
18F385	6TM-M1	1.0	1x2 1/2"	1.56	1.17	.91	.73

TYPE 2DF METALLIZED ORANGE DROP-CAPACITORS



Ideal for color TV replacement. Fits easily into tight spots because of their small size. Extremely High Insulation Resistance Insures Peak Performance At Temps. Up to +85. Radial leads are extra long for point-to-point wiring and crimped for printed board insertion. Double dipped in orange epoxy resin for protection against heat and humidity. Tolerance ±10%. 200 WVDC

Stock	Type	Mfd.	Size	1-24	25-49	50-99	100-499
18F2914	2DF-P22	.22	3/8x7/16x13/16	.54	.39	.30	.24
18F2916	2DF-P47	.47	13/16x9/16x13/16	.69	.52	.401	.321
18F2918	2DF-M1	1.0	13/16x9/16x1 1/4	.96	.71	.552	.441
18F2919	2DF-M1.5	1.5	7/8x3/8x1 1/4	1.14	.84	.651	.521
18F2920	2DF-M2	2.0	15/16x1 1/16x1 1/4	1.35	1.00	.779	.623
18F2921	2DF-M2.5	2.5	1 1/16x13/16x1 1/4	1.50	1.11	.863	.691
18F2922	2DF-M3	3.0	15/16x1 1/16x1 5/8	1.62	1.22	.945	.756
18F2924	2DF-M4	4.0	1 1/16x1 3/16x1 5/8	2.01	1.51	1.17	.938
18F2925	2DF-M4.5	4.5	1 1 8x7/8x1 5/8	2.13	1.59	1.23	.987
18F2926	2DF-M5	5.0	1 1 8x7/8x1 5/8	2.31	1.72	1.34	1.07
18F2927	2DF-M5.5	5.5	13/16x15/16x1 5/8	2.43	1.81	1.41	1.13

TYPE 118P DIFILM METALIZED CAPACITORS

Unique dual dielectric rated for operation at 125°C without voltage derating. High insulation resistance and capacitance is 10 megohm-microfarads for 200 V units or 40 megohm-microfarads for 400 and 600 V units. Hermetically sealed, with glass to metal solder seal terminals. Tolerance: ±10%.

SIZES: Dia. x Lt.

J .562" x 1 1/8"	W 1.000" x 1 7/8"	HH .312" x 1 1/8"
K .562" x 1 3/8"	X 1.000" x 2 1/8"	JJ .400" x 7/8"
M .562" x 1 5/8"	Y 1.000" x 2 3/8"	KK .400" x 1 1/8"
P .670" x 1 5/8"	Z 1.00" x 2 5/8"	LL .500" x 1 1/8"
Q .670" x 1 7/8"	FF .235" x 3/4"	YY .175" x 3/4"
T .750" x 1 7/8"	GG .312" x 7/8"	ZZ .195" x 3/4"

200 VOLTS

Stock No.	Type	Mfd.	Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1286	118P10392S2	.01	YY	3.16	2.37	1.78	1.19	.948	.869
18F1288	118P15392S2	.015	ZZ	3.16	2.37	1.78	1.19	.948	.869
18F1290	118P22392S2	.022	FF	2.84	2.13	1.60	1.07	.852	.781
18F1294	118P47392S2	.047	GG	2.78	2.09	1.57	1.05	.833	.763
18F1298	118P10492S2	.1	GG	2.87	2.15	1.61	1.08	.860	.789
18F1301	118P22492S2	.22	JJ	2.92	2.19	1.64	1.10	.876	.803
18F1302	118P27492S2	.27	KK	3.03	2.27	1.71	1.14	.907	.832
18F1303	118P33492S2	.33	KK	3.13	2.35	1.76	1.18	.938	.860
18F1305	118P47492S2	.47	LL	3.36	2.52	1.89	1.26	1.008	.924
18F1306	118P56492S2	.56	LL	3.40	2.55	1.91	1.28	1.02	.935
18F1308	118P82492S2	.82	J	3.56	2.67	2.00	1.34	1.068	.979
18F1309	118P10592S2	1.0	J	3.64	2.73	2.05	1.37	1.092	1.00
18F1310	118P15592S2	1.5	M	5.08	3.81	2.86	1.91	1.524	1.397
18F1311	118P20592S2	2.0	P	6.04	4.53	3.40	2.27	1.812	1.661
18F1313	118P40592S2	4.0	T	6.76	5.07	3.81	2.54	2.028	1.859
18F1314	118P50592S2	5.0	W	7.36	5.52	4.14	2.76	2.208	2.024
18F1315	118P60592S2	6.0	W	8.44	6.33	4.75	3.17	2.532	2.321
18F1316	118P80592S2	8.0	W	8.64	6.48	4.86	3.24	2.592	2.376
18F1317	118P10692S2	10.0	Y	9.20	6.90	5.18	3.45	2.760	2.530

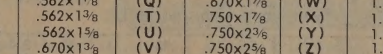
400 VOLTS

Stock No.	Type	Mfd.	Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1321	118P10594S2	1.0	T	5.04	3.78	2.84	1.89	1.512	1.386
18F1322	118P20594S2	2.0	W	6.96	5.22	3.20	2.61	2.088	1.914
18F1323	118P30594S2	3.0	Z	8.20	6.15	4.62	3.08	2.460	2.255

600 VOLTS

Stock No.	Type	Mfd.	Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1324	118P10396S2	.01	GG	2.84	2.13	1.60	1.07	.840	.770
18F1325	118P15396S2	.015	GG	2.86	2.15	1.61	1.08	.857	.785
18F1326	118P22396S2	.022	HH	2.88	2.16	1.62	1.08	.864	.792
18F1328	118P47396S2	.047	KK	2.91	2.19	1.64	1.10	.872	.800
18F1329	118P68396S2	.068	KK	3.04	2.28	1.71	1.14	.912	.836
18F1330	118P10496S2	.1	LL	3.30	2.48	1.86	1.24	.989	.906
18F1332	118P22496S2	.22	K	3.62	2.71	2.04	1.36	1.084	.993
18F1334	118P47496S2	.47	P	4.33	3.25	2.04	1.63	1.297	1.189
18F1335	118P68496S2	.68	Q	4.68	3.51	2.64	1.76	1.404	1.287
18F1336	118P10596S2	1.0	W	6.12	4.59	3.45	2.30	1.836	1.683
18F1337	118P15596S2	1.5	W	6.44	4.83	3.63	2.42	1.932	1.771
18F1338	118P20596S2	2.0	X	7.80	5.85	4.39	2.93	2.340	2.145
18F1339	118P25596S2	2.5	Z	8.84	6.63	4.98	3.92	2.652	2.431

121P METALIZED PAPER CAPACITORS



Designed to operate at 125°C without voltage derating. High insulation resistance—at 85°C minimum product of insulation resistance and capacitance is 20 megohms microfarads. Tol. ±10%. 150 WVDC.

CASE SIZE

(J)	.562x1 1/8	(Q)	.670x1 7/8	(W)	1.000x1 7/8
(K)	.562x1 3/8	(T)	.750x1 7/8	(X)	1.000x2 1/8
(M)	.562x1 5/8	(U)	.750x2 3/8	(Y)	1.000x2 3/8
(N)	.670x1 3/8	(V)	.750x2 5/8	(Z)	1.000x2 5/8
		(P)	.670x1 5/8		

Stk. No.	Type	Mfd.	*Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1410	121P15591R5S2	1.5	J	4.15	3.11	2.33	1.56	1.24	1.15
18F1411	121P20591R5S2	2.0	K	4.42	3.32	2.49	1.66	1.33	1.22
18F1413	121P30591R5S2	3.0	N	5.40	4.05	3.04	2.03	1.62	1.49
18F1415	121P40591R5S2	4.0	P	6.00	4.50	3.38	2.25	1.80	1.65
18F1416	121P50591R5S2	5.0	Q	7.12	5.34	4.01	2.67	2.14	1.96
18F1417	121P60591R5S2	6.0	T	7.64	5.73	4.30	2.87	2.29	2.11
18F1418	121P80591R5S2	8.0	U	9.04	6.78	5.09	3.39	2.71	2.49
18F1419	121P10691R5S2	10	V	10.68	8.01	6.01	4.01	3.20	2.94
18F1420	121P12691R5S2	12	W	12.24	9.18	6.89	4.59	3.67	3.37
18F1422	121P16691R5S2	16	Y	15.28	11.46	8.60	5.73	4.58	4.21

SPRAGUE Capacitor

THE MARK OF RELIABILITY

FILMITE "E" ORANGE DROP CAPACITORS

Temp. range —40°C to +85°C. Insulation res 25000 megohm-microfarads. Life test 250 hrs. at 85°C.

SIZE CHART

A $\frac{5}{8}$X$\frac{25}{64}$X$\frac{3}{4}$	K $\frac{21}{64}$X$\frac{15}{64}$X$\frac{45}{64}$	U $\frac{23}{32}$X$\frac{3}{8}$X$\frac{13}{16}$	CC $\frac{21}{32}$X$\frac{27}{64}$X$\frac{13}{16}$
B $\frac{43}{64}$X$\frac{27}{64}$X$\frac{3}{4}$	L $\frac{11}{32}$X$\frac{1}{4}$X$\frac{45}{64}$	V $\frac{3}{4}$X$\frac{27}{64}$X$\frac{13}{16}$	DD $\frac{13}{16}$X$\frac{31}{64}$X$\frac{13}{16}$
C $\frac{27}{32}$X$\frac{31}{64}$X$\frac{3}{4}$	M $\frac{3}{8}$X$\frac{9}{32}$X$\frac{45}{64}$	W $\frac{25}{32}$X$\frac{1}{32}$X$\frac{13}{16}$	EE 1X$\frac{47}{64}$X$\frac{13}{16}$
D $\frac{27}{32}$X$\frac{19}{32}$X$\frac{3}{4}$	N $\frac{17}{32}$X$\frac{21}{64}$X$\frac{45}{64}$	X $\frac{23}{32}$X$\frac{27}{64}$X$\frac{13}{16}$	FF $\frac{61}{64}$X$\frac{21}{32}$X$\frac{13}{16}$
E $\frac{57}{64}$X$\frac{9}{16}$X$\frac{13}{16}$	P $\frac{9}{16}$X$\frac{15}{64}$X$\frac{13}{16}$	Y $\frac{27}{32}$X$\frac{1}{2}$X$\frac{13}{16}$	GG $\frac{19}{32}$X$\frac{5}{16}$X$\frac{13}{16}$
F $\frac{29}{32}$X$\frac{19}{32}$X$\frac{13}{16}$	R $\frac{19}{32}$X$\frac{1}{4}$X$\frac{13}{16}$	Z $\frac{19}{64}$X$\frac{27}{32}$X$\frac{13}{16}$	HH $\frac{27}{32}$X$\frac{17}{32}$X$\frac{13}{16}$
G $\frac{53}{64}$X$\frac{21}{32}$X$\frac{13}{16}$	S $\frac{5}{8}$X$\frac{9}{32}$X$\frac{13}{16}$	AA $\frac{19}{32}$X$\frac{9}{32}$X$\frac{13}{16}$	JJ $\frac{13}{16}$X$\frac{31}{64}$X$\frac{113}{16}$
H $\frac{63}{64}$X$\frac{47}{64}$X$\frac{13}{16}$	T $\frac{41}{64}$X$\frac{5}{16}$X$\frac{13}{16}$	BB $\frac{21}{32}$X$\frac{11}{32}$X$\frac{13}{16}$	KK $\frac{57}{64}$X$\frac{9}{16}$X$\frac{113}{16}$

TYPE 225P—75 VOLTS DC

No. Stock	Mfd	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F2549	.12	A	225P1249R75	.36	.27	.21	.163	.134
18F2550	.15	A	225P1549R75	.39	.29	.23	.179	.147
18F2551	.18	B	225P1849R75	.42	.30	.24	.188	.154
18F2552	.22	B	225P2249R75	.45	.32	.25	.197	.162
18F2553	.27	C	225P2749R75	.45	.33	.26	.206	.170
18F2554	.33	C	225P3349R75	.54	.40	.31	.244	.201
18F2555	.39	D	225P3949R75	.66	.48	.38	.300	.247
18F2556	.47	D	225P4749R75	.78	.60	.44	.354	.291

TYPE 225P—100 VOLTS DC

18F2561	.001	J	225P10291	.15	.11	.08	.063	.052
18F2562	.0012	J	225P12291	.15	.11	.08	.063	.052
18F2563	.0015	J	225P15291	.15	.11	.08	.063	.052
18F2564	.0018	J	225P18291	.15	.11	.08	.063	.052
18F2565	.0022	J	225P22291	.15	.11	.08	.063	.052
18F2566	.0027	J	225P27291	.15	.11	.08	.063	.052
18F2567	.0033	J	225P33291	.15	.11	.08	.063	.052
18F2568	.0039	J	225P39291	.15	.11	.08	.066	.054
18F2569	.0047	J	225P47291	.15	.11	.09	.068	.056
18F2570	.0056	J	225P56291	.15	.11	.09	.069	.057
18F2571	.0068	J	225P68291	.18	.11	.09	.071	.058
18F2572	.0082	J	225P82291	.18	.12	.10	.075	.062
18F2573	.01	J	225P10391	.18	.13	.10	.079	.065
18F2574	.012	J	225P12391	.18	.13	.10	.082	.067
18F2575	.015	J	225P15391	.21	.14	.11	.086	.071
18F2576	.018	J	225P18391	.21	.14	.11	.089	.073
18F2577	.022	J	225P22391	.21	.15	.12	.092	.076
18F2578	.027	K	225P27391	.21	.15	.12	.094	.077
18F2579	.033	K	225P33391	.21	.16	.12	.097	.080
18F2580	.039	L	225P39391	.24	.16	.12	.099	.081
18F2581	.047	L	225P47391	.24	.16	.13	.102	.083
18F2582	.056	M	225P56391	.24	.18	.14	.109	.090
18F2583	.068	M	225P68391	.27	.19	.15	.117	.096
18F2584	.082	N	225P82391	.27	.19	.15	.117	.096
18F2585	.1	N	225P10491	.27	.19	.15	.117	.096
47F152	.56	E	225P56491	.54	.39	.30	.240	.197
47F153	.68	F	225P68491	.63	.47	.37	.293	.240
47F154	.82	FF	225P82491	.72	.52	.404	.323	.266
47F155	1.0	H	225P10591	.78	.57	.44	.354	.291

TYPE 225P 200 VOLTS

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
47F156	.001	P	225P10292	.15	.10	.08	.063	.052
47F157	.0015	P	225P15292	.15	.10	.08	.063	.052
47F158	.0022	P	225P22292	.15	.10	.08	.063	.052
47F159	.0033	P	225P33292	.15	.10	.08	.063	.052
47F160	.0047	P	225P47292	.15	.10	.08	.063	.052
47F161	.0068	R	225P68292	.15	.11	.09	.068	.056
47F162	.01	R	225P10392	.15	.11	.09	.068	.056
47F163	.015	R	225P15392	.15	.11	.09	.068	.056
47F164	.022	R	225P22392	.18	.11	.09	.071	.058
47F165	.033	S	225P33392	.18	.13	.10	.079	.065
47F166	.047	S	225P47392	.18	.13	.10	.082	.067
47F167	.068	T	225P68392	.18	.13	.10	.082	.067
47F168	.1	U	225P10492	.21	.14	.11	.088	.072
47F169	.15	V	225P15492	.27	.18	.14	.112	.092
47F170	.22	W	225P22492	.30	.21	.16	.131	.108
47F171	.33	X	225P33492	.33	.24	.19	.150	.124
47F133	.47	Y	225P47492	.48	.28	.22	.172	.142
47F134	.68	Z	225P68492	.66	.49	.38	.302	.248

TYPE 225P 400 VOLTS

47F135	.001	P	225P10294	.15	.10	.08	.063	.052
47F136	.0015	P	225P15294	.15	.10	.08	.063	.052
47F137	.0022	P	225P22294	.15	.10	.08	.063	.052
47F138	.0033	P	225P33294	.15	.10	.08	.063	.052
47F139	.0047	P	225P47294	.15	.11	.08	.066	.054
47F140	.0068	R	225P68294	.15	.11	.09	.069	.057
47F141	.01	R	225P10394	.15	.11	.09	.069	.057
47F142	.015	R	225P15394	.15	.11	.09	.069	.057
47F143	.022	AA	225P22394	.18	.12	.09	.069	.061
47F144	.033	GG	225P33394	.18	.13	.10	.074	.067
47F145	.047	BB	225P47394	.21	.14	.11	.082	.070
47F146	.068	CC	225P68394	.21	.14	.11	.088	.072
47F147	.1	DD	225P10494	.24	.17	.13	.105	.086
47F148	.15	HH	225P15494	.33	.23	.18	.142	.117
47F149	.22	KK	225P22494	.48	.35	.27	.216	.177
47F150	.33	EE	225P33494	.69	.50	.39	.309	.254
47F151	.47	Z	225P47494	.99	.74	.58	.460	.378

ORANGE DROP DIFILM DIPPED TUBULARS

Dual dielectric impregnated with exclusive HCX produces rock-hard capacitor section. Double dipped in Bright Orange Epoxy Resin —beats heat and humidity. Shpg. Wt. 4 oz.

TYPE 220P—200 VOLTS DC

Stock No.	Mfd	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1612	.02	$\frac{3}{8}$X$\frac{7}{8}$	2PS-S20	.18	.12	.09	.071	.059
18F1613	.022	$\frac{25}{64}$X$\frac{7}{8}$	2PS-S22	.18	.12	.09	.072	.059
18F1614	.047	$\frac{29}{64}$X$\frac{7}{8}$	2PS-S47	.18	.13	.10	.079	.065
18F1615	.05	$\frac{15}{32}$X$\frac{7}{8}$	2PS-S50	.18	.14	.11	.083	.069
18F1616	.1	$\frac{31}{64}$X$\frac{13}{16}$	2PS-P10	.21	.15	.12	.091	.075
18F1617	.15	$\frac{9}{16}$X$\frac{13}{16}$	2PS-P15	.24	.17	.14	.105	.086
18F1618	.2	$\frac{19}{32}$X$\frac{115}{16}$	2PS-P20	.30	.21	.16	.127	.104
18F1619	.22	$\frac{39}{64}$X$\frac{15}{16}$	2PS-P22	.30	.21	.16	.127	.104
18F1620	.25	$\frac{5}{8}$X$\frac{15}{16}$	2PS-P25	.30	.22	.17	.131	.108
18F1621	.33	$\frac{5}{8}$X$\frac{1}{8}$	2PS-P33	.39	.29	.23	.177	.145
18F1622	.47	$\frac{45}{64}$X$\frac{15}{8}$	2PS-P47	.45	.34	.26	.206	.170
18F1623	.5	$\frac{23}{32}$X$\frac{15}{8}$	2PS-P50	.48	.34	.27	.211	.173

TYPE 220P—400 VOLTS DC

18F1624	.01	$\frac{13}{32}$X$\frac{11}{16}$	4PS-S10	.15	.11	.08	.063	.052
18F1625	.015	$\frac{29}{64}$X$\frac{11}{16}$	4PS-S15	.15	.11	.09	.067	.055
18F1626	.02	$\frac{13}{32}$X$\frac{7}{8}$	4PS-S20	.18	.12	.09	.073	.060
18F1627	.022	$\frac{27}{64}$X$\frac{7}{8}$	4PS-S22	.18	.12	.10	.073	.060
18F1628	.025	$\frac{7}{16}$X$\frac{7}{8}$	4PS-S25	.18	.12	.10	.079	.065
18F1630	.033	$\frac{17}{32}$X$\frac{7}{8}$	4PS-S33	.18	.13	.11	.081	.067
18F1632	.047	$\frac{29}{64}$X$\frac{13}{16}$	4PS-S47	.21	.15	.12	.091	.075
18F1633	.05	$\frac{29}{64}$X$\frac{13}{16}$	4PS-S50	.21	.15	.12	.093	.076
18F1634	.056	$\frac{31}{64}$X$\frac{13}{16}$	4PS-S56	.21	.16	.12	.096	.079
18F1635	.068	$\frac{33}{64}$X$\frac{13}{16}$	4PS-S68	.21	.16	.12	.096	.079
18F1637	.1	$\frac{37}{64}$X$\frac{13}{16}$	4PS-P10	.24	.18	.14	.110	.090
18F1638	.15	$\frac{39}{64}$X$\frac{13}{16}$	4PS-P15	.30	.22	.17	.133	.109
18F1639	.2	$\frac{19}{32}$X$\frac{15}{8}$	4PS-P20	.36	.26	.21	.161	.133
18F1640	.22	$\frac{39}{64}$X$\frac{15}{8}$	4PS-P22	.36	.26	.21	.161	.133
18F1641	.25	$\frac{41}{64}$X$\frac{15}{8}$	4PS-P25	.36	.27	.21	.166	.136

TYPE 220P—600 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1642	.001	$\frac{21}{64}$X$\frac{11}{16}$	6PS-D10	.15	.11	.08	.063	.052
18F1644	.0015	$\frac{21}{64}$X$\frac{11}{16}$	6PS-D15	.15	.11	.08	.063	.052
18F1646	.002	$\frac{21}{64}$X$\frac{11}{16}$	6PS-D20	.15	.11	.09	.065	.053
18F1647	.0022	$\frac{21}{64}$X$\frac{11}{16}$	6PS-D22	.15	.11	.09	.065	.053
18F1648	.0025	$\frac{21}{64}$X$\frac{11}{16}$	6PS-D25	.15	.11	.09	.065	.053
18F1649	.0027	$\frac{11}{32}$X$\frac{11}{16}$	6PS-D27	.15	.11	.09	.065	.053
18F1651	.0033	$\frac{23}{64}$X$\frac{11}{16}$	6PS-D33	.15	.11	.09	.065	.053
18F1652	.0039	$\frac{3}{8}$X$\frac{11}{16}$	6PS-D39	.15	.11	.09	.065	.053
18F1654	.0047	$\frac{25}{64}$X$\frac{11}{16}$	6PS-D47	.15	.11	.09	.065	.053
18F1655	.005	$\frac{25}{64}$X$\frac{11}{16}$	6PS-D50	.15	.11	.09	.065	.054
18F1656	.0056	$\frac{25}{64}$X$\frac{11}{16}$	6PS-D56	.15	.11	.09	.065	.054
18F1658	.0068	$\frac{13}{32}$X$\frac{11}{16}$	6PS-D68	.15	.11	.09	.067	.055
18F1659	.0075	$\frac{23}{64}$X$\frac{7}{8}$	6PS-D75	.15	.11	.09	.068	.056
18F1661	.0082	$\frac{3}{8}$X$\frac{7}{8}$	6PS-D82	.15	.11	.09	.068	.056
18F1662	.01	$\frac{25}{64}$X$\frac{7}{8}$	6PS-S10	.15	.12	.09	.070	.057
18F1664	.015	$\frac{27}{64}$X$\frac{7}{8}$	6PS-S15	.18	.12	.09	.070	.057
18F1665	.02	$\frac{31}{64}$X$\frac{7}{8}$	6PS-S20	.18	.13	.10	.077	.063
18F1666	.022	$\frac{31}{64}$X$\frac{7}{8}$	6PS-S22	.18	.13	.10	.080	.066
18F1667	.025	$\frac{17}{32}$X$\frac{7}{8}$	6PS-S25	.18	.14	.11	.084	.069
18F1670	.033	$\frac{15}{32}$X$\frac{13}{16}$	6PS-S33	.18	.14	.11	.084	.069
18F1672	.039	$\frac{31}{64}$X$\frac{13}{16}$	6PS-S39	.21	.15	.11	.088	.073
18F1674	.047	$\frac{17}{32}$X$\frac{13}{16}$	6PS-S47	.21	.15	.12	.093	.077
18F1675	.05	$\frac{17}{32}$X$\frac{13}{16}$	6PS-S50	.21	.16	.12	.095	.078
18F1676	.056	$\frac{35}{64}$X$\frac{13}{16}$	6PS-S56	.21	.16	.13	.098	.080
18F1678	.068	$\frac{37}{64}$X$\frac{13}{16}$	6PS-S68	.27	.19	.15	.113	.093
18F1679	.075	$\frac{9}{16}$X$\frac{15}{16}$	6PS-S75	.27	.19	.15	.118	.097
18F1680	.082	$\frac{37}{64}$X$\frac{15}{16}$	6PS-S82	.27	.19	.15	.118	.097
18F1681	.1	$\frac{5}{8}$X$\frac{15}{16}$	6PS-P10	.27	.20	.16	.122	.100
18F1682	.15	$\frac{43}{64}$X$\frac{15}{8}$	6PS-P15	.36	.27	.21	.165	.136
18F1683	.2	$\frac{3}{4}$X$\frac{15}{8}$	6PS-P20	.45	.34	.26	.206	.170
18F1684	.22	$\frac{25}{32}$X$\frac{15}{8}$	6PS-P22	.45	.34	.26	.206	.170
18F1685	.25	$\frac{13}{16}$X$\frac{15}{8}$	6PS-P25	.48	.34	.27	.211	.173

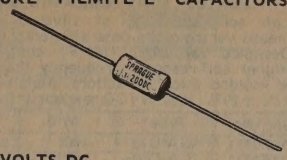
TYPE 220P—1000 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1686	.001	$\frac{21}{64}$X$\frac{11}{16}$	10PS-D10	.15	.10	.08	.065	.054
18F1689	.0022	$\frac{3}{8}$X$\frac{11}{16}$	10PS-D22	.15	.11	.09	.067	.055
18F1692	.0047	$\frac{11}{32}$X$\frac{7}{8}$	10PS-D47	.18	.12	.09	.072	.059
18F1693	.005	$\frac{11}{32}$X$\frac{7}{8}$	10PS-D50	.18	.12	.10	.073	.060

SPRAGUE
THE MARK OF RELIABILITY

192P "PACER"—MINIATURE "FILMITE E" CAPACITORS

Miniature size for commercial and industrial applications. Controlled dimensions for automatic insertion equipment installing on P.C. boards. Operating temp. range — 55°C to +85°C. Tolerance ±10%. Shpg. wt. 2 oz.



80 VOLTS DC

Stk. No.	Type	Mfd.	D. x L.	1-24	25-49	50-99	100-249	250-499
18F2520	192P2229R8	.0022	9/64x5/16	.39	.28	.22	.175	.163
18F2521	192P2729R8	.0027	9/64x5/16	.39	.28	.22	.175	.163
18F2522	192P3329R8	.0033	9/64x5/16	.39	.28	.22	.175	.163
18F2523	192P3929R8	.0039	9/64x5/16	.39	.28	.22	.175	.163
18F2524	192P4729R8	.0047	9/64x5/16	.39	.28	.22	.175	.163
18F2525	192P5629R8	.0056	11/64x3/8	.39	.28	.22	.175	.163
18F2526	192P6829R8	.0068	11/64x3/8	.39	.28	.22	.175	.163
18F2527	192P8229R8	.0082	11/64x3/8	.39	.28	.22	.175	.163
18F2528	192P1039R8	.01	11/64x3/8	.36	.27	.21	.165	.153
18F2529	192P1239R8	.012	11/64x3/8	.39	.28	.22	.176	.164
18F2530	192P1539R8	.015	11/64x3/8	.42	.31	.24	.189	.176
18F2531	192P1839R8	.018	11/64x3/8	.42	.31	.24	.192	.178
18F2532	192P2239R8	.022	11/64x3/8	.42	.31	.24	.195	.181
18F2533	192P2739R8	.027	7/32x7/16	.45	.32	.25	.197	.183
18F2534	192P3339R8	.033	7/32x7/16	.45	.32	.25	.200	.186
18F2535	192P3939R8	.039	7/32x9/16	.45	.33	.26	.204	.190
18F2536	192P4739R8	.047	7/32x9/16	.45	.34	.26	.210	.195
18F2537	192P5639R8	.056	15/64x9/16	.48	.35	.27	.217	.202
18F2538	192P6839R8	.068	15/64x9/16	.51	.37	.28	.227	.211
18F2539	192P8239R8	.082	19/64x1/2	.51	.38	.30	.237	.220
18F2540	192P1049R8	.1	19/64x1 1/2"	.54	.39	.30	.242	.225
18F2541	192P1249R8	.12	19/64x5/8"	.63	.46	.36	.287	.267
18F2542	192P1549R8	.15	19/64x5/8"	.66	.49	.38	.307	.285
18F2543	192P1849R8	.18	21/64x5/8	.75	.55	.42	.339	.315
18F2544	192P2249R8	.22	21/64x5/8	.81	.60	.47	.372	.346
18F2545	192P2749R8	.27	21/64x7/8	.87	.64	.50	.398	.369
18F2546	192P3349R8	.33	21/64x7/8"	.90	.68	.53	.420	.390
18F2547	192P3949R8	.39	21/64x13/16	.96	.72	.56	.445	.413
18F2548	192P4749R8	.47	21/64x13/16	1.02	.75	.59	.469	.436

200 VOLTS DC

Stk. No.	Type	Mfd.	D. x L.	1-24	25-49	50-99	100-249	250-499
18F2242	192P47192	.00047	9/64x5/16	.33	.24	.19	.150	.139
18F2243	192P56192	.00056	9/64x5/16	.30	.22	.17	.137	.127
18F2244	192P68192	.00068	9/64x5/16	.30	.22	.17	.137	.127
18F2245	192P82192	.00082	9/64x5/16	.30	.22	.17	.137	.127
18F2246	192P10292	.001	9/64x5/16	.27	.19	.15	.120	.112
18F2247	192P12292	.0012	9/64x5/16	.27	.19	.15	.119	.111
18F2248	192P15292	.0015	9/64x5/16	.27	.19	.15	.120	.112
18F2249	192P18292	.0018	11/64x5/16	.27	.19	.15	.120	.112
18F2250	192P22292	.0022	11/64x5/16	.27	.20	.15	.122	.113
18F2251	192P27292	.0027	11/64x5/16	.27	.20	.15	.122	.113
18F2252	192P33292	.0033	11/64x5/16	.27	.20	.15	.122	.113
18F2253	192P39292	.0039	11/64x7/16	.27	.20	.15	.123	.114
18F2254	192P47292	.0047	11/64x7/16	.27	.20	.16	.125	.116
18F2255	192P56292	.0056	11/64x7/16	.27	.20	.16	.126	.117
18F2256	192P68292	.0068	11/64x7/16	.30	.21	.16	.127	.118
18F2257	192P82292	.0082	11/64x1/2	.30	.21	.17	.133	.124
18F2226	192P10392	.01	11/64x1/2	.30	.22	.17	.136	.126
18F2227	192P12392	.012	7/32x7/16	.30	.22	.17	.139	.129
18F2228	192P15392	.015	7/32x7/16	.30	.23	.18	.140	.130
18F2229	192P18392	.018	7/32x9/16	.33	.23	.18	.143	.133
18F2230	192P22392	.022	7/32x9/16	.33	.23	.18	.146	.135
18F2231	192P27392	.027	15/64x9/16	.33	.25	.19	.154	.143
18F2232	192P33392	.033	15/64x9/16	.36	.26	.20	.162	.151
18F2233	192P39392	.039	19/64x1/2	.39	.27	.21	.169	.157
18F2234	192P47392	.047	19/64x1/2	.39	.29	.22	.178	.165
18F2235	192P56392	.056	19/64x5/8	.42	.30	.24	.188	.174
18F2236	192P68392	.068	19/64x5/8	.45	.32	.25	.197	.183
18F2237	192P82392	.082	21/64x5/8	.45	.33	.26	.207	.192
18F2238	192P10492	.1	21/64x5/8	.48	.35	.27	.217	.202
18F2239	192P12492	.12	21/64x7/8	.51	.37	.28	.227	.211
18F2240	192P15492	.15	21/64x7/8	.57	.42	.32	.259	.241
18F2241	192P22492	.22	21/64x13/16	.63	.47	.36	.291	.270

MINIATURIZED DISC CERAMIC

Tiny ceramic capacitors for by-pass and coupling application. Low self inductance and flat plate construction permits higher self-resonant frequency and high by-pass efficiency in all TV and transistorized circuitry. Good performance under severe conditions of humidity and vibration. TH dia. .335 to .905, TG dia. .275 to .655.

Stock No.	Mfr's No.	Volts	Mfd.	1-99	100-499	500-999	1000-Up
18F932	TG-D50	100	.005	.15	.058	.051	.039
18F933	TG-S10	100	.01	.15	.072	.064	.048
18F934	TG-S20	100	.02	.15	.086	.076	.057
18F935	TG-S25	100	.025	.15	.093	.082	.062
18F936	TG-S30	100	.03	.15	.099	.088	.066
18F937	TG-S50	100	.05	.30	.212	.188	.141
18F938	TG-P10	100	.1	.39	.282	.25	.188

TYPE 431P WRAP AND FILL "FILMITE E"

Construction gives benefits over metal encased molded or wax coated Cardboard-case tubulars of comparable ratings. Axial lead polyester film capacitor section protected from moisture by wrap of polyester film tape.

50 VOLTS DC

Stk. No.	Type 431P-	Size	Mfd.	1-24	25-49	50-99	100-249
47F214	4739R5	3/32x3/16x5/8	.047	2.13	1.52	.887	.710
47F215	6839R5	1/8x7/32x5/8	.068	2.19	1.56	.910	.728
47F216	1049R5	5/32x7/32x5/8	.10	2.31	1.64	.956	.764
47F217	2249R5	5/32x9/32x3/4	.22	2.58	1.83	1.069	.855
47F218	3349R5	3/16x5/16x3/4	.33	2.85	2.03	1.183	.964
47F219	4749R5	3/16x5/16x1	.47	3.12	2.22	1.297	1.037
47F220	6849R5	3/16x3/8x1	.68	3.39	2.42	1.411	1.128
47F221	1059R5	1/4x13/32x1	1.0	3.45	2.45	1.428	1.142
47F222	2059R5	3/8x9/16x1	2.0	4.29	3.06	1.785	1.428
47F223	3059R5	3/8x19/32x1 1/4	3.0	5.10	3.64	2.121	1.697
47F224	4059R5	3/8x19/32x1 1/2	4.0	6.72	4.79	2.793	2.234
47F225	5059R5	13/32x19/32x1 3/4	5.0	8.22	5.87	3.423	2.738
47F226	7059R5	15/32x11/16x1 3/4	7.0	10.50	7.49	4.368	3.494
47F227	1069R5	9/16x25/32x1 3/4	10.0	12.51	8.93	5.208	4.166
47F228	1269R5	1/2x13/16x2 1/4	12.0	14.43	10.30	6.006	4.805

200 VOLTS DC

Stk. No.		Size	Mfd.	1-24	25-49	50-99	100-249
47F229	22392	1/8x3/16x5/8	.022	1.38	.98	.569	.455
47F230	33392	1/8x7/32x5/8	.033	1.11	.78	.455	.364
47F231	47392	5/32x1/4x5/8	.047	1.56	.78	.455	.364
47F232	68392	5/32x9/32x3/4	.068	1.11	.78	.455	.364
47F233	10492	3/16x5/16x3/4	.1	1.11	.78	.455	.364
47F234	22492	1/4x13/32x3/4	.22	1.26	.90	.523	.419
47F235	33492	7/32x13/32x1	.33	1.44	1.01	.592	.473
47F236	47492	7/32x13/32x1 1/4	.47	1.59	1.13	.660	.528
47F237	68492	5/16x17/32x1 1/4	.68	1.86	1.33	.774	.619
47F238	10592	5/16x17/32x1 1/4	1.0	1.98	1.40	.819	.655
47F239	20592	3/8x9/16x1 3/4	2.0	2.85	2.02	1.176	.941
47F240	30592	15/32x21/32x1 3/4	3.0	3.33	2.38	1.386	1.109
47F241	40592	17/32x3/4x1 3/4	4.0	3.78	2.70	1.575	1.260
47F242	50592	15/32x3/4x2 1/4	5.0	4.29	3.06	1.785	1.428
47F243	70592	3/4x15/16x1 3/4	7.0	6.36	4.54	2.646	2.117
47F244	10692	23/32x1x2 1/4	10.0	7.68	5.47	3.192	2.554
47F245	12692	23/32x1x2 1/2	12.0	8.52	6.08	3.549	2.839

400 VOLTS DC

Stk. No.		Size	Mfd.	1-24	25-49	50-99	100-249
47F246	33294	3/32x13/16x5/8	.0033	1.83	1.31	.761	.609
47F247	47294	1/8x3/16x5/8	.0047	1.83	1.31	.761	.609
47F248	68294	5/32x7/32x5/8	.0068	1.83	1.31	.761	.609
47F249	10394	3/16x1/4x5/8	.01	1.59	1.13	.660	.528
47F250	22394	3/16x5/16x3/4	.022	1.71	1.21	.705	.564
47F251	33394	7/32x11/32x3/4	.033	1.71	1.21	.705	.564
47F252	47394	1/4x13/32x3/4	.047	1.83	1.29	.751	.601
47F253	68394	7/32x3/8x1	.068	1.83	1.29	.751	.601
47F254	10494	9/32x7/16x1	.1	1.86	1.33	.774	.619
47F255	22494	13/32 x 19/32 x1	.22	2.10	1.48	.865	.692
47F256	33494	111/32x9/16x1 1/2	.33	2.13	1.52	.887	.710
47F257	47494	13/32x9/16x1 3/4	.47	2.37	1.68	.978	.783
47F258	68494	15/32x21/32x1 3/4	.68	2.70	1.91	1.115	.892
47F259	10594	1/2x23/32x2	1.0	2.88	2.05	1.197	.958

600 VOLTS DC

Stk. No.		Size	Mfd.	1-24	25-49	50-99	100-249
47F260	22296	1/8x3/16x5/8	.0022	1.83	1.31	.761	.609
47F261	33296	1/8x7/32x5/8	.0033	1.83	1.31	.761	.609
47F262	47296	1/8x1/4x3/4	.0047	1.83	1.31	.761	.609
47F263	68296	5/32x9/32x3/4	.0068	1.89	1.35	.788	.630
47F264	10396	3/16x5/16x3/4	.01	1.65	1.17	.683	.546
47F265	22396	1/4x13/32x3/4	.022	1.80	1.29	.751	.601
47F266	33396	7/32x3/8x1	.033	1.83	1.29	.751	.601
47F267	47396	7/32x3/8x1 1/4	.047	1.86	1.33	.774	.619
47F268	68396	5/16x1/2x1	.068	1.86	1.33	.774	.619
47F269	10496	3/8x19/32x1	.1	1.92	1.37	.796	.637
47F270	22496	11/32x9/16x1 3/4	.22	2.37	1.68	.978	.783
47F271	33496	7/16x21/32x1 3/4	.33	2.52	1.79	1.047	.837
47F272	47496	9/16x3/4x1 3/4	.47	2.85	2.03	1.183	.946
47F273	68496	15/32x25/32x2 1/2	.68	3.84	2.73	1.593	1.274
47F274	10596	3/4x31/32x2	1.0	4.41	3.13	1.827	1.462

J-135 "CERAMICENTER" CERAMIC ASSORTMENT KIT

- Handy Metal Drawers—Save Time and Effort

710 capacitors of 57 different values. Kit includes: 290 Type 5 GA, ceramic capacitors 145 Type 5HK "High K" bypass and coupling capacitors, 100 Type 10 TS, temperature stable capacitors 175 Type TG, disc capacitors. Cabinet, 30¾x5½x11¾". Ship. wt., 29 lbs.

80W415. NET **172.50**

HIGH-VOLTAGE DOORKNOB CERAMICS

Has female threads for interchangeable screw-in terminals. Molde plastic, Guard rings lengthen surface creepage path.

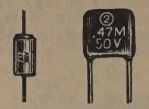
Type 20DK-T5. Complete with 7 terminals . 1" dia. x 31/32".

Type 30 DK-T5. Complete with 2 terminals. 1/16" dia. x 1¼".

Stk. No.	Type	Term	Size	µµf	KV	NET
18F2762	20DK-T5	7	1x31/32"	500	20	1.80
18F2763	30DK-T5	2	15/16x1 1/4"	500	30	3.78

FORMULATION C-023
MONOLYTHIC CERAMIC CAPACITORS

Monolythic ceramic capacitors for transistorized circuitry. C-023 formulation insures high K—these units provide high capacitance in small physical size. Solid homogeneous blocks are protected against moisture and mechanical damage by a resin dip. Well suited for use in all frequency ranges through 1000 mc. Radial leads 20% tolerance.



25 WVDC SIZE - .390"x.202"

Stk. No.	Type	Mfd.	1-49	50-99	100-449	500-999
18F1964	3C023103X0250A3	.01	1.06	.80	.53	.40
18F1966	3C023223X0250A3	.022	1.06	.80	.53	.40
18F1967	3C023333X0250A3	.033	1.06	.80	.53	.40
18F1968	3C023473X0250A3	.047	1.06	.80	.53	.40
18F1970	3C023104X0250A3	.1	1.06	.80	.53	.40

SIZE-.515"x.296"

Stk. No.	Type	Mfd.	1-49	50-99	100-499	500-999
18F1971	4C023154X0250A3	.15	1.17	.88	.59	.44
18F1972	4C023224X0250A3	.22	1.24	.93	.62	.47
18F1973	4C023334X0250A3	.33	1.56	1.17	.78	.59

SIZE-.535"x .340

Stk. No.	Type	Mfd.	1-49	50-99	100-499	500-999
18F1974	4C023474X0250A3	.47	1.75	1.31	.87	.66
18F1975	4C023684X0250A3	.68	1.84	1.38	.92	.69

MAX. THICKNESS .125; SIZE .500x.500"

Stk.No.	Type	Mfd.	1-49	50-99	100-499	500-999
18F1955	5C023104X0250B3	.1	1.06	.80	.53	.40
18F1957	5C023224X0250B3	.22	1.24	.93	.62	.47
18F1958	5C023334X0250B3	.33	1.56	1.17	.78	.59
18F1959	5C023474X0250B3	.47	1.75	1.31	.87	.66
18F1960	5C023684X0250B3	.68	1.84	1.38	.92	.69
18F1961	5C023105X0250B3	1.0	2.07	1.55	1.04	.78

MAX. THICKNESS .187; SIZE .500x500"

Stk. No.	Type	Mfd.	1-49	50-99	100-499	500-999
18F1962	5C023155X0250B3	1.5	3.13	2.35	1.56	1.17
18F1963	5C023225X0250B3	2.2	4.14	3.11	2.07	1.55

50 WVDC SIZE-.500"x.500"

18F885	5C023104X0500B3	.1	1.06	.80	.60	.398
18F887	5C023224X0500B3	.22	1.24	.93	.62	.47
18F888	5C023334X0500B3	.33	1.56	1.17	.78	.59
18F889	5C023474X0400B3	.47	1.75	1.31	.87	.66

7C MONOLYTHIC CERAMIC CAPACITORS

The radial lead style is especially designed for printed wiring board mounting and the complete unit is provided with stand off "feet" for this purpose. Units are dipped in an insulating phenolic resin which provides moisture protection. Temp. range -55C to +85°C. 50 WVDC.

SIZE .390x.275x.160

Stock No.	Mfgr's Type	µF	1-49	50-99	100-499	500-999
47F114	7C075102X0500 D	.001	1.16	.87	.58	.44
47F115	7C067222X0500 D	.0022	1.16	.87	.58	.44
47F116	7C067332X0500 D	.0033	1.16	.87	.58	.44
47F117	7C067472X0500 D	.0047	1.16	.87	.58	.44
47F118	7C067682X0500 D	.0068	1.20	.90	.60	.45
47F119	7C067822X0500 D	.0082	1.20	.90	.60	.45
47F120	7C023103X0500 D	.01	1.06	.80	.53	.40
47F121	7C023223X0500 D	.022	1.06	.80	.53	.40
47F122	7C023333X0500 D	.033	1.06	.80	.53	.40
47F123	7C023473X0500 D	.047	1.06	.80	.53	.40
47F124	7C023683X0500 D	.068	1.06	.80	.53	.40
47F125	7C023104X0500 D	0.1	1.06	.80	.53	.40
47F126	7C023224X0500 D	.22	1.24	.93	.62	.47

SIZE .535x550x160 except (*) .535x.550x.260

Stock No.	Mfgrs Type	µF	1-49	50-99	100-499	500-999
47F127	7C023334X0500E	.33	1.56	1.17	.78	.59
47F128	7C023474X0500E	.47	1.75	1.31	.87	.66
47F129	7C023684X0500E	.68	1.84	1.38	.92	.69
47F130	7C023105X0500E	1.0	2.07	1.55	1.04	.78
47F131	7C023155X0500E	1.5	3.13	2.35	1.56	1.17
47F132	7C023225X0500F	2.2*	4.14	3.11	2.07	1.55

SERIES 5GA CERAMIC CAPACITORS

Low self-inductance of silvered flat-plate design means very high by-pass efficiency in all TV circuits. Designed for 85°C (185°F) continuous operation. Higher self-resonant frequency than tubular ceramic or molded mica capacitors. Moisture proof coating. Tol. ±20%. 1000 WVDC. except (*) 500 WVDC.

Stk. No.	Type*	Mfd.	Stk. No.	Type	Mmfd.
18F2711	5GA-D10	.001	18F2682	5GA-Q25	25
18F2712	5GA-D12	.0012	18F2683	5GA-Q27	27
18F2714	5GA-D15	.0015	18F2684	5GA-Q30	30
18F2715	5GA-D18	.0018	18F2685	5GA-Q33	33
18F2716	5GA-D20	.002	18F2686	5GA-Q39	39
18F2717	5GA-D22	.0022	18F2687	5GA-Q47	47
18F2718	5GA-D25	.0025	18F2688	5GA-Q50	50
18F2719	5GA-D27	.0027	18F2689	5GA-Q56	56
18F2720	5GA-D30	.003	18F2690	5GA-Q68	68
18F2721	5GA-D33	.0033	18F2691	5GA-Q75	75
18F2722	5GA-D39	.0039	18F2692	5GA-Q82	82
18F2723	5GA-D40	.004	18F2693	5GA-T10	100
18F2725	5GA-D47	.0047	18F2694	5GA-T12	120
18F2726	5GA-D50	.005	18F2695	5GA-T15	150
18F2727	5GA-S10	.01	18F2696	5GA-T18	180
18F2728	5GA-S15	.015	18F2697	5GA-T20	200
18F2729	5GA-S20	.02	18F2698	5GA-T22	220
18F2730	5GA-S25*	.025	18F2699	5GA-T25	250
18F2731	5GA-S40*	.04	18F2700	5GA-T27	270
18F2732	5GA-S50*	.05	18F2701	5GA-T30	300
18F2733	5GA-P10*	.1	18F2702	5GA-T33	330
18F2675	5GA-V50	5	18F2703	5GA-T36	360
18F2676	5GA-V75	7.5	18F2704	5GA-T39	390
18F2677	5GA-Q10	10	18F2705	5GA-T47	470
18F2678	5GA-Q12	12	18F2706	5GA-T50	500
18F2679	5GA-Q15	15	18F2707	5GA-T56	560
18F2680	5GA-Q20	20	18F2708	5GA-T68	680
18F2681	5GA-Q22	22	18F2709	5GA-T75	750
			18F2710	5GA-T82	820

SERIES 5GA PRICES

MmFD	1-99	100-499	500-999	1000-9999
.0047	.15	.061	.054	.041
.005	.15	.061	.054	.041
.01	.15	.072	.064	.048
.015	.15	.097	.086	.065
.02	.15	.112	.099	.074
.025	.15	.082	.082	.062
.04	.30	.210	.082	.140
.05	.39	.282	.186	.188
.1	.60	.450	.400	.300
5 thru 820	.15	.055	.49	.037

HYPERCON CERAMIC DISCS

Ultra-miniature ceramic discs ideal for use in transistorized circuitry. Designed for by-pass and coupling applications but particularly well-suited for any low voltage use where high capacitance and low power factor are important considerations. Superior to electrolytic capacitors of similar capacitance value because of the very low power factor of Hypercon Capacitors, Capacitance Tolerance: GMV.

12 VOLTS DC

Stock No	Type	Mfd.	Sze Diam.	Each 1-99	100-499	500-999	1000-9999
55F4600	HY-340	.022	.25	.15	.086	.076	.057
47F100	HY-345	.033	.30	.15	.086	.076	.057
47F101	HY-350	.047	.365	.15	.102	.09	.068
47F102	HY-355	.068	.365	.15	.106	.094	.071
47F103	HY-360	.1	.43	.18	.12	.106	.08
47F104	HY-365	.15	.57	.24	.169	.15	.113
47F105	HY-370	.22	.625	.27	.189	.168	.126
47F106	HY-375	.33	.75	.33	.248	.22	.165
47F107	HY-380	.47	.875	.45	.318	.282	.212

16 VOLTS DC

Stock No	Type	Mfd.	Sze Diam.	Each 1-99	100-499	500-999	1000-9999
18F032	HY-420	.01	.30	.15	.086	.076	.057
47F108	HY-425	.022	.365	.15	.086	.076	.057
47F109	HY-430	.033	.430	.15	.086	.076	.057
18F033	HY-435	.047	.49	.15	.122	.09	.068
47F110	HY-440	.068	.625	.15	.113	.10	.075
18F034	HY-450	.1	.675	.15	.113	.10	.075
47F111	HY-470	.2	.875	.27	.192	.17	.128

25 VOLTS DC

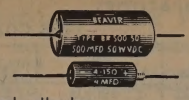
47F112	HY-510	.0047	.25	.15	.09	.08	.06
18F1987	HY-520	.01	.365	.15	.09	.08	.06
18F1988	HY-525	.022	.430	.15	.102	.09	.068
18F1989	HY-530	.033	.490	.15	.102	.09	.068
18F1990	HY-535	.047	.570	.18	.124	.11	.083
47F113	HY-540	.068	.675	.18	.135	.12	.09
18F1991	HY-550	.1	.750	.21	.147	.13	.098

Cornell-Dubilier Capacitors

CDE

TYPE BR "BLUE BEAVER" ELECTROLYTIC CAPACITORS

Compact aluminum cased, cardboard insulated electrolytics. Type BR section tabs and leads are riveted. Type BBR negative lead is riveted and positive lead is crimped. Voltage ratings up to 150 volts feature etched cathodes.



6 DC W. VOLTS

Stk. No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249	250-499	500-999
15F310	BR5-6	5	3/8x1 1/16"	.48	.35	.27	.22	.19	.17
15F311	BR25-6	25	3/8x1 1/16"	.51	.37	.29	.23	.20	.18
15F312	BR50-6	50	3/8x1 1/16"	.57	.41	.32	.26	.22	.20
15F314	BR100-6	100	1/2x1 1/16"	.72	.50	.39	.31	.26	.24
15F315	BR250-6	250	1/2x1 1/16"	.81	.64	.50	.40	.34	.31
15F193	BR500-6	500	1/2 x1 7/16"	.93	.73	.57	.45	.38	.35
15F153	BR1000-6	1000	5/8x1 11/16"	1.14	.89	.69	.55	.47	.43
15F154	BR2000-6	2000	3/4x2"	1.38	1.04	.84	.67	.57	.52
15F181	BR3000-6	3000	7/8x2"	1.80	1.35	1.04	.84	.72	.66
15F182	BR4000-6	4000	1x2 3/16"	2.04	1.54	1.20	.95	.82	.72

15 DC W. VOLTS

15F316	BR100-15	100	1/2x1 1/16"	.75	.52	.41	.33	.28	.25
15F159	BR250-15	250	1/2x1 1/16"	.93	.73	.57	.46	.40	.36
15F160	BR500-15	500	1/2x1 7/16"	1.05	.82	.64	.51	.43	.40
15F165	BR1000-15	1000	5/8x1 11/16"	1.41	1.07	.83	.67	.58	.53
15F166	BR2000-15	2000	3/4x2"	1.68	1.26	.97	.78	.67	.62
15F194	BR3000-15	3000	7/8x2 3/16"	2.37	1.82	1.42	1.14	.97	.89
15F195	BR4000-15	4000	7/8x2 3/4"	3.00	2.25	1.75	1.40	1.20	1.10
15F196	BR5000-15	5000	1x3"	3.27	2.45	1.91	1.53	1.30	1.20

25 DC W. VOLTS

15F317	BR10-25	10	3/8x1 1/16"	.60	.42	.33	.26	.23	.21
15F318	BR20-25	20	3/8x1 1/16"	.60	.43	.34	.27	.23	.21
15F319	BR25-25	25	3/8x1 1/16"	.60	.44	.35	.28	.24	.22
15F320	BR50-25	50	1/2x1 1/16"	.66	.47	.37	.30	.25	.23
15F321	BR100-25	100	1/2x1 1/16"	.78	.57	.45	.36	.30	.28
15F162	BR250-25	250	1/2x1 7/16"	1.02	.79	.62	.49	.42	.39
15F163	BR500-25	500	5/8x1 11/16"	1.38	1.04	.83	.67	.57	.52
15F112	BR1000-25	1000	3/4x2"	2.37	1.78	1.39	1.11	.95	.87
15F113	BR2000-25	2000	7/8x2 1/2"	2.91	2.19	1.70	1.36	1.17	1.07
15F345	BR3000-25	3000	1"x3"	3.30	2.47	1.93	1.54	1.32	1.21
15F346	BR4000-25	4000	1x4 1/16"	3.90	2.92	2.28	1.82	1.56	1.43

50 DC W. VOLTS

15F322	BR1-50	1	3/8x1 1/16"	.54	.39	.31	.24	.21	.19
15F323	BR2-50	2	3/8x1 1/16"	.54	.39	.31	.24	.21	.19
15F324	BR4-50	4	3/8x1 1/16"	.54	.41	.32	.25	.22	.20
15F325	BR5-50	5	3/8x1 1/16"	.60	.42	.32	.26	.22	.20
15F326	BR10-50	10	3/8x1 1/16"	.60	.42	.33	.27	.23	.21
15F327	BR25-50	25	1/2x1 1/16"	.63	.44	.35	.28	.24	.22
15F131	BR50-50	50	1/2x1 1/16"	.72	.51	.40	.32	.28	.25
15F164	BR100-50	100	1/2x1 7/16"	.81	.59	.46	.37	.31	.29
15F199	BR150-50	150	5/8x1 7/16"	.90	.66	.51	.41	.35	.32
15F198	BR250-50	250	3/4x1 7/16"	1.05	.83	.64	.51	.44	.41
15F197	BR500-50	500	7/8x1 11/16"	1.44	1.11	.86	.69	.59	.54
15F114	BR1000-50	1000	1x2 1/16"	2.49	1.84	1.44	1.15	.98	.90
15F536	BR1500-50	1500	1 1/8x2 3/4"	3.00	2.26	1.76	1.41	1.21	1.11
15F537	BR2000-50	2000	1 3/8x2 3/4"	3.48	2.60	2.02	1.61	1.38	1.27
15F347	BR3000-50	3000	1 3/8x3 1/16"	3.90	2.92	2.28	1.82	1.56	1.43

150 DC W. VOLTS

15F330	BR4-150	4	3/8x1 1/16"	.60	.43	.33	.27	.23	.21
15F331	BR8-150	8	1/2x1 1/16"	.63	.45	.34	.28	.24	.22
15F332	BR10-150	10	1/2x1 1/16"	.63	.46	.35	.29	.25	.23
15F333	BR12-150	12	1/2x1 1/16"	.66	.47	.37	.29	.25	.23
15F334	BR16-150	16	1/2x1 7/16"	.69	.49	.38	.31	.26	.24
15F313	BR20-150	20	1/2x1 7/16"	.72	.50	.39	.31	.27	.24
15F302	BR25-150	25	3/4x1 7/16"	.75	.53	.41	.33	.28	.25
15F862	BR30-150	30	3/4x1 7/16"	.78	.55	.43	.34	.29	.26
15F124	BR40-150	40	3/4x1 11/16"	.81	.58	.45	.36	.31	.29
15F125	BR50-150	50	3/4x1 11/16"	.84	.59	.46	.37	.32	.30
15F303	BR60-150	60	7/8x1 11/16"	.90	.63	.49	.39	.34	.31
15F126	BR80-150	80	7/8x1 11/16"	.96	.68	.54	.43	.36	.33
15F167	BR100-150	100	7/8x2"	1.05	.74	.58	.46	.40	.36
15F168	BR150-150	150	1x2 3/16"	1.14	.82	.63	.51	.44	.40
15F098	BR200-150	200	1x3"	1.32	.98	.77	.62	.53	.48
15F118	BR250-150	250	1x3 9/16"	1.65	1.24	.96	.77	.66	.61
15F099	BR300-150	300	1x3 13/16"	1.77	1.35	1.04	.84	.72	.60

250 DC W. VOLTS

15F993	BR4-250	4	1/2x1 1/16"	.63	.47	.37	.30	.25	.23
15F994	BR8-250	8	1/2x1 7/16"	.69	.54	.41	.33	.28	.26
15F995	BR12-250	12	1/2x1 7/16"	.75	.57	.44	.35	.30	.28
15F115	BR16-250	16	3/4x1 7/16"	.78	.60	.47	.38	.32	.30
15F116	BR20-250	20	3/4x1 7/16"	.81	.64	.49	.40	.34	.31
15F304	BR30-250	30	3/4x1 11/16"	.87	.68	.53	.42	.36	.33
15F117	BR40-250	40	3/4x2"	.93	.73	.57	.46	.40	.36
15F305	BR50-250	50	7/8x1 11/16"	1.05	.80	.62	.50	.43	.40
15F306	BR60-250	60	1x1 11/16"	1.08	.84	.65	.52	.44	.41
15F119	BR100-250	100	1x2 3/16"	1.32	.96	.75	.60	.52	.47
15F120	BR150-250	150	1 1/8x3"	1.50	1.12	.85	.70	.60	.55
15F309	BR200-250	200	1 3/8x3 1/8"	1.80	1.35	1.05	.80	.72	.66

350 DC W. VOLTS

Stk. No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249	250-499	500-999
15F886	BR4-350	4	5/8x1 1/16"	.63	.49	.38	.30	.26	.24
15F887	BR8-350	8	5/8x1 7/16"	.72	.55	.43	.34	.29	.26
15F888	BR12-350	12	3/4x1 7/16"	.78	.60	.47	.38	.32	.30
15F890	BR20-350	20	3/4x1 7/16"	.87	.68	.52	.42	.36	.33
15F123	BR30-350	30	3/4x2"	.99	.77	.60	.48	.41	.38
15F892	BR40-350	40	7/8x2"	1.05	.81	.62	.51	.43	.40
15F893	BR50-350	50	1x2"	1.11	.87	.68	.54	.47	.43
15F894	BR60-350	60	1x2"	1.17	.91	.71	.57	.48	.44
15F895	BR80-350	80	1x3"	1.35	1.01	.78	.63	.54	.50
15F896	BR100-350	100	1x3"	1.50	1.11	.86	.69	.59	.54
15F121	BR150-350	150	1 3/8x3"	1.95	1.44	1.02	.90	.77	.71
15F122	BR200-350	200	1 3/8x4 1/8"	2.40	1.78	1.39	1.11	.95	.87

450 DC W. VOLTS

15F102	BR1-450	1	5/8x1 1/16"	.66	.51	.39	.32	.27	.24
15F103	BR2-450	2	5/8x1 1/16"	.66	.52	.40	.32	.28	.25
15F104	BR4-450	4	5/8x1 1/16"	.69	.53	.42	.34	.29	.26
15F105	BR8-450	8	3/4x1 7/16"	.75	.59	.46	.37	.31	.29
15F106	BR10-450	10	3/4x1 7/16"	.78	.62	.47	.38	.33	.30
15F107	BR12-450	12	3/4x1 7/16"	.81	.64	.50	.40	.34	.31
15F108	BR16-450	16	3/4x1 11/16"	.87	.65	.53	.42	.36	.33
15F109	BR20-450	20	7/8x1 11/16"	.93	.73	.56	.45	.38	.35
15F110	BR30-450	30	1x2"	1.02	.80	.62	.50	.42	.39
15F111	BR40-450	40	1x2 3/16"	1.08	.83	.64	.52	.44	.41
15F147	BR60-450	60	1x3"	1.41	1.08	.83	.67	.57	.53
15F148	BR80-450	80	1x3 9/16"	1.68	1.26	.98	.79	.67	.62
15F169	BR100-450	100	1x3 13/16"	1.92	1.48	1.15	.92	.80	.73
15F127	BR150-450	150	1 3/8x3 5/8"	2.70	2.00	1.55	1.25	1.07	.98
15F128	BR200-450	200	1 3/8x4 1/8"	3.30	2.50	1.95	1.56	1.33	1.21

500 DC W. VOLTS

15F307	BR4-500	4	5/8x1 7/16"	.72	.56	.43	.35	.30	.28
15F100	BR8-500	8	3/4x1 7/16"	.78	.61	.47	.38	.33	.30
15F308	BR12-500	12	3/4x1 11/16"	.84	.66	.51	.41	.35	.32
15F101	BR16-500	16	7/8x1 11/16"	.90	.70	.54	.43	.37	.34
15F145	BR20-500	20	7/8x2"	.96	.74	.58	.47	.40	.36
15F146	BR30-500	30	1x2"	1.05	.82	.66	.52	.44	.41

600 DC W. VOLTS

15F183	BR4-600	4	13/16x2 7/16"	1.44	1.08	.84	.67	.58	.53
15F185	BR8-600	8	13/16x3 3/16"	1.68	1.26	.98	.78	.67	.62
15F186	BR10-600	10	15/16x3 3/16"	1.80	1.35	1.05	.84	.72	.66
15F187	BR12-600	12	1 1/16x3 3/16"	1.92	1.46	1.12	.90	.77	.71
15F188	BR16-600	16	1 1/16x3 3/16"	2.10	1.57	1.23	.98	.84	.77
15F184	BR20-600	20	1 1/16x3 11/16"	2.31	1.73	1.35	1.01	.92	.85

700 DC W. VOLTS

15F189	BR8-700	8	15/16x3 3/16"	1.74	1.31	1.02	.81	.70	.64
15F190	BR10-700	10	1 1/16x3 3/16"	1.86	1.40	1.09	.87	.74	.68
15F191	BR12-700	12	1 1/16x3 11/16"	1.98	1.49	1.16	.92	.79	.73
15F192	BR16-700	16	1 1/16x4 5/16"	2.25	1.69	1.31	1.05	.90	.83

NON-POLARIZED ELECTROLYTICS

Suitable for use when no DC polarized voltage is present. Units are physically similar to the type BR axial lead, hermetically sealed in aluminum cases with cardboard insulating sleeves. For use in crossover networks and in boot-strap filtering applications.

Stk. No.	Type BRNP-	Mfd.	Volts	Size	1-24	25-49	50-99	100-249	500-999
15F1674	1000-3	1000	3	15/16 ± 2 3/16	1.29	1.01	.79	.63	.49
15F1675	500-10	500	10	1 3/16 ± 1 5/8	1.14	.80	.62	.50	.39
15F1676	20-30	20	30	1 1/16 ± 1 1/4	.75	.54	.42	.34	.27
15F1677	4-50	4	50	1 1/16 ± 1 1/4	.72	.51	.40	.32	.25
15F1678	5-400	5	400	1 3/16x1 5/8	.75	.56	.44	.35	.28
15F1679	20-400	20	400	1 1/16x2 3/8	1.20	.89	.70	.56	.44
15F1680	10-400	10	400	1 5/16x1 7/8	.99	.74	.58	.46	.36
15F1690	1-50	1	50	9/16x1 1/4"	.66	.49	.38	.31	.24
15F1691	2-50	2	50	9/16x1 1/4"	.66	.49	.38	.31	.24

CAP-KIT

The type BR tubular electrolytic assortment is ideal for prototype shops, laboratory work, and general maintenence. The kit includes one each of the most popular BR ratings.

Type	Mfd.	WVDC	Type	Mfd.	WVDC
BR2000-25	2000	25	BR100-150	100	150
BR25-50	25	50	BR4-450	4	450
BR100-50	50	100	BR10-450	10	450
BR250-50	250	50	BR20-450	20	450
BR500-50	500	50	BR40-450	40	450
BR1000-50	1000	50	BR100-450	100	450
BR50-150	50	150			

15F480 NET **16.62**

Cornell Dubilier Capacitors

CD SERIES DIPPED MICA CAPACITORS

Feature multi-coat dipped process to meet rigid humidity requirements. Conform to EIA specs. Meets requirements of MIL-C-5. Operating temperature: —55°C to +125°C. Tolerance: ±5% or 0.5 pF, whichever is greater. Operating potential 500 WVDC.

Have 1¼" tinned brass wire leads, except CD10 which has copperweld leads. All units meet 10-2000 cycle vibration tests.

TYPE CD10—CM04

Stk. No.	Type CD10-	pF	1-24	25-99	100-499	500-999	1000-Up
15F1338	CD050D03	5					
15F1339	CD100D03	10					
15F1340	CD120J03	12	.47	.27	.152	.114	.091
15F1341	CD150J03	15					
15F1342	CD180J03	18					
15F1344	ED220J03	22	.31	.18	.104	.078	.063
15F1345	ED240J03	24	.32	.19	.108	.081	.065
15F1346	ED270J03	27	.32	.19	.108	.081	.065
15F1347	ED300J03	30	.32	.19	.108	.081	.065
15F1348	ED330J03	33	.32	.19	.108	.081	.065
15F1350	ED390J03	39	.33	.19	.110	.083	.066
15F1352	ED470J03	47	.34	.20	.112	.084	.067
15F1353	ED510J03	51	.34	.20	.112	.084	.067
15F1354	ED560J03	56	.35	.20	.116	.087	.070
15F1355	ED620J03	62	.35	.20	.116	.087	.070
15F1356	ED680J03	68	.35	.21	.118	.089	.071
15F1358	ED820J03	82	.36	.21	.120	.090	.072
15F1360	FD101J03	100	.38	.22	.126	.095	.076
15F1362	FD121J03	120	.40	.23	.132	.099	.079
15F1364	FD151J03	150	.46	.27	.154	.116	.093
15F1366	FD181J03	180	.53	.31	.176	.132	.106
15F1367	FD201J03	200	.57	.33	.190	.143	.114
15F1368	FD221J03	220	.59	.35	.198	.149	.119
15F1369	FD241J03	240	.64	.37	.212	.159	.127

TYPE CD15—CM05

Stk. No.	Type CD15-	pF	1-24	25-99	100-499	500-999	1000-Up
15F1203	CD050D03	5	.32	.19	.106	.080	.064
15F1204	CD100D03	10	.32	.19	.106	.080	.064
15F1207	CD180J03	18	.32	.19	.106	.080	.064
15F1209	ED220J03	22					
15F1210	ED240J03	24					
15F1211	ED270J03	27					
15F1212	ED300J03	30					
15F1213	ED330J03	33	.26	.15	.086	.065	.052
15F1215	ED390J03	39					
15F1217	ED470J03	47					
15F1219	ED510J03	51					
15F1220	ED560J03	56					
15F1221	ED620J03	62					

(Continued Next Column)

TYPE CD15—CM05 (Cont'd)

Stk. No.	Mil Style	pF	1-24	25-99	100-499	500-999	1000-Up
15F1222	ED680J03	68	.26	.15	.086	.065	.052
15F1223	ED750J03	75	.26	.15	.086	.065	.052
15F1224	ED820J03	82	.26	.15	.086	.065	.052
15F1226	FD101J03	100	.26	.15	.088	.066	.053
15F1230	FD151J03	150	.31	.18	.102	.077	.061
15F1232	FD181J03	180	.35	.21	.118	.089	.071
15F1233	FD201J03	200	.35	.21	.118	.089	.071
15F1234	FD221J03	220	.39	.22	.126	.095	.076
15F1235	FD241J03	240	.40	.24	.134	.101	.081
15F1237	FD271J03	270	.43	.25	.142	.107	.085
15F1238	FD301J03	300	.45	.26	.150	.113	.090
15F1239	FD331J03	330	.50	.29	.166	.125	.100
15F1240	FD361J03	360	.52	.31	.174	.131	.105
15F1241	FD391J03	390	.55	.32	.182	.137	.109
15F1242	FD431J03	430	.59	.34	.196	.147	.118

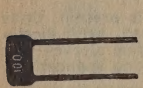
TYPE CD19—CM06

Stk. No.	Mil Style	pF	1-24	25-99	100-499	500-999	1000-Up
15F1243	FD471J03	470	.43	.25	.142	.107	.085
15F1245	FD511J03	510	.43	.25	.142	.107	.085
15F1246	FD561J03	560	.43	.25	.142	.107	.085
15F1247	FD621J03	620	.47	.27	.156	.117	.094
15F1248	FD681J03	680	.47	.27	.156	.117	.094
15F1249	FD751J03	750	.51	.30	.170	.128	.102
15F1250	FD821J03	820	.51	.30	.170	.128	.102
15F1251	FD911J03	910	.55	.32	.184	.138	.111
15F1252	FD102J03	1000	.60	.35	.200	.150	.120
15F1254	FD122J03	1200	.68	.40	.228	.171	.137
15F1256	FD152J03	1500	.82	.48	.272	.204	.163
15F1258	FD182J03	1800	.91	.53	.302	.227	.181
15F1259	FD202J03	2000	.99	.58	.330	.248	.198
15F1260	FD222J03	2200	1.08	.63	.360	.270	.216
15F1261	FD242J03	2400	1.13	.66	.378	.284	.227
15F1263	FD272J03	2700	1.28	.75	.428	.321	.257
15F1264	FD302J03	3000	1.44	.84	.480	.360	.288
15F1265	FD332J03	3300	1.52	.90	.514	.386	.309
15F1267	FD392J03	3900	1.80	1.05	.600	.450	.360
15F1268	FD432J03	4300	2.00	1.17	.668	.501	.401
15F1269	FD472J03	4700	2.15	1.26	.718	.539	.631
15F1271	FD512J03	5100	2.36	1.38	.788	.591	.473

TYPE CD30—CM07

Stk. No.	Type CD30-	pF	1-24	25-99	100-499	500-999	1000-Up
15F1272	FD562J03	5600	1.84	1.08	.614	.461	.369
15F1273	FD622J03	6200	1.99	1.16	.662	.497	.397
15F1274	FD682J03	6800	2.21	1.29	.738	.554	.443
15F1275	FD752J03	7500	2.36	1.38	.788	.591	.473
15F1276	FD822J03	8200	2.59	1.51	.862	.647	.517
15F1277	FD912J03	9100	2.81	1.64	.936	.702	.562
15F1278	FD103J03	10000	3.11	1.82	1.04	.779	.623
15F1378	FD163J03	15000	4.76	2.78	1.59	1.19	.952

MINIATURE DIPPED MICA-DIELECTRIC CAPACITORS



Microminiature, radial lead, dipped, silver mica capacitors. Temperature range: —55°C to +125°C. Capacitance tolerance: ±1pf(C); ±2%(G); ±5%(J); ±10%(K).

CD6 — .265" x .135" x .095" CD7 — .265" x .260" x .175"

100 WVDC

Stk. No.	Type	pF	1-24	25-99	100-249	500-999	1000-Up
15F1736	CD7FA391G03	390	1.65	.96	.550	.413	.330
15F1738	CD7FA471G03	470	1.75	1.02	.584	.438	.350
15F1739	CD7FA511G03	510	1.80	1.05	.600	.450	.360
15F1740	CD7FA561G03	560	1.85	1.08	.616	.462	.370
15F1741	CD7FA621G03	620	1.90	1.11	.634	.476	.380
15F1742	CD7FA681G03	680	2.40	1.40	.800	.600	.480
15F1743	CD7FA751G03	750	2.60	1.52	.866	.650	.520
15F1746	CD7FA102G03	1000	3.15	1.84	1.05	.788	.630
15F1747	CD7FA112G03	1100	3.25	1.90	1.08	.813	.650
15F1748	CD7FA122G03	1200	3.35	1.95	1.12	.837	.670
15F1749	CD7FA132G03	1300	3.80	2.22	1.27	.950	.760
15F1750	CD7FA152G03	1500	4.15	2.42	1.38	1.04	.830

300 WVDC

Stk. No.	Type	pF	1-24	25-99	100-249	500-999	1000-Up
15F1720	CD6FC121G03	120	1.09	.64	.364	.273	.218
15F1721	CD6EC820G03	82	1.06	.62	.354	.266	.212
15F1722	CD6EC910G03	91	1.06	.62	.354	.266	.212
15F1723	CD6FC101G03	100	1.06	.62	.354	.266	.212
15F1724	CD6FC111G03	110	1.09	.64	.364	.273	.218

300 WVDC (Cont'd)

Stk. No.	Type	pF	1-24	25-99	100-499	500-999	1000-Up
15F1729	CD7FC201G03	200	1.16	.68	.386	.290	.232
15F1730	CD7FC221G03	220	1.18	.69	.394	.296	.236
15F1731	CD7FC241G03	240	1.25	.73	.416	.312	.250
15F1732	CD7FC271G03	270	1.38	.81	.460	.345	.276
15F1733	CD7FC301G03	300	1.46	.85	.486	.365	.292

500 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999	1000-Up
15F1700	CD6CD030C03	3	.45	.26	.150	.113	.090
15F1701	CD6CD050C03	5	.45	.26	.150	.113	.090
15F1702	CD6CD100K03	10	.45	.26	.150	.113	.090
15F1703	CD6CD120K03	12	.46	.27	.154	.115	.092
15F1705	CD6CD200J03	20	.51	.30	.170	.128	.102
15F1706	CD6CD220J03	22	.54	.30	.170	.128	.102
15F1707	CD6CD240J03	24	.54	.32	.180	.135	.108
15F1708	CD6ED270J03	27	.51	.32	.180	.135	.108
15F1709	CD6ED300J03	30	.54	.32	.180	.135	.108
15F1710	CD6ED330J03	33	.56	.33	.186	.140	.112
15F1711	CD6ED360J03	36	.56	.33	.186	.140	.112
15F1712	CD6ED390J03	39	.56	.33	.186	.140	.112
15F1713	CD6ED430J03	43	.56	.33	.186	.140	.112
15F1714	CD6ED470J03	47	.56	.33	.186	.140	.112
15F1716	CD6ED560G03	56	.93	.54	.310	.233	.186
15F1717	CD6ED620G03	62	.93	.54	.310	.233	.186
15F1718	CD6ED680G03	68	1.03	.60	.344	.258	.206
15F1719	CD6ED750G03	75	1.03	.60	.344	.258	.206
15F1725	CD7FD131G03	130	1.11	.65	.370	.278	.222
15F1726	CD7FD151G03	150	1.11	.65	.370	.278	.222
15F1727	CD7FD161G03	160	1.14	.67	.380	.285	.228
15F1728	CD7FD181G03	180	1.15	.67	.384	.288	.230

Cornell-Dubilier Capacitors

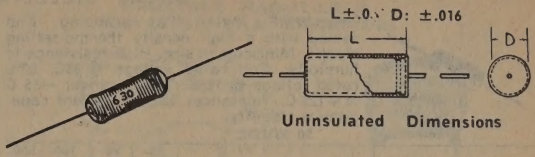
CDE

COMPUTER GRADE HIGH CAPACITANCE TYPE FAH

Designed for use in computer power supplies and other applications where banks of high capacitance filters are required. Low leakage current, minimum ESR, high 120cps ripple currents, molded terminal block with safety vent seal, provided with screw terminals, plastic insulating sleeve. Dual rated as shown, minimum operating termperature —40°C.

Stock No.	Type FAH—	Cap. Mfd.	Size	1-24	25-49	50-99	100 up
85°C: 10VDCW; 12VS							
47F800	362-10	3,600	1⅜ x 2⅛	2.31	1.85	1.62	1.25
47F801	113-10	11,000	1⅞ x 4⅛	2.84	2.27	1.99	1.53
47F802	153-10	15,000	1¾ x 4⅛	3.39	2.71	2.37	1.83
47F803	203-10	20,000	2 x 4⅛	4.61	3.69	3.23	2.49
15F1807	353-10	35,000	2 x 5⅜	4.81	3.84	3.37	2.60
85°C: 15V DCW, 18 VS;							
47F804	262-15	2,600	1⅜ x 2⅛	2.30	1.84	1.61	1.24
47F805	802-15	8,000	1⅞ x 4⅛	2.60	2.08	1.82	1.40
15F1809	143-15	14,000	1¾ x 4⅛	3.54	2.83	2.48	1.91
15F1810	253-15	25,000	2 x 5⅜	5.50	4.40	3.85	2.97
15F1811	403-15	40,000	3 x 4⅛	6.90	5.52	4.83	3.72
85C: 20V DCW, 25VS							
47F806	302-20	3,000	1⅜ x 2⅛	2.24	1.79	1.57	1.21
47F807	602-20	6,000	1⅞ x 4⅛	2.63	2.11	1.84	1.42
85C: 25V DCW, 30VS							
15F1812	152-25	1,500	1⅜ x 2⅛	2.11	1.69	1.48	1.14
47F808	502-25	5,000	1⅜" x 4⅛"	2.65	2.12	1.85	1.43
47F809	702-25	7,000	2 x 3⅛	3.42	2.73	2.39	1.84
15F1813	103-25	10,000	2 x 4⅛	3.91	3.12	2.74	2.11
15F1814	203-25	20,000	2½ x 4⅛	5.50	4.40	3.85	2.97
15F1815	323-25	32,000	3 x 4⅛	7.63	6.10	5.33	4.11
85C: 50V DCW; 65VS							
15F1816	801-50	800	1⅜ x 2⅛	2.09	1.68	1.47	1.13
15F1817	252-50	2,500	1⅞ x 4⅛	2.69	2.15	1.88	1.45
15F1818	402-50	4,000	1¾ x 4⅛	3.39	2.72	2.38	1.83
15F1819	502-50	5,000	2 x 4⅛	4.14	3.31	2.89	2.23
15F1820	103-50	10,000	2½ x 4⅛	5.50	4.40	3.85	2.97
47F810	253-50	25,000	2½ x 5⅜	8.13	6.50	5.69	4.39
47F811	403-50	40,000	3 x 5⅜	11.13	8.90	7.79	6.00
85C: 60V DCW; 75VS							
47F812	501-60	500	1⅜ x 2⅛	2.19	1.75	1.53	1.18
47F813	102-60	1,000	1⅜ x 3⅛	2.31	1.85	1.62	1.25
47F814	202-60	2,000	1⅜ x 4⅛	2.87	2.30	2.01	1.55
47F815	253-60	25,000	3 x 5⅜	10.70	8.56	7.49	5.78
85C: 75V DCW; 85VS							
47F816	152-75	1,500	1⅜ x 4⅛	3.00	2.40	2.10	1.62
47F817	252-75	2,500	2 x 3⅛	3.97	3.17	2.78	2.14
47F818	3451-75	3,450	2 x 4⅛	4.70	3.76	3.29	2.54
47F819	822-75	8,200	3 x 4⅛	8.38	6.70	5.86	4.52
47F820	153-75	15,000	2½ x 5⅜	8.58	6.86	6.00	4.62
47F821	2252-75	22,500	3 x 5⅜	10.60	8.48	7.42	5.72
85C: 100V DCW; 135VS							
15F1822	102-100	1,000	1⅜ x 4⅛	3.20	2.56	2.24	1.73
47F822	1651-100	1,650	1¾ x 4⅛	3.53	2.82	2.47	1.90
15F1823	402-100	4,000	2½ x 4⅛	6.38	5.10	4.46	3.44
15F1824	532-100	5,300	3 x 4⅛	7.40	5.92	5.18	4.00
47F823	133-100	13,000	3 x 5⅜	11.85	9.48	8.30	6.40
85C: 150V DCW; 185VS							
15F1825	751-150	750	1⅜ x 4⅛	2.76	2.21	1.93	1.49
47F824	132-150	1,300	1¾ x 4⅛	3.50	2.80	2.45	1.89
15F1826	202-150	2,000	2 x 4⅛	4.76	3.91	3.33	2.57
15F1827	602-150	6,000	3 x 5⅜	9.68	7.74	6.77	5.22
85C: 200V DCW; 250VS							
15F1828	501-200	500	1⅜ x 4⅛	2.95	2.36	2.07	1.59
47F825	751-200	750	1¾ x 4⅛	3.34	2.67	2.34	1.80
15F1829	202-200	2,000	2½ x 4⅛	5.98	4.78	4.18	3.23
47F826	252-200	2,500	3 x 4⅛	7.40	5.92	5.18	4.00
85C: 250V DCW; 300VS							
47F827	701-250	700	1¾ x 4⅛	3.43	2.74	2.40	1.85
15F1830	102-250	1,000	2 x 4⅛	4.91	3.93	3.44	2.65
15F1831	152-250	1,500	2½ x 4⅛	5.98	4.78	4.18	3.22
85C: 350V DCW; 400VS							
47F828	151-350	150	1⅜ x 3⅛	2.70	2.16	1.89	1.46
15F1832	351-350	350	1¾ x 4⅛	3.46	2.77	2.43	1.87
47F829	551-350	550	2 x 4⅛	4.52	3.62	3.16	2.44
15F1833	102-350	1,000	3 x 4⅛	7.00	5.60	4.90	3.78
47F830	242-350	2,400	3 x 5⅜	12.56	10.05	8.79	6.78
85C: 450V DCW; 525VS							
15F1834	251-450	250	1¾ x 4⅛	9.56	7.65	6.69	5.16
15F1835	501-450	500	2 x 5⅜	5.10	4.08	3.57	2.75
15F1836	861-450	860	3 x 4⅛	8.85	7.08	6.20	4.78

NLW ELECTROLYTIC CAPACITORS



Uninsulated Dimensions

Type NLW. Rugged physical construction. Hermetically sealed aluminum foil electrolytic capacitors. Low leakage currents; freedom from shorts. Long shelf and operating life. Suitable for printed circuits. Tinned copper leads with plastic sleeves. Temperature range, —40°C to +105°. Tol. —10% to +75%.

Stk. No.	Type NLW	Cap. Mfd.	WV DC	DXL	1-24	25-49	50-99	100-249	250-499	500-999
15F1003	25-3	25	3	¼ x ½	.54	.38	.30	.226	.187	.171
15F1042	100-3	100	3	⅜ x ⅝	.60	.42	.34	.254	.21	.193
15F1007	200-3	200	3	⅜ x ⅞	.78	.53	.42	.319	.264	.242
15F2085	250-3	250	3	⅜ x 1	.81	.56	.44	.334	.276	.253
15F2087	450-3	450	3	⅜ x 1½	.87	.60	.48	.365	.30	.275
47F831	500-3	500	3	⅜ x 1	.87	.60	.48	.365	.30	.275
47F832	1000-3	1000	3	⅜ x 1½	.96	.69	.55	.414	.349	.315
15F1014	10-6	10	6	¼ x ½	.54	.38	.30	.226	.187	.171
15F2088	20-6	20	6	¼ x ½	.54	.38	.30	.226	.187	.171
15F1018	30-6	30	6	¼ x ⅝	.54	.38	.30	.226	.187	.171
47F833	100-6	100	6	5/16 x ⅝	.78	.53	.42	.319	.264	.242
15F2089	150-6	150	6	⅜ x ⅞	.81	.56	.44	.334	.276	.253
47F834	200-6	200	6	⅜ x ¾	.81	.56	.44	.334	.276	.253
15F2090	250-6	250	6	⅜ x 1¼	.84	.58	.46	.342	.288	.264
15F2091	300-6	300	6	⅜ x 1½	.84	.58	.46	.348	.288	.264
47F835	500-6	500	6	⅜ x 1¼	.90	.63	.50	.377	.312	.286
47F836	600-6	600	6	⅜ x 1¼	.93	.64	.51	.386	.319	.292
47F837	800-6	800	6	⅜ x 1½	.96	.69	.55	.414	.349	.315
15F1085	4-16	4	16	¼ x ½	.54	.38	.30	.226	.187	.171
15F1028	5-16	5	16	¼ x ½	.54	.38	.30	.226	.187	.171
15F1029	10-16	10	16	¼ x ½	.54	.38	.30	.226	.187	.171
15F1062	15-16	15	16	¼ x ½	.54	.38	.30	.226	.187	.171
15F1030	20-16	20	16	¼ x ½	.54	.38	.30	.226	.187	.171
15F1087	25-16	25	16	¼ x ⅝	.54	.38	.30	.226	.187	.171
15F1063	50-16	50	16	5/16 x ⅝	.60	.42	.34	.254	.21	.193
15F1064	100-16	100	16	5/16 x ¾	.81	.56	.44	.334	.276	.253
15F2096	150-16	150	16	⅜ x ¾	.84	.58	.46	.348	.288	.264
15F2097	200-16	200	16	⅜ x ⅞	.87	.60	.48	.363	.30	.275
47F838	300-16	300	16	⅜ x 1¼	.90	.63	.50	.377	.312	.286
47F839	450-16	450	16	⅜ x 1½	.96	.67	.55	.414	.349	.315
47F840	1-25	1	25	¼ x ½	.54	.38	.30	.226	.187	.171
47F841	2-25	2	25	¼ x ½	.54	.38	.30	.226	.187	.171
15F2098	3-25	3	25	¼ x½	.54	.38	.30	.226	.187	.171
47F842	5-25	5	25	¼ x ½	.54	.38	.30	.226	.187	.171
15F1033	6-25	6	25	¼ x½	.54	.38	.30	.299	.226	.87
15F1092	8-25	8	25	¼ x½	.54	.38	.30	.226	.187	.171
15F1034	10-25	10	25	¼ x½	.54	.38	.30	.226	.187	.171
15F1035	15-25	15	25	¼ x½	.54	.38	.30	.226	.187	.171
15F1763	25-25	25	25	5/16 x ⅝	.60	.42	.34	.254	.21	.193
15F1094	35-25	35	25	5/16 x ⅝	.60	.42	.34	.254	.21	.193
15F1765	50-25	50	25	5/16 x ¾	.78	.53	.42	.319	.264	.242
15F1766	100-25	100	25	⅜ x ¾	.84	.58	.46	.348	.288	.264
47F843	150-25	150	25	⅜ x 1	.87	.60	.48	.363	.30	.275
47F844	200-25	200	25	⅜ x 1¼	.93	.64	.51	.386	.319	.292
47F845	250-25	250	25	⅜ x 1½	.96	.69	.55	.414	.349	.315
15F1096	1-50	1	50	¼ x ½	.84	.58	.46	.348	.288	.264
15F1097	2-50	2	50	¼ x ½	.54	.38	.30	.226	.187	.171
15F2099	3-50	3	50	¼ x ½	.54	.38	.30	.226	.187	.171
15F1767	4-50	4	50	¼ x ½	.54	.38	.30	.226	.187	.171
15F1037	5-50	5	50	¼ x ½	.54	.38	.30	.226	.187	.171
15F2100	8-50	8	50	¼ x ½	.54	.38	.30	.226	.187	.171
15F1038	10-50	10	50	¼ x ½	.60	.42	.34	.254	.21	.193
15F1144	15-50	15	50	5/16 x ¾	.60	.42	.34	.254	.21	.193
15F1039	20-50	20	50	5/16 x ¾	.78	.53	.42	.319	.264	.242
15F1145	25-50	25	50	5/16 x ¾	.78	.53	.42	.319	.264	.242
15F1066	30-50	30	50	⅜ x ⅝	.81	.56	.44	.334	.276	.253
15F2101	35-50	35	50	⅜ x ¾	.81	.56	.44	.334	.276	.253
15F1147	40-50	40	50	⅜ x ¾	.84	.58	.46	.384	.288	.264
15F1768	50-50	50	50	⅜ x ⅞	.84	.58	.46	.384	.288	.264
15F1067	75-50	75	50	⅜ x 1	.87	.60	.48	.363	.30	.275
47F846	100-50	100	50	⅜ x 1¼	.90	.63	.49	.377	.312	.286
47F847	125-50	125	50	⅜ x 1½	.96	.69	.55	.414	.349	.315
15F1040	2-100	2	100	¼ x ⅝	.60	.42	.34	.254	.21	.193
47F848	5-100	5	100	5/16 x ⅝	.78	.53	.42	.319	.264	.242
15F1045	10-100	10	100	⅜ x ¾	.81	.56	.44	.334	.276	.253
15F1047	20-100	20	100	⅜ x 1½	.87	.60	.48	.363	.30	.275
47F849	25-100	25	100	⅜ x 1	.90	.63	.49	.377	.312	.286
15F2102	1-150	1	150	¼ x ½	.60	.42	.34	.254	.21	.193
15F1148	2-150	2	150	¼ x ⅝	.60	.42	.34	.254	.21	.193
15F2103	4-150	4	150	⅜ x ⅝	.78	.53	.42	.319	.264	.242
15F1049	5-150	5	150	⅜ x ⅝	.78	.53	.42	.319	.264	.242
15F1051	8-150	8	150	⅜ x ⅞	.81	.56	.44	.334	.276	.253
15F1052	10-150	10	150	⅜ x ⅞	.84	.58	.46	.348	.288	.264
15F1149	15-150	15	150	⅜ x 1¼	.87	.60	.48	.363	.30	.275
47F850	20-150	20	150	⅜ x 1½	.93	.64	.51	.386	.319	.292
47F851	25-150	25	150	⅜ x 1½	.96	.69	.55	.414	.349	.315

CDE Cornell Dubilier Capacitors

MYLAR DIELECTRIC FILM ENCASED

Type WMF. Mylar film wrapping. End sealed with a high density thermo-setting plastic. Miniscule in size. High resistance to humidity. Full rated voltage @ 85C, 50% rated voltage @ 125C. Temp. range: —55 C to +125 C. Tolerance: 10%. Excellent capacitance stability.

50 WVDC

Stk. No.	Type	Mfd.	DxL (in.)	1-24	25-49	50-99	100-499	500-999
15F2104	WMF05P1	.1	.250x1 3/16	.33	.24	.19	.161	.134
15F2105	WMF05P12	.12	.275x1 3/16	.33	.25	.19	.164	.136
15F2106	WMF05P15	.15	.285x1 3/16	.33	.25	.19	.165	.138
15F2107	WMF05P18	.18	.315x1 3/16	.33	.26	.20	.170	.141
15F2108	WMF05P22	.22	.330x1 3/16	.36	.26	.21	.174	.145
15F2109	WMF05P27	.27	.390x1 3/16	.39	.29	.22	.191	.159
15F2110	WMF05P33	.33	.400x1 3/16	.42	.31	.24	.207	.173
15F2111	WMF05P39	.39	.375x1 1/16	.45	.35	.27	.230	.191
15F2112	WMF05P47	.47	.375x1 1/16	.51	.38	.30	.254	.211
15F2113	WMF05P5	.50	.395x1 1/16	.51	.39	.30	.258	.215
15F2114	WMF05P56	.56	.450x1 1/16	.60	.46	.36	.303	.253
15F2115	WMF05P68	.68	.490x1 1/16	.66	.49	.38	.323	.269
15F2116	WMF05P82	.82	.505x1 1/16	.81	.60	.47	.398	.331
15F2117	WMF05W1	1.0	.500x1 3/8	.90	.68	.53	.452	.376
15F2118	WMF05W2	2.0	.600x1 5/8	1.50	1.12	.87	.747	.623
15F2119	WMF05W3	3.0	.730x1 7/8	2.10	1.57	1.22	1.05	.873
15F2120	WMF05W4	4.0	.760x1 7/8	2.49	1.86	1.44	1.24	1.03
15F2121	WMF05W5	5.0	.850x1 7/8	3.09	2.32	1.80	1.55	1.29

100 WVDC

15F1450	WMF1D1	.001	.156x1/2					
15F1837	WMF1D12	.0012	.156x1/2					
15F1451	WMF1D15	.0015	.156x1/2					
15F1838	WMF1D18	.0018	.156x1/2					
15F1452	WMF1D22	.0022	.156x1/2					
15F1839	WMF1D27	.0027	.156x1/2					
15F1453	WMF1D33	.0033	.156x1/2					
15F1840	WMF1D39	.0039	.156x1/2	.27	.20	.15	.131	.109
15F1454	WMF1D47	.0047	.156x1/2					
15F1841	WMF1D5	.005	.156x1/2					
15F1842	WMF1D56	.0056	.156x1/2					
15F1455	WMF1D68	.0068	.175x1/2					
15F1843	WMF1D82	.0082	.175x1/2					
15F1456	WMF1S1	.01	.200x1/2					
15F1844	WMF1S12	.012	.215x1/2					
15F1457	WMF1S15	.015	.235x1/2					
15F1845	WMF1S18	.018	.255x1/2					
15F1458	WMF1S22	.022	.275x5/8	.27	.20	.15	.131	.109
15F1846	WMF1S27	.027	.300x5/8	.27	.20	.15	.131	.109
15F1459	WMF1S33	.033	.300x5/8	.27	.20	.15	.131	.109
15F1847	WMF1S39	.039	.245x3/4	.27	.20	.15	.131	.109
15F1460	WMF1S47	.047	.265x3/4	.27	.21	.16	.137	.114
15F1848	WMF1S5	.05	.265x3/4	.27	.21	.16	.137	.114
15F1849	WMF1S56	.056	.265x3/4	.30	.21	.17	.141	.118
15F1461	WMF1S68	.068	.280x3/4	.30	.22	.17	.144	.120
15F1850	WMF1S82	.082	.270x3/4	.30	.22	.17	.146	.121
15F1462	WMF1P1	.1	.290x7/8	.30	.22	.17	.147	.123
15F1463	WMF1P15	.15	.335x7/8	.30	.23	.18	.150	.125
15F1464	WMF1P22	.22	.385x1	.33	.24	.19	.158	.131
15F1465	WMF1P33	.33	.415x1 1/8	.39	.28	.22	.189	.158
15F1466	WMF1P47	.47	.475x1 1/4	.45	.34	.27	.230	.191
15F1467	WMF1P68	.68	.570x1 1/4	.60	.44	.34	.294	.245
15F1468	WMF1W1	1.0	.625x1 1/2	.84	.62	.48	.411	.343
15F1469	WMF1W1P25	1.25	.690x1 1/2	.96	.71	.55	.473	.394
15F1476	WMF1W1P5	1.5	.770x1 3/4	1.11	.84	.65	.560	.466
15F1471	WMF1W2	2.0	.995x1 3/4	1.35	1.02	.79	.678	.565

200 WVDC

15F1472	WMF2D1	.001	.156x1/2					
15F1473	WMF2D15	.0015	.156x1/2					
15F1474	WMF2D22	.0022	.156x1/2					
15F1475	WMF2D33	.0033	.160x1/2					
15F1476	WMF2D47	.0047	.170x1/2	.27	.20	.15	.131	.109
15F1477	WMF2D68	.0068	.200x1/2					
15F1478	WMF2S1	.01	.230x1/2					

200 WVDC (Cont.)

Stk. No.	Type	Mfd.	DxL (in.)	1-24	25-49	50-99	100-499	500-999
15F1479	WMF2S15	.015	.290x1/2	.27	.20	.15	.131	.109
15F1480	WMF2S22	.022	.275x5/8	.27	.20	.15	.131	.109
15F1481	WMF2S33	.033	.270x3/4	.27	.20	.15	.131	.109
15F1482	WMF2S47	.047	.320x3/4	.27	.21	.16	.137	.114
15F1483	WMF2S68	.068	.350x3/4	.30	.22	.17	.144	.120
15F1484	WMF2P1	.1	.410x7/8	.36	.26	.20	.174	.145
15F1485	WMF2P15	.15	.500x7/8	.36	.28	.22	.185	.154
15F1486	WMF2P22	.22	.500x1 1/8	.39	.29	.23	.195	.163
15F1487	WMF2P33	.33	.550x1 1/8	.45	.33	.26	.221	.184
15F1488	WMF2P47	.47	.600x1 1/4	.51	.38	.29	.251	.209
15F1489	WMF2P68	.68	.650x1 5/8	.60	.44	.34	.294	.245
15F1490	WMF2W1	1.0	.750x1 3/4	.84	.62	.48	.411	.343
15F1491	WMF2W1P25	1.25	.825x1 3/4	.96	.71	.55	.473	.394
15F1492	WMF2W1P5	1.5	.900x1 3/4	1.11	.84	.65	.560	.466
15F1493	WMF2W2	2.0	.980x1 7/8	1.35	1.02	.79	.678	.565

400 WVDC

15F1494	WMF4D1	.001	.156x 5/8					
15F1495	WMF4D15	.0015	.156x 5/8	.30	.22	.17	.149	.124
15F1496	WMF4D22	.0022	.156x 5/8					
15F1497	WMF4D33	.0033	.190x 5/8	.30	.22	.17	.149	.124
15F1498	WMF4D47	.0047	.200x 5/8	.30	.22	.17	.149	.124
15F1499	WMF4D68	.0068	.250x 5/8	.30	.22	.17	.149	.124
15F1500	WMF4S1	.01	.300x 5/8	.30	.22	.17	.149	.124
15F1501	WMF4S15	.015	.360x 5/8	.30	.22	.17	.149	.124
15F1502	WMF4S22	.022	.320x 3/4	.30	.22	.17	.149	.124
15F1503	WMF4S33	.033	.350x 7/8	.30	.22	.17	.149	.124
15F1504	WMF4S47	.047	.400x 7/8	.30	.23	.18	.155	.129
15F1505	WMF4S68	.068	.390x1	.33	.25	.19	.165	.138
15F1506	WMF4P1	.1	.465x1	.33	.25	.20	.168	.140
15F1507	WMF4P15	.15	.515x1 1/4	.36	.26	.20	.174	.145
15F1508	WMF4P22	.22	.565x1 3/8	.42	.30	.24	.201	.168
15F1509	WMF4P33	.33	.600x1 5/8	.66	.49	.38	.327	.273
15F1510	WMF4P47	.47	.700x1 5/8	.78	.58	.46	.359	.324
15F1511	WMF4P68	.68	.790x1 3/4	.96	.71	.56	.476	.396
15F1512	WMF4W1	1.0	.875x2	1.14	.85	.66	.566	.471
15F1513	WMF4W1P25	1.25	.950x2	1.26	.93	.73	.621	.518
15F1514	WMF4W1P5	1.5	.975x2 1/4	1.41	1.06	.82	.704	.586
15F1515	WMF4W2	2.0	1.250x2 1/4	1.86	1.39	1.08	.923	.769

600 WVDC

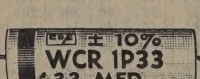
15F1516	WMF6D1	.001	.170x 3/4					
15F1517	WMF6D15	.0015	.170x 3/4					
15F1518	WMF6D22	.0022	.187x 3/4					
15F1519	WMF6D33	.0033	.203x 3/4					
15F1520	WMF6D47	.0047	.234x 3/4	.33	.26	.20	.170	.141
15F1521	WMF6D68	.0068	.265x 3/4					
15F1522	WMF6S1	.01	.290x 3/4					
15F1523	WMF6S15	.015	.312x 7/8					
15F1524	WMF6S22	.022	.335x 7/8					
15F1525	WMF6S33	.033	.350x1					
15F1526	WMF6S47	.047	.415x1	.33	.26	.20	.170	.141
15F1527	WMF6S68	.068	.500x1	.36	.27	.21	.177	.148
15F1528	WMF6P1	.1	.520x1 3/8	.45	.33	.26	.219	.183
15F1529	WMF6P15	.15	.625x1 3/8	.45	.34	.27	.230	.191
15F1530	WMF6P22	.22	.660x1 5/8	.54	.39	.31	.261	.218
15F1935	WMF6P33	.33	.685x2	.90	.67	.52	.446	.371
15F1936	WMF6P47	.47	.855x2	1.14	.86	.67	.572	.476
15F1930	WMF6P68	.68	.970x2	1.53	1.15	.90	.767	.639
15F1931	WMF6W1	1.0	1.165x2 1/2	2.43	1.81	1.41	1.21	1.01
15F1932	WMF6W1P25	1.25	1.340x2 1/2	2.61	1.96	1.52	1.31	1.09
15F1933	WMF6W1P5	1.5	1.275x3	3.15	2.36	1.84	1.58	1.31
15F1934	WMF6W2	2.0	1.460x3	3.96	2.97	2.31	1.98	1.65

WMF 100 VOLT KIT

Type	Mfd.	Qty.	Type	Mfd.	Qty.	Type	Mfd.	Qty.
1D1	.001	5	1S1	.01	5	1S68	.068	5
1D22	.0022	5	1S22	.022	5	1P1	.1	5
1D33	.0033	5	1S33	.033	5	1P22	.22	5
1D47	.0047	5	1S47	.047	5	1P47	.47	5

15F1951. NET 21.90

TYPE WCR — POLYCARBONATE/FILM WRAP



Operating temp. range from —55°C to +85°C without derating and to +125°C with 50% voltage derating. Excellent capacitance stability. Tt 1000 Hz average capacitance charge is within—1%; within —3% of the +25°C value.

Stk. No.	Type WCR-	Mfd.	WV DC	Size DxL (in.)	1-24	25-49	50-99	100-499	500-999
15F2127	05P1	.1	50	.335x3/4	.69	.52	.41	.347	.289
15F2128	05P22	.22	50	.430x7/8	.87	.64	.50	.429	.358
15F2129	05P33	.33	50	.465x1	1.02	.77	.60	.512	.426
15F2132	05W1	1.0	50	.625x1 1/2	1.86	1.40	1.09	.933	.778
15F741	1D22	.0022	100	.220x1 5/16	.48	.35	.27	.234	.195
15F742	1D33	.0033	100	.260x1 5/16	.48	.35	.27	.234	.195
15F743	1D47	.0047	100	.290x1 5/16	.48	.35	.27	.234	.195
15F744	1D68	.0068	100	.290x1 5/16	.48	.35	.27	.234	.195
15F745	1S1	.01	100	.235x3/4	.48	.35	.27	.234	.195
15F746	1S22	.022	100	.295x3/4	.48	.36	.28	.240	.200
15F747	1S33	.033	100	.345x3/4	.51	.38	.30	.255	.213
15F748	1S47	.047	100	.395x3/4	.54	.41	.32	.270	.225
15F749	1S68	.068	100	.415x7/8	.57	.43	.34	.288	.240
15F750	1P1	.10	100	.450x1	.63	.47	.37	.315	.263
15F751	1P22	.22	100	.590x1 1/8	.78	.59	.46	.390	.325
15F752	1P33	.33	100	.645x1 3/8	.93	.70	.54	.465	.388
15F753	1P47	.47	100	.735x1 5/8	1.08	.81	.63	.540	.450
15F754	1P68	.68	100	.765x1 7/8	1.26	.93	.73	.623	.519
15F755	1W1	1.0	100	.925x1 7/8	1.71	1.27	.99	.848	.706
15F740	1D1	.001	100	.220x1 5/16	.48	.35	.27	.234	.195

Cornell-Dubilier Capacitors

CDE

Type MFP Space-Saver flat oval Polyester Film capacitors

Type MFP is similar to WMF. It is designed however, with an oval figure useful in many applications requiring its space saving characteristics. In ratings of 0.01 mfd. and above, the MFP is often used as an alternative to type WMF or the mil. type CTM. The unit is highly moisture and humidity resistant. Max. operating temp. range: -55°C to +125°C 85°C at full rated voltage with deratings of 10% and 50% at 100 C and 125 C respectively. Standard tolerance is +10% 1½" min. copperweld leads. Thickness and width tolerances are: up to and incl. .484"+.032", 500" to and incl. 1.000" ±.062"; larger than 1.000" ±.093.

100 VOLTS DCW

Stk. No.	Type MFP-	Cap Mfd.	Size L.xW.xT.	1-24	25-49	50-99	100-499	500-999
15F1851	1S22-10	.022	.500x.343x.218	.33	.24	.18	.156	.13
15F1852	1S33-10	.033	.625x.312x.187	.36	.26	.20	.173	.144
15F1853	1S47-10	.047	.750x.312x.187	.36	.26	.20	.173	.144
15F1854	1S68-10	.068	.750x.343x.218	.36	.26	.20	.173	.144
15F1855	1P1-10	.10	.875x.343x.218	.39	.30	.23	.198	.165
15F1856	1P15-10	.15	.875x.406x.250	.42	.32	.25	.215	.179
15F1857	1P22-10	.22	1.000x.468x.281	.48	.35	.27	.231	.154
15F1858	1P33-10	.33	1.125x.500x.312	.51	.37	.29	.148	.206
15F1859	1P47-10	.37	1.250x.531x.375	.57	.42	.33	.281	.234
15F1860	1P68-10	.68	1.250x.687x.468	.63	.47	.37	.314	.261
15F1861	1W1-10	1.00	1.500x.718x.500	.84	.64	.49	.423	.353
15F1862	1W1P25-10	1.25	1.500x.718x.562	.99	.74	.58	.495	.413
15F1863	1W1P5-10	1.50	1.750x.843x.656	1.14	.86	.67	.57	.475
15F1864	1W2-10	2.00	1.750x1.062x.843	1.38	1.04	.81	.69	.575

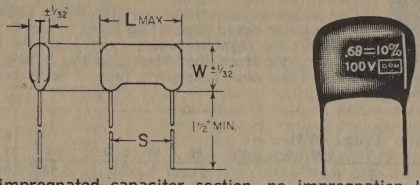
200 VOLTS DCW

Stk. No.	Type MFP-	Cap. Mfd.	Size L.xW.xT.	1-24	25-49	50-99	100-499	500-999
15F1866	2S22-10	.022	.625x.343x.218	.33	.24	.18	.156	.13
15F1868	2S47-10	.047	.750x.375x.250	.36	.26	.20	.173	.144
15F1869	2S68-10	.068	.750x.437x.250	.36	.26	.20	.173	.144
15F1870	2P1-10	.10	.875x.500x.312	.39	.30	.23	.198	.165
15F1872	2P22-10	.22	1.125x.562x.406	.48	.35	.27	.231	.193
15F1874	2P47-10	.47	1.125x.656x.500	.57	.42	.33	.281	.234
15F1876	2W1-10	1.00	1.750x.812x.625	.84	.64	.49	.423	.353
15F1879	2W2-10	2.00	1.875x1.062x.843	.138	1.04	.81	.69	.575

400 VOLTS DCW

Stk. No.	Type MFP-	Cap. Mfd.	Size L.xW.xT.	1-24	25-49	50-99	100-499	500-999
15F1881	4S22-10	.022	.750x.375x.250	.36	.26	.20	.173	.144
15F1883	4S47-10	.047	.875x.500x.343	.39	.29	.22	.191	.159
15F1884	4S68-10	.068	1.000x.437x.312	.39	.29	.22	.191	.159
15F1885	4P1-10	.10	1.000x.531x.375	.39	.30	.23	.198	.165
15F1887	4P22-10	.22	1.375x.625x.500	.48	.35	.27	.231	.193
15F1889	4P47-10	.47	1.625x.781x.593	.84	.64	.50	.425	.354
15F1891	4W1-10	1.00	2.000x.937x.750	1.17	.88	.68	.584	.486
15F1893	4W1P5-10	1.50	2.225x1.062x.843	1.41	1.06	.82	.705	.588
15F1894	4W2-10	2.00	2.250x1.312x1.125	1.86	1.39	1.08	.923	.769

MINIATURE RADIAL-LEAD POLYESTER FILM CAPACITORS



Fix-fil-impregnated capacitor section—no impregnation leakage even at maximum operating temperatures. Uniform dip coating control assures protection of capacitor section—no possibility of shorts caused by contact of an uncoated case to chassis. Max. operating temperature is 125°C-85°C at full rated voltage. 10% derated at 100°C and 50 derated at 125°C. Leads are #22 AWG including 0.068/100V; 0.047/200V; 022/400V, and 0.068 at 600V. Above these ratings leads are #20 AWG. Tol. ±10%. Wire lead spacing: 9/16" for ¾" dim. L and 5/16" for 1⅛" dim. L.

100 VOLTS DCW

Stk. No.	Type DMF-	Cap. Mfd.	Size T.x.W.xL.	1-24	25-49	50-99	100-499	500-999
15F1895	1S15-10	.015	3/16x5/16x3/4"	.21	.16	.12	.104	.086
15F1896	1S22-10	.022	3/16x5/16x3/4"	.21	.16	.12	.104	.086
15F1897	1S33-10	.033	7/32x11/32x3/4"	.21	.16	.12	.107	.089
15F1898	1S47-10	.047	7/32x11/32x3/4"	.24	.17	.13	.113	.094
15F1899	1S68-10	.068	1/4x3/8x3/4"	.24	.18	.14	.120	.099
15F1900	1P1-10	.10	5/16x7/16x3/4"	.27	.20	.16	.134	.111
15F1901	1P15-10	.15	9/32x11/16x3/4"	.33	.25	.19	.164	.136
15F1902	1P22-10	.22	3/8x3/4x3/4"	.39	.29	.23	.194	.161
15F1903	1P33-10	.33	7/16x27/32x3/4"	.45	.32	.25	.216	.18
15F1904	1P47-10	.47	3/8x3/4x1⅛"	.51	.38	.29	.252	.21
15F1905	1P68-10	.68	15/32x27/32x1⅛"	.57	.42	.33	.281	.234
15F1906	1W1-10	1.00	9/16x15/16x1⅛"	.75	.57	.44	.377	.314

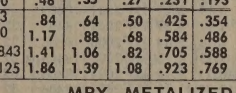
200 VOLTS DCW

15F1907	2S1-10	.01	3/16x5/16x3/4"	.21	.16	.12	.104	.086
15F1908	2S15-10	.015	7/32x11/32x3/4"	.21	.16	.12	.104	.086
15F1909	2S22-10	.022	1/4x3/8x3/4"	.21	.16	.12	.104	.086
15F1910	2S33-10	.033	1/4x3/8x3/4"	.21	.16	.12	.104	.086
15F1911	2S47-10	.047	1/4x3/8x3/4"	.24	.17	.13	.113	.094
15F1912	2S68-10	.068	9/32x13/32x3/4"	.24	.18	.14	.119	.099
15F1913	2P1-10	.10	5/16x23/32x3/4"	.27	.20	.16	.134	.111
15F1914	2P15-10	.15	3/8x25/32x3/4"	.33	.25	.19	.164	.136
15F1915	2P22-10	.22	15/32x27/32x3/4"	.39	.29	.23	.194	.161
15F1916	2P33-10	.33	9/16x31/32x3/4"	.45	.32	.25	.216	.18
15F1917	2P47-10	.47	1/2x7/8x1⅛"	.51	.38	.29	.252	.21
15F1918	2P68-10	.68	9/16x31/32x1⅛"	.57	.42	.33	.281	.234

400 VOLTS DCW

15F1919	4D47-10	.0047	3/16x5/16x3/4"	.21	.16	.12	.104	.086
15F1920	4D68-10	.0068	3/16x5/16x3/4"	.21	.16	.12	.104	.086
15F1921	4S1-10	.01	7/32x11/32x3/4"	.21	.16	.12	.104	.086
15F1923	4S22-10	.022	9/32x13/32x3/4"	.21	.16	.12	.104	.086
15F1924	4S33-10	.033	9/32x11/16x3/4"	.21	.16	.12	.107	.089
15F1925	4S47-10	.047	11/32x23/32x3/4"	.24	.17	.14	.116	.096
15F1927	4P1-10	.10	1/2x29/32x3/4"	.30	.22	.17	.147	.123
15F1928	4P15-10	.15	13/32x13/16x1⅛"	.36	.26	.20	.173	.144
15F1929	4P22-10	.22	15/32x7/8x1⅛"	.39	.29	.23	.194	.161

MPY METALIZED PAPER CAPACITORS



Metalized paper, solid resin impregnated unit designed for operation from —55C to +125C at full rated voltage. Solid resin impregnant insures maintenance of performance. Encased in exclusive CDE triclad case construction; outer cardboard tube bonded to aluminum foil which is bound to film interliner. Epoxy end seals are bound to tube and leads. Leads are minimum 1½" long. Average shipping weight: 3 oz.

200 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F828	MPY2S22	.022	1/4x3/8"	.45	.34	.26	.225	.188
15F829	MPY2S33	.033	1/4x3/8"	.45	.34	.26	.225	.188
15F830	MPY2S47	.047	1/4x3/8"	.45	.34	.26	.225	.188
15F865	MPY2P1	.1	3/8x3/8"	.51	.38	.30	.225	.213
15F832	MPY2P15	.15	3/8x3/8"	.57	.43	.33	.285	.238
15F833	MPY2P22	.22	15/32x3/8"	.63	.47	.37	.315	.263
15F834	MPY2P33	.33	3/8x1⅛"	.69	.52	.44	.345	.285
15F835	MPY2P47	.47	7/16x1⅛"	.75	.56	.53	.375	.313
15F836	MPY2P68	.68	15/32x1⅛"	.90	.68	.53	.45	.375
15F868	MPY2W1	1.0	9/16x1⅛"	1.08	.81	.63	.54	.45
15F837	MPY2W1P5	1.5	9/16x17/16"	1.26	.95	.74	.63	.525
15F869	MPY2W2	2.0	5/8x17/16"	1.47	1.10	.86	.735	.613

400 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F839	MPY4S22	.022	5/16x3/8"	.45	.34	.26	.225	.188
15F840	MPY4S33	.033	3/8x3/8"	.45	.34	.26	.225	.188

(Continued Next Column)

400 WVDC Cont.

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F841	MPY4S47	.047	7/16x3/8"	.48	.36	.28	.24	.20
15F842	MPY4S68	.068	15/32x5/8"	.54	.38	.30	.225	.213
15F844	MPY4P22	.22	1/2x1⅛"	.72	.54	.42	.36	.30
15F845	MPY4P33	.33	5/8x1⅛"	.84	.63	.49	.42	.35
15F846	MPY4P47	.47	5/8x17/16"	.96	.72	.56	.48	.40
15F877	MPY4W1	1.0	11/16x113/16"	1.32	.99	.77	.66	.55
15F848	MPY4W1P5	1.5	23/32x23/8"	1.53	1.15	.89	.765	.638
15F849	MPY4W2	2.0	13/16x23/8"	1.74	1.31	1.01	.87	.725

600 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F878	MPY6S1	.01	1/4x5/8"	.45	.34	.26	.225	188
15F851	MPY6S22	.022	3/8x5/8"	.48	.36	.28	.24	.20
15F852	MPY6533	.047	3/8x5/8"	.51	.38	.30	.225	.213
15F853	MPY6S47	.1	13/32x5/8"	.54	.41	.32	.27	.225
15F882	MPY6P1	.22	3/8x1⅛"	.60	.45	.35	.30	.25
15F856	MPY6P22		9/16x1⅛"	.81	.61	.47	.405	.338
15F857	MPY6P33	.33	5/8x1⅛"	1.05	.79	.61	.530	.438
15F858	MPY6P47	.47	5/8x17/16"	1.14	.86	.67	.57	.475
15F859	MPY6P68	.68	5/8x113/16"	1.26	.95	.74	.63	.525
15F885	MPY6W1	1.0	23/32x113/16"	1.44	1.08	.84	.72	.60
15F860	MPY6W1P5	1.5	13/16x23/8"	1.80	1.35	1.05	.90	.75
15F861	MPY6W2	2.0	29/32x23/8"	2.10	1.58	1.23	1.05	.875

DC Paper-Oil (Mil CP70) Capacitors

DC PAPER-OIL CAPACITORS TYPE T-SIMILIAR TO MIL CP70 STYLE
"E" Characteristic is Up-Dated Version of Mil CP70
Directly Replaces "F" Characteristic

For power supply filter specifications. Solder seam styles, rectangular cased. Operating temp.: —55°C to +85° C. CDE reserves the right to supply type T with a ⅛" variation in case height from that shown in the listing. Former styles TJU, TJH, and TJL were type T with bracket attached.

Equivalent obtained by ordering T with universal bracket for type TJU, spade bracket for type TJH, and footed bracket for type TJL. Order brackets separately from table below, right column. ***2 brackets needed per unit.** (†) CP7-OD1-.

600 WORKING VOLTS DC

Stock No.	Type T-	MIL CP70E1-	Mfd.	H. x W. x D.	1-9	10-24	25-49	50-99	100-499	500-Up	Universal Mtg Bracket Stk. No.	Universal Mtg Bracket Type	Net	Footed Bracket * CPO- Stk. No.	7F	Net	Spade Bracket * COP- Stk. No.	7S	Net
15F550	6010	.....	.1	2¼x1 13/16x1 1/16"	5.58	4.09	3.17	2.61	2.33	2.14	15F2000	18402	.32	15F2057	A2	.16	15F2020	A2	.16
15F551	6020	FF205K1	2	2⅞x1 13/16x1 1/16"	5.98	4.38	3.39	2.80	2.50	2.29	15F2000	18402	.32	15F2058	A3	.16	15F2021	A3	.16
15F552	6040	FF405K1	4	3½x2½x1 3/16"	6.84	5.02	3.88	3.19	2.86	2.63	15F2001	18403	.32	15F2060	B3	.16	15F2024	B3	.16
15F448	6060	FF605K1	6	4¾x2½x1 3/16"	7.63	5.61	4.33	3.57	3.18	2.93	15F2001	18403	.32	15F2061	B6	.16	15F2027	B6	.16
15F553	6080	FF805K1	8	3⅞x3¾x1¼"	8.86	6.49	5.02	4.14	3.70	3.40	15F2002	18404	.32	15F2062	C2	.16	15F2028	C2	.16
15F554	6100	FF106K1	10	4¾x3¾x1¼"	9.58	7.02	5.43	4.48	4.00	3.67	15F2002	18404	.32	15F2063	C4	.16	15F2030	C4	.16
47F955	6150	FF156K1	15	4¾x1 3/4x3¾	12.78	9.37	7.25	5.97	5.33	4.90	15F2003	18405	.32	15F2065	D5	.27	15F2033	D5	.27

1000 WORKING VOLTS DC

15F542	100025	.....	.25	2¼x1 13/16x1 1/16"	5.40	3.96	3.06	2.52	2.26	2.08	15F2000	18402	.32	15F2057	A2	.16	15F2020	A2	.16
15F586	10005	.....	.5	2¼x1 13/16x1 1/16"	5.55	4.07	3.15	2.59	2.32	2.13	15F2000	18402	.32	15F2057	A2	.16	15F2020	A2	.16
15F555	10010	FG105K1	1	2¼x1 13/16x1 1/16"	5.87	4.31	3.33	2.74	2.45	2.26	15F2000	18402	.32	15F2057	A2	.16	15F2020	A2	.16
15F556	10020	FG205K1	2	3⅞x1 13/16x1 1/16"	6.34	4.65	3.59	2.97	2.64	2.44	15F2000	18402	.32	15F2059	A5	.16	15F2022	A5	.16
15F557	10040	FG405K1	4	4¾x2½x1 3/16"	7.35	5.38	4.17	3.43	3.06	2.82	15F2001	18403	.32	15F2061	B6	.16	15F2027	B6	.16
47F956	10060	FG605K1	6	4¾x3¾x1¼	8.71	6.40	4.95	4.07	3.64	3.34	15F2002	18404	.32	15F2063	C4	.16	15F2030	C4	.16
15F558	10080X	FG805K1	8	3⅞x3¾x1¾"	9.96	7.11	5.49	4.53	4.03	3.71	15F2003	18405	.32	15F2064	D2	.27	15F2032	D2	.27
15F559	10100	FG106K1	10	4¾x3¾x1¾"	10.98	8.05	6.23	5.13	4.57	4.22	15F2003	18405	.32	15F2065	D5	.27	15F2033	D5	.27
47F957	10120X	FG126K1	12	5⅛x3¾x2¼	12.82	9.40	7.26	5.99	5.34	4.92	15F2004	18406	.32	15F2080	E6	.27	15F2037	E6	.27
15F587	10150	FG156K1	15	4¾x3¾x2½"	15.48	11.35	8.77	7.23	6.46	5.94	15F2005	18407	.32	15F2066	F1	.58	15F2038	F1	.58

1500 WORKING VOLTS DC

47F958	150025X	FH25K1	.25	2⅞x1 13/16x1 1/16"	5.51	4.05	3.12	2.57	2.29	2.11	15F2000	18402	.32	15F2057	A2	.16	15F2020	SA2	.16
15F588	15005	.....	.5	2⅞x1 13/16x1 1/16"	5.76	4.23	3.27	2.69	2.40	2.21	15F2000	18402	.32	15F2058	A3	.16	15F2021	A3	.16
15F560	15010X	FH105K1	1	3⅞x1 13/16x1 1/16"	6.01	4.42	3.41	2.81	2.51	2.31	15F2000	18402	.32	15F2059	A5	.16	15F2022	A5	.16
15F561	15020X	FH205K1	2	4¼x2½x1 3/16"	6.95	5.10	3.94	3.24	2.89	2.67	15F2001	18403	.32	15F2067	B5	.16	15F2026	B5	.16
15F562	15040X	FH405K1	4	4¾x3¾x1¼"	8.71	6.40	4.95	4.07	3.64	3.34	15F2002	18404	.32	15F2063	C4	.16	15F2030	C4	.16
47F959	15060	FH605K1	6	4¾x3¾x1¾	11.31	8.29	6.41	5.28	4.72	4.33	15F2003	18405	.32	15F2064	D5	.27	15F2033	D5	.27
15F563	15080	FH805K1	8	4¾x3¾x2½"	14.20	10.41	8.04	6.63	5.92	5.44	15F2005	18407	.32	15F2066	F1	.58	15F2038	F1	.58
15F564	15100X	FH106K1	10	4¾x3¾x3 3/16"	16.70	12.28	9.49	7.81	6.97	6.41	15F2006	18408	.54	15F2068	G2	.58	15F2040	G2	.58
47F960	15120	FH126K1	12	4¾x3¾x3 3/16	19.51	14.32	11.07	9.11	8.14	7.48	15F2006	18406	.54	15F2068	G2	.58	15F2040	G2	.58
47F961	15150X	FH156K1	15	4¾x4 9/16x3¾	23.62	17.32	13.38	11.03	9.84	9.06	15F2007	18409	1.16	15F2077	J3	.58	15F2044	J3	.58

2000 WORKING VOLTS DC

15F589	20001	.....	.1	2¼x1 13/16x1 1/16"	7.09	5.21	4.02	3.31	2.95	2.73	15F2000	18402	.32	15F2057	A2	.16	15F2020	A2	.16
15F590	200025	.....	.25	2¼x1 13/16x1 1/16"	7.27	5.34	4.13	3.40	3.04	2.79	15F2000	18402	.32	15F2057	A2	.16	15F2020	A2	.16
15F591	20005	.....	.5	2⅞x1 13/16x1 1/16"	7.49	5.50	4.25	3.49	3.12	2.87	15F2000	18402	.32	15F2058	A3	.16	15F2021	A3	.16
15F565	20010	.....	1	3½x2½x1 13/16"	7.67	5.63	4.35	3.58	3.19	2.94	15F2001	18403	.32	15F2060	B3	.16	15F2024	B3	.16
47F962	20010X	FJ105K1	1	4¾x2½x1 3/16	8.14	5.97	4.61	3.81	3.40	3.12	15F2001	18403	.32	15F2060	B3	.16	15F2024	B3	.16
47F963	20020X	FJ205K1	2	4¾x3¾x1¾	9.97	7.32	5.65	4.66	4.15	3.83	15F2002	18404	.32	15F2063	C4	.16	15F2030	C4	.16
15F566	20020	.....	2	3⅞x3¾x1¼"	9.36	6.87	5.31	4.37	3.90	3.59	15F2002	18404	.32	15F2062	C2	.16	15F2029	C3	.16
15F567	20040	FJ405K1	4	3⅞x3¾x2¼"	12.60	9.24	7.14	5.88	5.26	4.84	15F2004	18406	.32	15F2069	E3	.27	15F2035	E3	.27
47F964	20060X	FJ605K1	6	5½x3¾x1 3/16	16.67	12.23	9.45	7.78	6.95	6.40	15F2006	18408	.54	47F984	G4	.58	47F986	G4	.58
47F965	20080X	FJ805K1	8	5⅛x3¾x3 3/16	19.44	14.26	11.02	9.08	8.10	7.45	15F2006	18408	.54	47F985	G3	.58	47F987	G3	.58
15F593	20080	.....	8	4¾x3¾x3 3/16"	18.54	13.60	10.51	8.65	7.73	7.11	15F2006	18408	.54	15F2068	G2	.58	15F2041	G3	.58
15F637	20100	FJ106K1	10	4¾x4 9/16x3¾	22.61	16.59	12.82	10.55	9.42	8.67	15F2007	18409	1.16	15F2077	J3	.58	15F2044	J3	.29

2500 WORKING VOLTS DC

47F966	250025X	FK254K1	.25	2⅞x1 13/16x1 1/16	7.92	5.81	4.49	3.70	3.30	3.04	15F2001	18403	.32	47F988	B2	.16	47F989	B2	.16
47F967	25005X	FK504K1	.5	3⅞x1 13/16x1 1/16	8.39	6.16	4.75	3.91	3.49	3.22	15F2001	18403	.32	15F2074	B4	.16	15F2025	B4	.16
15F543	25005	.....	.5	3½x3¾x1¼"	8.82	6.47	5.01	4.12	3.67	3.39	15F2001	18403	.32	15F2062	C2	.16	15F2024	B3	.16
15F569	25010	FK105K1	1	3¼x3¾x1¾"	10.01	7.35	5.68	4.67	4.18	3.84	15F2003	18405	.32	15F2070	D1	.27	15F2031	D1	.27
15F638	25020	FK205K1	2	4¾x4 9/16x1¾	12.85	9.43	7.29	6.00	5.35	4.93	15F2003	18405	.32	15F2064	D5	.27	15F2033	D5	.14
47F968	25060X	FK605K1	6	5⅛x4 9/16x3¾	24.52	17.98	13.90	11.45	10.21	9.40	15F2004	18406	.32	15F2082	J6	.58	15F2036	J6	.58
47F969	25080X	FK805K1	8	6x4 9/16x3¾	30.53	22.39	17.31	14.25	12.72	11.70	15F2004	18406	.32	15F2072	J8	.58	15F2047	J8	.58
15F572	25100X	FK106K1	10	7x3¾x4 9/16	36.61	26.86	20.75	17.09	15.26	14.04	15F2007	18409	1.16	15F2072	J8	.58	15F2047	J7	.58

3000 WORKING VOLTS DC

47F970	30001X	FL104K1	.1	2⅞x2½x1 3/16	10.08	7.39	5.71	4.71	4.20	3.87	15F2001	18403	.32	47F988	B2	.16	47F989	B2	.16
47F971	300025X	FL254K1	.25	3½x2½x1 3/16	11.23	8.25	6.37	5.25	4.68	3.11	15F2001	18403	.32	15F2060	B3	.16	15F2024	B3	.16
15F574	30025	.....	.25	2½x2½x1 3/16	10.69	7.85	6.06	4.99	4.45	4.11	15F2001	18403	.32	15F2073	B1	.16	15F2023	B1	.16
47F972	30005X	FL504K1	.5	3¼x2½x1 3/16	12.06	8.85	6.84	5.63	5.03	4.62	15F2001	18403	.32	15F2074	B4	.16	15F2025	B4	.16
15F575	30005	.....	.5	3⅞x2½x1 3/16"	11.49	8.43	6.51	5.37	4.79	4.41	15F2001	18403	.32	15F2073	B1	.16	15F2023	B2	.16
15F576	30010	FL105K1	1	3⅞x3¼x2¼"	14.37	10.54	8.14	6.71	5.79	5.51	15F2001	18403	.32	15F2074	B4	.16	15F2025	B4	.16
15F577	30020	.....	2	4½x3¾x3 3/16"	17.68	12.96	10.02	8.26	7.37	6.78	15F2004	18406	.32	15F2075	E3	.27	15F2035	E3	.27
47F973	30020X	FL205K1	2	4¾x3¾x3 3/16	18.58	13.62	10.53	8.68	7.74	7.13	15F2006	18408	.54	15F2076	G1	.58	15F2039	G1	.58
15F578	30040	FL405K1	4	4¾x3¾x4 9/16"	25.89	18.99	14.67	12.09	10.79	9.93	15F2006	18408	.54	15F2068	G2	.58	15F2040	G2	.58
15F545	400025	FM254K1	.25	2¾x3¾x2¼"	15.73	11.54	8.92	7.34	6.55	6.04	15F2007	18409	1.16	15F2077	J3	.58	15F2044	J3	.58
15F546	40005	FM504K1	.5	3⅞x3¾x2¼"	16.70	12.25	9.47	7.80	6.96	6.41	15F2004	18406	.32	15F2078	E1	.27	15F2034	E1	.27
15F579	40010	FM105K1	1	5⅛x3¾x2¼"	25.03	13.26	10.25	8.44	7.54	6.93	15F2004	18406	.32	15F2075	E3	.27	15F2035	E3	.27
15F580	40020	FM205K1	2	5⅛x3¾x4 9/16"	24.05	17.64	13.63	11.22	10.02	9.22	15F2004	18406	.32	15F2080	E6	.27	15F2037	E6	.27
15F581	40040A	.....	4	8x3¾x4 9/16"	34.06	24.97	19.30	15.90	14.20	13.06	15F2007	18409	1.16	15F2079	J4	.58	15F2048	J10	.58
47F974	40040X	FM405K1	4	9⅝x4 9/16x3¾	46.87	34.38	26.57	21.88	19.54	17.97	15F2007	18409	1.16	47F990	J11	.58	47F991	SJ11	.58

5000 WORKING VOLTS DC

47F975	50005X	FN504K1	.5	5⅛x3¾x2¼	17.64	12.94	10.00	8.23	7.36	6.77	15F2004	18406	.32	47F992	E4	.27	15F2036	E4	.27
15F582	50005	.....	.5	4¼x3¾x2¼"	17.28	12.67	9.79	8.06	7.20	6.63	15F2004	18406	.32	15F2069	E3	.27	15F2034	E1	.27
15F583	50010	FN105K1	1	4⅜x3¾x4 9/16"	24.26	17.80	13.75	11.33	10.12	9.30	15F2007	18409	1.16	15F2081	J2	.58	15F2045	J4	.58
15F584	50020	FN205K1	2	6x3¾x4 9/16"	30.74	22.55	17.42	14.35	12.82	11.79	15F2004	18406	.32	15F2082	J6	.58	15F2036	E4	.27

6000 WORKING VOLTS DC

15F547	60001X	FP104K1†	.1	3⅜x3¾x2¼"	16.13	11.83	9.14	7.52	6.72	6.18	15F2007	18409	1.16	15F2083	E2	.27	15F2043	SJ2	.58
15F585	60010A	FP105K1†	1	5⅛x3¾x4 9/16"	26.46	19.40	15.00	12.35	11.03	10.14	15F2007	18409	1.16	15F2084	J9	.58	15F2046	SJ6	.58
47F976	600025X	FP254K1	.25	4¾x3¾x2¼	18.36	13.46	10.40	8.57	7.66	7.05	15F2004	18406	.32	47F993	E5	.27	47F994	E5	.27
47F977	60005X	FP504K1	.5	4¾x4 9/16x3¾	22.14	16.24	12.55	10.33	9.23	8.49	15F2007	18409	1.16	15F2079	J4	.58	5F2048	J4	.58

7500 WORKING VOLTS DC

47F978	75001X	FR104K1	.1	4¾x3¾x2¼	16.56	12.14	9.38	7.73	6.90	6.35	15F2004	18406	.32	47F993	E5	.27	47F994	E5	.27
47F979	750025	FR254K1	.25	4¾x4 9/16x3¾	20.34	14.92	11.53	9.49	8.47	7.80	15F2007	18409	1.16	15F2071	J1	.58	15F2042	J1	.58
47F980	75005	FR504K1	.5	6x4 9/16x3¾	26.46	19.40	15.00	12.35	11.03	10.14	15F2007	18409	1.16	15F2079	J4	.58	15F2048	J4	.58

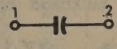
Cornell-Dubilier Capacitors

TYPE MYR AND DYR OIL FILLED BATHTUBS

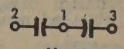
WVDC-SINGLE SECTION 2 TERMINAL (CIRCUIT 1)

Stock No.	Type	Mil-CP53B	Mfd.	Size Code	1-9	10-24	25-49	50-99	100-499	500 Up
47F892	DYR-1100	1FB105KJ	1	A1	2.85	1.89	1.66	1.28	1.14	1.04
47F893	DYR-1400	1FB405KJ	4	C1	4.70	3.15	2.76	2.13	1.89	1.74
47F894	DYR-1800	1FB805KJ	8	C1	8.55	5.70	4.99	3.85	3.41	3.14
				600 WVDC-SINGLE SECTION 2 TERMINAL (CIRCUIT 1)						
15F500	DYR-6005	.....	.05	A1	2.40	1.60	1.40	1.08	.96	.876
15F501	DYR-6010	.....	.1	A1	2.55	1.70	1.49	1.15	1.03	.936
15F502	DYR-6025	.....	.25	A1	2.59	1.73	1.51	1.16	1.04	.950
15F503	DYR-6050	1FF504K1	.5	A2	2.89	1.93	1.68	1.30	1.15	1.06
15F504	DYR-6100	1FF105K1	1	B1	3.45	2.30	2.01	1.55	1.38	1.26
15F505	DYR-6200	.....	2	C2	4.50	3.00	2.62	2.03	1.80	1.65
				600 WVDC-DUAL SECTION 3 TERMINAL (CIRCUIT 4)						
15F506	DYR-60055		.05-.05	A1	3.41	2.28	1.99	1.54	1.36	1.25
15F507	DYR-6011J		.1-.1	A1	3.53	2.35	2.06	1.59	1.41	1.30
15F508	DYR-6022	4FF254V1	.25-.25	A2	3.83	2.55	2.24	1.73	1.53	1.40
15F509	DYR-6055	4FF504V1	.5-.5	B1	4.35	2.90	2.54	1.96	1.74	1.60
15F510	DYR-6110		1.0-1.0	C2	5.18	3.45	3.03	2.33	2.08	1.90
				1000 WVDC 1 SEC. 2 TERM. EXCEPT (*) 3 SEC. TERM.						
15F515	DYR-10010	.....	.1	A1	2.59	1.73	1.51	1.16	1.04	.95
15F516	DYR-10025	1FG254K1	.25	A1	2.81	1.86	1.64	1.26	1.13	1.03
15F517	DYR-10050	.....	.5	B1	3.04	2.03	1.78	1.36	1.21	1.11
15F518	DYR-10100	.....	.1	C2	4.05	2.70	2.36	1.83	1.63	1.49
15F520	DYR-10011*	4FG104V1	.1-.1	A1	3.68	2.46	2.15	1.66	1.48	1.35
				600 WVDC-SINGLE SECTION 2 TERMINALS (CIRCUIT 1)						
47F895	MYR-6025	1EF254K1	.25	A1	2.59	1.73	1.51	1.16	1.04	.950
47F896	MYR-6050	1EF504K1	.5	A3	2.89	1.93	1.68	1.30	1.15	1.06
47F897	MYR-6100	1EF105K1	1.0	B2	3.45	2.30	2.01	1.55	1.38	1.26
47F898	MYR-6200	1EF205K1	2.0	C2	4.50	3.00	2.63	2.03	1.80	1.65
				600 WVDC DUAL SECTIONS 3 TERMINALS (CIRCUIT 4)						
47F899	MYR-60055	4EF503V1	.05-.05	A1	3.41	2.28	1.99	1.54	1.36	1.25
47F930	MYR-6011	4EF104V1	.1-.1	A1	3.53	2.35	2.06	1.59	1.41	1.30
47F931	MYR-6022	4EF254V1	.25-.25	A3	3.83	2.55	2.24	1.73	1.53	1.40
47F932	MYR-6055	4EF504V1	.5-.5	B2	4.35	2.90	2.54	1.96	1.74	1.60
47F933	MYR-6110	4EF105V1	1.0-1.0	C2	5.18	3.45	3.03	2.33	2.08	1.90
				1000 WVDC SINGLE SECTION 2 TERMINAL (CIRCUIT 1)						
47F934	MYR-10005	1EG503K1	.05	A1	2.48	1.65	1.44	1.11	.99	.906
47F935	MYR-10010	1EG104K1	.1	A1	2.59	1.73	1.51	1.16	1.04	.950
47F936	MYR-10025	1EG254K1	.25	A2	2.81	1.86	1.64	1.26	1.13	1.03
47F937	MYR-10050	1EG504K1	.5	B1	3.04	2.03	1.78	1.36	1.21	1.11
47F938	MYR-10100	1EG105K1	1.0	C2	4.05	2.70	2.36	1.83	1.63	1.49
				1000 WVDC DUAL SECTIONS 3 TERMINALS (CIRCUIT 4)						
47F939	MYR-100055	4EG503V1	.05-.05	A1	3.60	2.40	2.10	1.63	1.44	1.33
47F940	MYR-10011	4EG104V1	.1-.1	A2	3.68	2.46	2.15	1.66	1.48	1.35
47F941	MYR-10022	4EG254V1	.25-.25	B1	4.28	2.85	2.50	1.93	1.71	1.58
47F942	MYR-10055	4EG504V1	.5-.5	C2	5.48	3.65	3.20	2.46	2.19	2.01

Widely used in military equipment and communications as well as in industrial electronics equipment. All types are drawn case bathtub configurations with side mounting flange. In addition to MIL-C-25 ratings stock ratings include popular non-military standard ratings. Oper. Temp. range: —55°C to +85°C; Dissipation factor @25°C: less than 1%; Insulation resistance: Type MYR, 2000/6000 @ 25°C; 200/600 @ 85°C. Type DYR, 1500/4500 @ 25°C; 15/450 @ 85°C. Temp. Coeff.: Type MYR, ±10%; Type DYR, +10%—30%. All styles supplied with terminal style B, non-removable solder lug. Single, dual and triple capacitance units available.



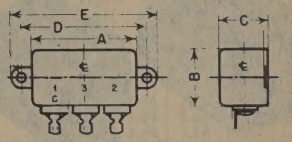
No. 1



No. 4

CASE SIZES

Case Size	A	B	C	D	E
	DEMENSIONS (Inches)				
A1	1 13/16	1	3/4	2 1/8	2 1/2
A2	1 13/16	1	7/8	2 1/8	2 1/2
A3	1 13/16	1	1	2 1/8	2 1/2
B1	2	1 3/4	7/8	2 3/8	2 3/4
B2	2	1 3/4	1	2 3/8	2 3/4
C1	2	2	1	2 3/8	2 3/4
C2	2	2	1 1/8	2 3/8	2 3/4
C3	2	2	1 1/4	2 3/8	2 3/4



TYPE UHL D.C. ALUMINUM ELECTROLYTICS

All welded type UHL are polarized, etched foil aluminum electrolytic capacitors which operate over temp. range -55°C to +125°C without derating. Offers minimum capacitor weight suitable to airborne and space applications. Dual voltage rated for higher voltage operation at the lower ambient temp. of +85°C. Max. capacitance change at -55°C: -30%. Mil Style CU 12, CU 13 capacitors to Mil-C-39018/01, in all capacitance ratings, voltages, and tolerances, are available.

PRICE AND SIZE LOCATOR

Code	Dia. x L.	1-24	25-49	50-99	100-499	500-999	1000-Up
A	13/32 x 29/32	2.15	1.44	1.25	.90	.82	.745
B	13/32 x 1 1/32	2.30	1.54	1.35	.96	.87	.791
C	13/32 x 1 7/32	3.00	2.00	1.75	1.25	1.13	1.027
D	13/32 x 1 15/32	4.50	3.00	2.62	1.87	1.71	1.555
E	13/32 x 1 23/32	4.60	3.08	2.69	1.92	1.74	1.582
F	13/32 x 2 9/32	4.95	3.30	2.90	2.06	1.88	1.709
G	13/32 x 2 25/32	6.44	4.29	3.75	2.68	2.46	2.240

Stock No.	Type UHL-	Mfd.	WVDC	Price Size	Stock No.	Type UHL-	Mfd.	WVDC	Price Size	Stock No.	Type UHL-	Mfd.	WVDC	Price Size
47F872	220-5	220	5	B	47F886	330-20	330	20	G	47F859	22-75	22	75	D
47F873	560-5	560	5	E	47F887	33-40	33	40	B	47F860	33-75	33	75	E
47F874	820-5	820	5	F	47F888	47-40	47	40	C	47F861	47-75	47	75	F
47F875	1000-5	1000	5	G	47F889	68-40	68	40	D	47F862	68-75	68	75	G
47F876	100-7	100	7	A	47F890	100-40	100	40	E	47F863	22-100	22	100	E
47F877	220-7	220	7	C	47F891	150-40	150	40	F	47F864	33-100	33	100	F
47F878	330-7	330	7	D	47F852	15-60	15	60	A	47F865	13-150	13	150	D
47F879	470-7	470	7	E	47F853	22-60	22	60	B	47F866	26-150	26	150	F
47F880	680-7	680	7	F	47F854	33-60	33	60	C	47F867	39-150	39	150	G
47F881	150-10	150	10	C	47F855	47-60	47	60	D	47F868	3.3-200	3.3	200	A
47F882	680-10	680	10	G	47F856	68-60	68	60	E	47F869	6.8-200	6.8	200	C
47F883	100-20	100	20	C	47F857	100-60	100	60	F	47F870	10-200	10	200	D
47F884	150-20	150	20	E	47F858	15-75	15	75	C	47F871	22-200	22	200	F
47F885	220-20	220	20	F										

"KR" ALUMINUM CAN CAPACITOR

Single hole inverted mounting aluminum can electrolytics. Ideal for replacement of 1" diameter wet type electrolytics in older equipment. Shipping wt., 6 oz.

SINGLE SECTION

Stk. No.	Type	VDC	Mfd.	DxL	1-24	25-49	50-99	100-499	500-999
15F450	KR604C	600	4	1 3/8x3 1/2"	2.34	1.33	1.01	.94	.858
15F451	KR608C	600	8	1 3/8x4 3/8"	2.64	1.50	1.14	1.06	.968
15F452	KR616C	600	16	1 3/8x4 3/8"	2.97	1.68	1.29	1.19	1.09
15F459	KR540	450	40	1 3/8x4 3/8"		1.09	.83	.77	.704

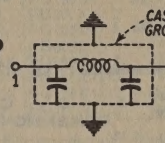
DUAL SEPARATE SECTION UNITS

15F460	KR588A	1 3/8x3"	2.25	1.28	.98	.90	.825

NEWARK Carries complete lines of top quality electronic equipment. Newark can supply all your needs, whether or not they are listed in this catalog.

Type NFT. 15 amp rating +125°C maximum operating temperature. Can be used in place of 5 amp and 10 amp, +85°C or +125°C NFT units, and 10 amp CZ units with no sacrafice in case size. Recommended for prototype purposes as well as production runs. Commonly used in buffers, DC motors, drills, fans, ignition systems, relays, thermostats, etc. Tol.: 10%.

Type NFR. Designed for high attenuation of RF interference over the ranges of 150KC to 10 GC(#) and 14KC to 10GC(+). Three terminal design for bulkhead or chassis shielded mounting.



Type NF. Designed for high attenuation over the range of 150KHZ to 1MHZ. **Chassis shielded, flange mount. †Bulkhead shielded mount.

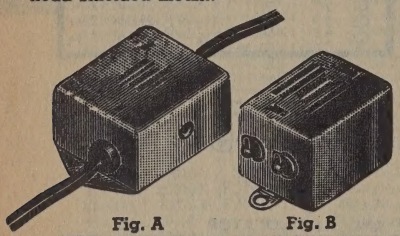
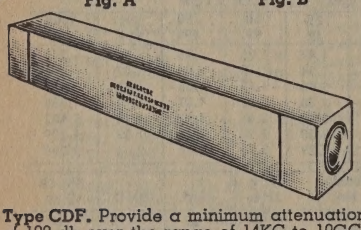


Fig. A Fig. B



Type CDF. Provide a minimum attenuation of 100 db over the range of 14KC to 10GC. Meet the requirements of MIL-F-15733 where applicable. Provide for versatile mounting with threaded fitting lead termination or universal conduit mounting. Shpg. wt. 35 lbs.

IF-4

IF-18

Type IF. Filters are 5 amp portable devices designed for light interference applications. Electrical appliances are plugged into the line sockets provided. IF-24 and IF-54 are commercial wired-in devices designed for RF1 suppression of flourescent light sources, office machines and other small appliances. U.L. approved.

Type CA. By-pass capacitors meet requirements of MIL-C-12889 including severe shock and vibration. Temperature range: —55°C to +85°C. For attenuation of RF noise over wide frequency range.

FEED-THROUGH SUPPRESSION CAPACITORS

Stock No.	Type	Curr. Amps	VDC	Cap. Mfd.	Line Freq. Hz	Case Dia.	Case Lngt.	1-24	25-49	50-99	100-499	500 Up
65F400	NFT3H1PIL-10	15	100	.1	—	.400	29/32	3.24	2.16	1.63	1.46	1.29
66F401	NFT3H1P22L-10	15	100	.22	—	.400	1 1/32	3.44	2.29	1.72	1.55	1.38
66F402	NFT3H1P33L-10	15	100	.33	—	.562	1 5/32	3.60	2.40	1.80	1.62	1.45
66F403	NFT3H1P47L-10	15	100	.47	—	.562	1 13/32	3.82	2.55	1.92	1.72	1.53
66F404	NFT3H1W1L-10	15	100	.1	—	.670	29/32	4.62	3.08	2.31	2.09	1.85
66F405	NFT3H6P1L-10	15	*600	1.0	0-400	.562	1 13/32	3.85	2.57	1.93	1.73	1.54
66F406	NFT3H6P22L-10	15	*600	.22	0-400	.670	29/32	4.33	2.89	2.17	1.95	1.73
66F407	NFT3H6P47L-10	15	*600	.47	0-400	.750	2 13/32	4.94	3.30	2.47	2.23	1.98

*also rated at 250 VAC.

TYPE NFR TUBULAR PI FILTERS

Stock No.	Type	Curr. Amps.	Volts AC	Volts DC	Line Freq. HZ	Case Size	1-24	25-49	50-99	100-499	500-Up
66F408	NFR100-24	1.0+	120	300	0-60	5 15/16x1 1/4	23.27	15.52	11.64	10.48	9.31
66F409	NFR124-1	1.0#	250	600	0-400	2 5/8x1	15.67	10.44	7.83	7.05	6.27
66F411	NFR110-10	5.0+	120	300	0-60	6 3/16x1 1/2	31.72	21.14	15.86	14.27	12.69
66F412	NFR126-1	5.0#	250	600	0-400	3x1 1/4	19.90	13.27	9.95	8.96	7.96
66F414	NFR102-19	10.0+	120	200	0-60	6 7/8x1 3/4	41.22	27.48	20.61	18.55	16.49
66F415	NFR127-1	10.0#	250	600	0-400	3 1/16x1 3/8	26.68	17.78	13.34	12.01	10.67

TYPE NFR FILTERS UL RECOGNIZED

15F2222	NFR 100-8A	1	250	600	0-60	1	2 1/16	11.40	7.60	5.70	5.13	4.56
15F2223	NRF 110-4A	3	250	600	0-60	1 1/8	3 1/2	17.66	11.77	8.83	7.95	7.06
15F2224	NRF 101-4A	5	250	600	0-60	1 1/8	3 7/16	18.94	12.63	9.47	8.53	7.58
15F2225	NRF 102-6A	10	250	600	0-60	1 1/2	3 3/4	23.27	15.52	11.64	10.47	9.31
15F2226	NRF 111-2A	20	250	600	0-60	1 3/4	4 7/8	33.06	22.04	16.53	14.88	13.23
15F2227	NRF 112-1A	30	250	600	0-60	2 1/4	4	54.09	36 06	27.05	24.34	21.64
15F2228	NRF 103-5A	50	250	600	0-60	2 1/4	4 1/2	73.19	48.79	36.60	32.94	29.28

TYPE NF RECTANGULAR PI FILTERS

66F417	NF10457-7	1**	250	600	0-400	1 3/4x1 1/4x1 1/8	14.93	9.95	7.47	6.72	5.97
66F419	NF10459-5	5**	250	600	0-400	2 1/16x1 1/4x1 1/4	15.15	10.10	7.58	6.82	6.07
66F420	NF10744	5†	250	600	0-400	2x1 1/4x1 1/4	23.43	15.62	11.72	10.55	9.37
66F421	NF10561-5	10**	250	600	0-400	2x2x1 1/2	19.84	13.23	9.92	8.92	7.94
66F422	NF10654-2	10†	250	600	0-400	2x2x1 1/2	26.13	17.42	13.06	11.76	10.45

TYPE NF QUIETONE FILTERS

Fig. A—Flexible wire leads. Fig. B—Solder lug terminals.

Stock No.	Type	Curr. Amps.	Volts AC	Fig.	L. x W. x H.	1-24	25-99	100-UP
66F423	NF10431	2x3.5	280	A	2 1/2x2x1 3/16	3.87	3.39	2.52
66F424	NF-1031-1	2x3.5	280	A	2 1/2x2x1 7/32	5.05	4.42	3.29
66F425	NF10431-9	2x1	280	B	1 3/4x1 1/4x1 1/8	7.49	6.56	4.87
66F426	NF10431-12	2x3.5	280	A	2 1/2x2x1 3/16	7.49	6.56	4.87
66F427	NF10280-1	2x2.5	125	B	2x2x1 1/8	8.37	7.32	5.44

POWER LINE AND SCREEN ROOM FILTERS THREADED LEAD TERMINATION

Stock No.	Type	Curr. Amps.	Volts AC	Line Freq. HZ	Case L. x W. x H.	1-9	10-24	25-49
66F428	CDF25FA6-C	25A	250V	0-60	23 x 4 x 4	93.90	83.80	77.10
66F430	CDF50FA6-C	50A	250V	0-60	23 x 4 x 4	105.40	94.15	86.60

KNOCKOUTS BOTH ENDS

66F436	CDF25FA6	25A	250V	0-60	26 x 4 x 4	93.90	83.80	77.10
66F438	CDF50FA6	50A	250V	0-60	26 x 4 x 4	105.40	94.15	86.60
66F439	CDF50FA4	50A	250V	0-400	26 x 4 x 4	105.40	94.15	86.60

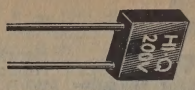
TYPE IF FILTERS

Stock No.	Type	Volt/Amp	Cap. Mfd.	1-24	25-99	100-UP
48F043	IF 4	110/5	.1	1.54	1.35	1.01
48F044	IF 6	110/5	2x.1	2.40	2.10	1.56
48F000	IF18	115/5	2x.25	10.17	8.89	6.61
48F001	IF19	115/5	2x.1	9.10	7.96	5.92
48F007	IF24	110/-	2x.1	1.48	1.30	.96
48F006	IF54	110-220/2	2x.25	4.00	3.50	2.60

HEAVY DUTY VEHICULAR BYPASS FILTERS

Stock No.	Mil. Type	Volt AC/DC	Cap. Mfd.	1-24	25-49	50-99	100-499
15F2200	CA32KFB103	100	.01	1.51	1.01	.76	.68
15F2201	CA33KFB103	100	.01	1.51	1.01	.76	.68
15F2202	CA34KFB103	100	.01	1.62	1.08	.82	.73
15F2203	CA32KFB104	100	.1	1.59	1.06	.79	.72
15F2204	CA33KFB104	100	.1	1.59	1.06	.79	.72
15F2205	CA34KFB104	100	.1	1.68	1.12	.85	.76
15F2206	CA32KFB254	100	.25	1.65	1.10	.83	.75
15F2207	CA33KFB254	100	.25	1.65	1.10	.83	.75
15F2208	CA34KFB254	100	.25	1.75	1.17	.88	.79
15F2209	CA32KFB504	100	.5	2.05	1.43	1.08	.97
15F2210	CA33KFB504	100	.5	2.05	1.43	1.08	.97
15F2211	CA34KFB504	100	.5	2.15	1.43	1.08	.97
15F2212	CA47BFU103	250	.01	5.84	3.87	2.91	2.62
15F2213	CA36KFW103	500	.01	1.65	1.10	.83	.75
15F2214	CA37KFW103	500	.01	1.65	1.10	.83	.75
15F2215	CA38KFW103	500	.01	1.75	1.17	.88	.79
15F2216	CA36KFW104	500	.1	1.92	1.28	.96	.87
15F2217	CA37KFW104	500	.1	1.92	1.28	.96	.87
15F2218	CA38KFW104	500	.1	2.02	1.34	1.01	.92
15F2219	CA36KFW254	500	.25	2.21	1.48	1.11	1.00
15F2220	CA37KFW254	500	.25	2.21	1.48	1.11	1.00
15F2221	CA38KFW254	500	.25	2.31	1.54	1.16	1.25

MILITARY-TYPE CK05 AND CK06 CAPACITORS



Type CK05 is .200 square by .100 thick. Type CK06 is .300 square by .100 thick. Molded for improved humidity protection and reliability. Tolerance is ±10%. Operating temperature is −55°C to 150°C to meet specifications of MIL-C-11015.

TYPE CK05BX CAPACITORS

Stock No.	Type CK05BX	pF	WV DC	1-24	25-49	50-99	100-249	250-499
60F671	100K	10	200	.43	.29	.22	.173	.149
60F673	120K	12	200					
60F674	150K	15	200					
60F676	180K	18	200					
60F677	220K	22	200					
60F679	270K	27	200	.43	.29	.22	.173	.149
60F680	330K	33	200					
60F682	390K	39	200					
60F683	470K	47	200					
60F685	560K	56	200					
60F686	680K	68	200	.43	.29	.22	.173	.149
60F688	820K	82	200					
60F689	101K	100	200					
60F691	121K	120	200					
60F692	151K	150	200					
60F694	181K	180	200	.43	.29	.22	.173	.149
60F695	221K	220	200					
60F697	271K	270	200					
60F698	331K	330	200					
60F700	391K	390	200					
60F701	471K	470	200	.43	.29	.22	.173	.149
60F703	561K	560	200					
60F704	681K	680	200					
60F706	821K	820	200					
60F707	102K	1000	200					
60F709	122K	1200	100	.92	.81	.46	.368	.317
12F9145	152K	1500	100					
12F9146	182K	1800	100					
12F9147	222K	2200	100	.95	1.20	.47	.379	.327
12F9148	272K	2700	100					
12F9149	332K	3300	100					
12F9150	392K	3900	100					
12F9151	472K	4700	100					
12F9152	562K	5600	100					
12F9153	682K	6800	100	1.10	.61	.55	.440	.380
12F9154	822K	8200	100					
12F9155	103K	10000	100					
12F9156	123K	12000	50	1.20	.63	.61	.485	.418
12F9157	153K	15000	50					
12F9158	183K	18000	50					
12F9159	223K	22000	50					
12F9160	273K	27000	50					
12F9161	333K	33000	50	1.80	.73	.92	.734	.633
12F9162	393K	39000	50					
12F9163	473K	47000	50					

TYPE CK05BX CAPACITORS (Cont'd)

Stock No.	Type CK05BX	pF	WV DC	1-24	25-49	50-99	100-249	250-499
12F9164	563K	56000	50	2.40	1.60	1.20	.968	.835
12F9165	683K	68000	50	2.40	1.60	1.20	.968	.835
12F9166	823K	82000	50	.69	.44	.33	.264	.228
12F9167	104K	100000	50	.69	.44	.33	.264	.228

TYPE CK06BX CAPACITORS

Stock No.	Type CK06BX	pF	WV DC	1-24	25-49	50-99	100-249	250-499
12F9192	122K	1200	200	.66	.44	.33	.264	.228
60F710	152K	1500	200					
60F712	182K	1800	200					
60F713	222K	2200	200					
60F715	272K	2700	200					
60F716	332K	3300	200	.74	.49	.37	.296	.255
60F718	392K	3900	200					
60F719	472K	4700	200					
60F721	562K	5600	200					
60F722	682K	6800	200	.76	.51	.38	.304	.262
60F724	822K	8200	200					
60F725	103K	10000	200					
12F9168	123K	12000	100	.96	.64	.48	.384	.331
12F9169	153K	15000	100	.96	.64	.48	.384	.331
12F9170	183K	18000	100	1.08	.72	.54	.432	.373
12F9171	223K	22000	100	1.08	.72	.54	.432	.373
12F9172	273K	27000	100	1.12	.75	.56	.448	.386
12F9173	333K	33000	100	1.12	.75	.56	.448	.386
12F9174	393K	39000	100	1.32	.88	.66	.528	.455
12F9175	473K	47000	100	1.36	.91	.68	.544	.469
12F9176	563K	56000	100	1.42	.95	.71	.568	.490
12F9177	683K	68000	100	1.42	.95	.71	.568	.490
12F9178	823K	82000	100	1.44	.96	.72	.576	.497
12F9179	104K	100000	100	1.44	.96	.72	.576	.497
12F9180	124K	120000	50	2.20	1.47	1.10	.880	.759
12F9181	154K	150000	50	2.20	1.47	1.10	.880	.759
12F9182	184K	180000	50	3.05	2.04	1.52	1.219	1.052
12F9183	224K	220000	50	3.05	2.04	1.52	1.219	1.052
12F9184	274K	270000	50	5.16	3.44	2.58	2.064	1.780
12F9185	334K	330000	50	5.16	3.44	2.58	2.064	1.780
12F9186	394K	390000	50	7.20	4.81	3.60	2.880	2.484
12F9187	474K	470000	50	7.20	4.81	3.60	2.880	2.484
12F9188	564K	560000	50	9.20	6.14	4.60	3.680	3.174
12F9189	684K	680000	50	9.20	6.14	4.60	3.680	3.174
12F9190	824K	820000	50	12.76	8.51	6.38	5.104	4.402
12F9191	105K	1000000	50	12.76	8.51	6.38	5.104	4.402

TYPE K323Z METALLIZED POLYCARBONATE TUBULAR CAPACITORS

Hermetically sealed Polycarbonate film provides high capacitance stability. Self-heals in the rare case of dielectric breakdown. Operating temperature: −65°C to +125°% of full rating. Standard tolerance is 20%. Other tolerances available on special order.

100 VDCW

Stk. No.	Mfd.	Size	1-24	25-49	50-99	100-249	250-499
16F300	.015	.175x5/8"	2.40	1.602	1.20	.828	.732
16F301	.022	.175x5/8"	2.40	1.602	1.20	.828	.732
16F302	.033	.195x1 1/16"	2.40	1.602	1.20	.828	.732
16F303	.047	.235x5/8"	2.52	1.682	1.26	.869	.769
16F304	.068	.235x1 1/16"	2.56	1.709	1.28	.883	.781
16F305	.1	.235x1 3/16"	2.88	1.922	1.44	.994	.878

Stk. No.	Mfd.	Size	1-24	25-49	50-99	100-249	250-499
16F306	.15	.312x1 3/16"	3.00	2.003	1.50	1.035	.915
16F307	.22	.312x1 3/16"	3.00	2.003	1.50	1.035	.915
16F308	.33	.400x1 3/16"	3.28	2.189	1.64	1.132	1.000
16F309	.47	.400x1 5/16"	3.40	2.270	1.70	1.173	1.037
16F310	.68	.400x1 1/8"	3.60	2.403	1.80	1.242	1.098
16F311	1.0	.400x1 9/16"	3.92	2.617	1.96	1.352	1.196
16F312	1.5	.562x1 1/8"	6.08	4.058	3.04	2.098	1.854
16F313	2.0	.562x1 5/16"	7.48	4.993	3.74	2.581	2.281
16F314	3.0	.562x1 13/16"	8.20	5.474	4.10	2.829	2.501
16F315	4.0	.670x1 13/16"	9.68	6.461	4.84	3.340	2.952
16F316	5.0	.670x2 1/16"	10.88	7.262	5.44	3.754	3.318

For Plastic Sleeve add suffix "P" and add .02 to unit price.

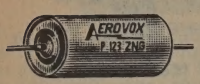
V-161 AEROFILM TUBULAR CAPS

High quality units in Polycap (Polyester Film) casing material which have high insulation resistance, low dielectric absorption and power factor. Relatively small capacitance change over 0° to 85°C. Epoxy end fill will not flow, soften, or melt at any operating temperature. Tolerance ±20%. Operating temp. −30° to +100°C. Aver. shpg. wt., 2 oz.

Stock No.	WVDC	Mfd.	D x L	Each
16F1579	200	.01	9/32x15/16"	.15
16F1580	200	.05	5/16x1 1/16"	.15
16F1581	200	.1	3/8x1 1/4"	.21
16F1582	200	.22	1/2x1 1/4"	.24
16F1583	200	.25	1/2x1 1/4"	.27
16F1584	200	.33	1/2x1 1/2"	.33
16F1585	200	1.0	13/16x1 7/8"	.57
16F1586	400	.0068	9/32x15/16"	.15
16F1587	400	.01	5/16x1"	.15
16F1588	400	.02	5/16x1 1/16"	.15
16F1589	400	.05	3/8x1 1/4"	.18
16F1590	400	.1	1/2x1 1/4"	.21
16F1591	400	.25	9/16x1 3/4"	.39

Stock No.	WVDC	Mfd.	D x L	Each
16F1592	400	.5	1 1/16x2"	.69
16F1593	400	1.0	7/8x2 1/8"	1.05
16F1594	600	.001	9/32x15/16"	.15
16F1595	600	.005	5/16x1"	.15
16F1596	600	.01	11/32x15/16"	.18
16F1597	600	.02	3/8x3/4"	.18
16F1598	600	.03	7/16x1 3/16	.21
16F1599	600	.05	1/2x1 1/4"	.24
16F1600	600	.1	9/16x1 1/2"	.30
16F1601	600	.2	23/32x1 5/8"	.48
16F1602	600	.25	3/4x1 3/4"	.54
16F1503	600	.5	7/8x2 1/8"	.87

TYPE P123ZN METALLIZED PAPER CAPACITORS



Hermetically sealed metal cased paper capacitors designed for long life. 50 WVDC units are specifically designed for transistor applications and low voltage operations. Operating temperatures of all voltages: —55°C to +100°C with no derating; up to 125°C derated to 75%. Standard tolerance of 50 WVDC ±10%; 200, 400, and 600 WVDC. Other tolerances and insulated sleeve types are available on special order. Average shipping weight, 2 oz.

50 WVDC

Stock No.	Cap. pF	Size (Inches)	1-24	25-49	50-99	100-249	250-499
16F1534	.047	.195x1 3/16	2.40	1.60	1.20	.828	.732
16F1535	.068	.195x1 3/16	2.40	1.60	1.20	.828	.732
16F1536	.1	.195x1 5/16	2.48	1.66	1.24	.856	.756
16F1537	.15	.235x1 5/16	2.52	1.68	1.26	.869	.769
16F1538	.22	.312x1 3/16	2.56	1.71	1.28	.883	.781
16F1539	.33	.312x1 1/16	2.64	1.76	1.32	.911	.805
16F1540	.47	.312x1 3/16	2.72	1.82	1.36	.938	.830
16F1541	.68	.400x1 1/8	3.04	2.03	1.52	1.05	.927
16F1542	1.0	.400x1 5/16	3.36	2.24	1.68	1.16	1.03
16F1543	1.5	.500x1 1/16	3.84	2.56	1.92	1.33	1.17
16F1544	2.0	.562x1 5/16	4.32	2.88	2.16	1.49	1.32
16F1545	3.0	.562x1 7/16	4.96	3.31	2.48	1.71	1.51
16F1546	4.0	.670x1 7/16	5.64	3.77	2.82	1.95	1.72

200 WVDC

Stock No.	Cap. pF	Size (Inches)	1-24	25-49	50-99	100-249	250-499
16F1348	.01	.175x1/2	1.92	1.28	.96	.662	.586
12F1246	.012	.195x5/8	1.92	1.28	.96	.662	.586
16F1349	.015	.195x5/8	1.92	1.28	.96	.662	.586
12F1247	.018	.195x5/8	1.92	1.28	.96	.662	.586
16F1351	.022	.195x5/8	1.92	1.28	.96	.662	.586
12F1248	.027	.235x5/8	1.96	1.31	.98	.676	.598
16F1352	.033	.235x5/8	1.96	1.31	.98	.676	.598
12F1249	.039	.235x1 1/16	2.00	1.34	1.00	.690	.610
16F1354	.047	.235x1 1/16	2.00	1.34	1.00	.690	.610
12F1250	.056	.235x1 3/16	2.04	1.36	1.02	.704	.622
16F1356	.068	.312x1 3/16	2.04	1.36	1.02	.704	.622
12F1251	.082	.312x1 3/16	2.08	1.39	1.04	.718	.634
16F1357	.1	.312x1 3/16	2.08	1.39	1.04	.718	.634
12F1252	.12	.312x1 1/8	2.08	1.39	1.04	.718	.634
16F1358	.15	.312x1 1/8	2.12	1.42	1.06	.731	.647
12F1253	.18	.312x1 1/8	2.12	1.42	1.06	.731	.647
16F1360	.22	.312x1 1/8	2.12	1.42	1.06	.731	.647
12F1254	.27	.400x1 1/16	2.32	1.55	1.16	.800	.708
16F1362	.33	.400x1 1/8	2.32	1.55	1.16	.800	.708
12F1255	.39	.400x1 1/8	2.44	1.63	1.22	.842	.744
16F1363	.47	.400x1 1/16	2.44	1.63	1.22	.842	.744
12F1256	.56	.500x1 1/8	2.48	1.66	1.24	.856	.756
16F1365	.68	.500x1 1/8	2.52	1.68	1.26	.869	.769
16F1366	1.0	.562x1 1/8	2.76	1.84	1.38	.952	.842
16F1367	1.5	.562x1 5/8	3.52	2.35	1.76	1.21	1.07
16F1368	2.0	.562x1 7/8	3.52	2.35	1.76	1.21	1.07
12F1257	3.0	.670x1 7/8	5.24	3.50	2.62	1.81	1.60
12F1258	4.0	.750x1 7/8	5.64	3.77	2.82	1.95	1.72
12F1259	5.0	1.000x1 7/8	5.96	3.98	2.98	2.06	1.82
12F1260	6.0	1.000x1 7/8	6.28	4.19	3.14	2.17	1.92

400 WVDC

Stock No.	Cap. pF	Size (Inches)	1-24	25-49	50-99	100-249	250-499
16F1370	.001	.235x7/16	1.92	1.28	.96	.662	.586
16F1374	.01	.235x5/8	2.00	1.34	1.00	.690	.610
12F8061	.012	.235x1 3/16	2.00	1.34	1.00	.690	.610

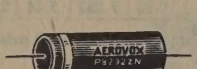
400 WVDC (Cont'd)

Stock No.	Cap. pF	Size (Inches)	1-24	25-49	50-99	100-249	250-499
12F8062	.015	.235x1 3/16	2.00	1.34	1.00	.690	.610
12F8063	.018	.235x1 3/16	2.00	1.34	1.00	.690	.610
12F8064	.022	.235x1 3/16	2.04	1.36	1.02	.704	.622
12F8065	.027	.312x1 3/16	2.04	1.36	1.02	.704	.622
16F1378	.033	.312x1 3/16	2.04	1.36	1.02	.704	.622
12F8066	.039	.312x1 1/8	2.04	1.36	1.02	.704	.622
12F8067	.047	.312x1 1/8	2.04	1.36	1.02	.704	.622
12F8068	.056	.312x1 1/8	2.12	1.42	1.06	.731	.647
12F8069	.068	.312x1 1/8	2.16	1.44	1.08	.745	.659
16F1382	.082	.400x1 1/8	2.16	1.44	1.08	.745	.659
16F1383	.1	.400x1 1/8	2.24	1.50	1.12	.773	.683
12F8070	.12	.500x1 1/8	2.28	1.52	1.14	.787	.695
12F8071	.15	.500x1 1/8	2.32	1.55	1.16	.800	.708
12F8072	.18	.500x1 1/8	2.36	1.58	1.18	.814	.720
16F1386	.22	.500x1 1/8	2.36	1.57	1.18	.814	.720
12F8073	.27	.562x1 1/8	2.56	1.71	1.28	.883	.781
16F1387	.33	.562x1 3/8	2.56	1.71	1.28	.883	.781
12F8074	.39	.562x1 5/8	2.72	1.82	1.36	.938	.830
16F1389	.47	.562x1 5/8	2.96	1.98	1.48	1.02	.903
12F8075	.56	.670x1 5/8	3.16	2.11	1.58	1.09	.964
12F8076	.68	.670x1 5/8	3.36	2.24	1.68	1.16	1.03
12F8077	.82	.670x1 7/8	3.64	2.43	1.82	1.26	1.11
16F1392	1.0	.670x2 1/8	4.04	2.70	2.02	1.39	1.23
12F8078	1.5	.750x2 3/8	5.00	3.34	2.50	1.73	1.53
16F1394	2.0	1.000x1 7/8	6.00	4.01	3.00	2.07	1.83

600 WVDC

Stock No.	Cap. pF	Size (Inches)	1-24	25-49	50-99	100-249	250-499
12F8079	.001	.235x1/2	1.96	1.31	.98	.676	.598
16F1435	.01	.235x1 3/16	2.04	1.36	1.02	.704	.622
12F8080	.012	.312x1 3/16	2.08	1.39	1.04	.718	.634
12F8081	.015	.312x1 3/16	2.08	1.39	1.04	.718	.634
12F8082	.018	.312x1 3/16	2.08	1.39	1.04	.718	.634
12F8083	.027	.400x1 3/16	2.08	1.39	1.04	.718	.634
12F8084	.033	.400x1 3/16	2.08	1.39	1.04	.718	.634
12F8085	.039	.400x1 3/16	2.12	1.42	1.06	.731	.647
12F8086	.056	.400x1 1/8	2.24	1.50	1.12	.773	.683
12F8087	.068	.400x1 1/8	2.24	1.50	1.12	.773	.683
12F8088	.082	.400x1 1/8	2.28	1.52	1.14	.787	.695
16F1444	.1	.400x1 1/8	2.32	1.55	1.16	.800	.708
12F8089	.12	.500x1 1/8	2.44	1.63	1.22	.842	.744
12F8090	.15	.500x1 1/8	2.48	1.66	1.24	.856	.756
12F8091	.18	.562x1 1/8	2.56	1.71	1.28	.883	.781
16F1447	.22	.562x1 3/8	2.68	1.79	1.34	.925	.817
12F8092	.27	.670x1 5/8	2.76	1.84	1.38	.952	.842
12F8093	.33	.562x1 5/8	3.00	2.00	1.50	1.04	.915
12F8094	.39	.670x1 5/8	3.16	2.11	1.58	1.09	.964
12F8095	.47	.670x1 5/8	3.20	1.14	1.60	1.10	.976
12F8096	.56	.670x1 7/8	3.40	2.27	1.70	1.17	1.04
12F8097	.68	.670x1 7/8	3.72	2.48	1.86	1.28	1.14
12F8098	.82	.750x2 3/8	4.04	2.70	2.02	1.39	1.23
16F1453	1.0	.750x2 3/8	4.48	2.99	2.24	1.55	1.37
12F8099	1.5	1.000x1 7/8	5.64	3.77	2.82	1.95	1.72
16F1454	2.0	1.000x2 3/8	6.80	4.54	3.40	2.35	2.07

P8292ZN METALLIZED-PAPER TUBULAR CAPACITORS



Modified plastic tubular type. Duranite end-sealed in paper case. Operating temp. —30° C to +100° C.

200 VOLTS

No.	pF	D x L	1-24	25-49	50-99	100-249
16F473	.01	1/4x1 9/32	.54	.36	.27	.216
16F474	.02	1/4x2 1/32	.54	.36	.27	.216
16F475	.03	5/16x2 3/32	.54	.36	.27	.216
16F476	.05	5/16x2 3/32	.54	.36	.27	.216
16F477	.10	3/8x2 3/32	.58	.38	.29	.230
16F478	.25	1/2x2 3/32	.83	.55	.41	.331
16F479	.50	7/16x1 5/32	.97	.65	.49	.389
16F480	1.00	9/16x1 5/32	1.30	.87	.65	.518
16F481	2.00	5/8x1 21/32	1.76	1.78	.88	.706
16F536	3.00	11/16x3 1/32	2.16	1.44	1.08	.864

200 VOLTS (Cont'd)

No.	pF	D x L	1-24	25-49	50-99	100-249
16F537	4.00	13/16x1 15/16	2.70	1.80	1.35	1.08
16F538	5.00	7/8x1 15/16	3.24	2.16	1.62	1.30
16F539	6.00	15/16x1 15/16	4.16	2.78	2.08	1.66
16F540	8.00	15/16x2 3/8	5.20	3.47	2.60	2.08
16F541	10.00	1x2 3/8	5.76	3.85	2.88	2.30

400 VOLTS

No.	pF	D x L	1-24	25-49	50-99	100-249
16F482	.01	5/16x2 3/32	.54	.36	.27	.216
16F483	.02	3/8x2 3/32	.54	.36	.27	.216
16F484	.03	3/8x2 3/32	.54	.36	.27	.216
16F485	.05	7/16x2 3/32	.58	.38	.29	.230
16F486	.10	7/16x1 5/32	.61	.41	.31	.245
12F9000	.25	5/8x1 5/32	.97	.65	.47	.389
16F487	.25	9/16x1 5/32	.90	.60	.45	.360
16F488	.50	5/8x1 15/32	1.15	.77	.58	.461

400 VOLTS (Cont'd)

No.	pF	D x L	1-24	25-49	50-99	100-249
16F489	1.00	11/16x1 31/32	1.58	1.06	.79	.634
16F490	2.00	7/8x2 3/8	2.23	1.49	1.12	.893
16F542	3.0	1x2 7/8	3.17	2.12	1.58	1.27
16F543	4.0	1x3 5/8	4.08	2.72	2.04	1.63

600 VOLTS

No.	pF	D x L	1-24	25-49	50-99	100-249
16F491	.01	3/8x2 3/32	.54	.36	.27	.216
16F492	.02	3/8x2 3/32	.58	.38	.29	.230
16F493	.03	7/16x2 3/32	.61	.41	.31	.245
16F494	.05	1/2x2 3/32	.65	.43	.32	.259
16F495	.10	7/16x1 5/32	.72	.48	.36	.288
16F497	.50	11/16x1 19/32	1.26	.84	.63	.504
16F498	1.00	13/16x2	2.16	1.44	1.08	.864
16F499	2.00	1x2 3/8	2.52	1.68	1.26	1.01

MILITARY CERAMIC DISCS PER MIL-C-11015-C

These general purpose military ceramic discs are made in accordance with MIL-C-11015-C. Rated at 530 VDCW. Units identified by letter A as fifth digit are made to operate from —55° to +85°C. Those with letter B as fifth digit operate from —55°C to +125°C. Tolerances are ±10%, except *±20%. Av. shpg. wt., 2 oz.

Stock No.	Mil. No.	Pf	1-24	25-49	50-99	100-249	250-499
60F761	CK60BX2R2K	2.2	.08	.05	.04	.03	.028
60F762	CK60BX3R3K	3.3	.08	.05	.04	.03	.028
60K763	CK60BX4R7K	4.7	.08	.05	.04	.03	.028
60F764	CK60BX6R8K	6.8	.12	.08	.06	.05	.04
60F765	CK60BX100K	10.0	.12	.08	.06	.05	.04
60F766	CK60BX150K	15	.08	.05	.04	.03	.026
60F767	CK60BX220K	22	.08	.05	.04	.03	.026
60F768	CK60BX330K	33	.08	.05	.04	.03	.026
60F769	CK60BX330M*	33	.07	.05	.03	.027	.023
60F770	CK60BX470K	47	.08	.05	.04	.03	.026
60F771	CK60BX470M*	47	.07	.05	.03	.027	.023
60F772	CK60BX680K	68	.08	.05	.04	.03	.026
60F773	CK60BX680M*	68	.07	.05	.03	.027	.023
60F774	CK60BX101K	100	.08	.05	.04	.03	.026
60F775	CK60BX101M*	100	.07	.05	.03	.027	.023
60F776	CK60BX151K	150	.08	.05	.04	.03	.026
60F777	CK60BX151M*	150	.07	.05	.03	.027	.023
60F778	CK60AX221K	220	.08	.05	.04	.03	.026
60F779	CK60AX221M*	220	.07	.05	.03	.027	.023
60F780	CK60AX331K	330	.08	.05	.04	.03	.026
60F781	CK60AX331M*	330	.07	.05	.03	.027	.023
60F782	CK60AX471K	470	.08	.05	.04	.03	.026
60F783	CK60AX471M*	470	.07	.05	.03	.027	.023
12F9001	CK60AW471M*	470	.07	.05	.03	.027	.023
60F784	CK60AW681M*	680	.07	.05	.03	.027	.023
60F785	CK60AW821M*	680	.07	.05	.03	.027	.023
60F786	CK60AW102M*	1000	.07	.05	.03	.027	.023
60F787	CK60AW152M*	1500	.07	.05	.03	.027	.023
60F788	CK61BX221K	220	.08	.05	.04	.03	.026
12F9002	CK61BX221M*	220	.07	.05	.03	.027	.023
60F790	CK61BX331K	330	.08	.05	.04	.03	.026
30F791	CK61BX331M*	330	.07	.05	.03	.027	.023
60F792	CK61BX471K	470	.08	.05	.04	.03	.026
60F793	CK61BX471M*	470	.07	.05	.03	.027	.023
60F794	CK61BX681K	680	.08	.05	.04	.03	.026
60F795	CK61BX681M*	680	.068	.045	.034	.027	.023
60F4028	CK61AY220M*	22	.068	.045	.034	.027	.023
60F796	CK61AW222M*	2200	.068	.045	.034	.027	.023
60F4030	CK62AY470M*	47	.076	.051	.038	.030	.026
60F4031	CK62AY101M*	100	.076	.051	.038	.030	.026
60F4032	CK62AY221M*	220	.076	.051	.038	.030	.026
60F4033	CK62AY471M*	471	.076	.051	.038	.030	.026
17F1860	CK62BX821K	820	.096	.064	.048	.038	.033
60F798	CK62BX821M*	820	.076	.051	.038	.030	.026
60F799	CK62BX102K	1000	.096	.064	.048	.038	.033
60F800	CK62BX102M*	1000	.076	.051	.038	.030	.026
60F801	CK62BX152K	1500	.096	.064	.048	.038	.033
60F802	CK62BX152M*	1500	.076	.051	.038	.030	.026
60F803	CK62AX222K	2200	.096	.064	.048	.038	.033
60F804	CK62AX222M*	2200	.076	.051	.038	.030	.026
60F805	CK62AW332M*	3300	.076	.051	.038	.030	.026
60F806	CK62AW472M*	4700	.076	.051	.038	.030	.026
60F807	CK62AW682M*	6800	.076	.051	.038	.030	.026
60F808	CK62AW822M*	8200	.076	.051	.038	.030	.026
60F809	CK63BX222K	2200	.116	.077	.058	.046	.040
60F810	CK63BX222M*	2200	.092	.061	.046	.037	.032
60F811	CK63BX332K	3300	.116	.077	.058	.046	.040
60F812	CK63BX332M*	3300	.092	.061	.046	.037	.032
17F1861	CK63AW472M*	4700	.092	.061	.046	.037	.032
17F1862	CK63AY103X	10,000	.092	.061	.046	.037	.032
60F813	CK63AW103M*	10,000	.092	.061	.046	.037	.032
17F1863	CK64AW511M*	510	.104	.069	.052	.042	.036
17F1864	CK64AW681M*	680	.104	.069	.052	.042	.036
17F1865	CK64AW821M*	820	.104	.069	.052	.042	.036
17F1866	CK64AW102M*	1000	.104	.069	.052	.042	.036
17F1867	CK64AW152M*	1500	.104	.069	.052	.042	.036
17F1868	CK64AW222M*	2200	.104	.069	.052	.042	.036
17F1869	CK64AW332M*	3300	.104	.069	.052	.042	.036
17F1870	CK64AW392M*	3900	.104	.069	.052	.042	.036

P30ZN METALLIZED BATHTUBS

Aerolene impregnated metallized-paper capacitors. Oper. temp. —65°C. to +125°C. at full rating. Av. shpg. wt., 4 oz. Available with top (P30ZNT) and bottom terminals (P30ZNB) at no increase in price. These units are commercial equivalent of MIL TYPES CH53, 54, and 5.

±10% Tolerance

Stock No.	Cap. Mfd.	WVDC	1-9	10-24	25-49	50-99	100-499
12F8039	3.0	150	4.60	3.07	2.30	1.59	1.40
12F8040	4.0	150	5.48	3.66	2.74	1.89	1.67
12F8041	5.0	150	6.04	4.03	3.02	2.08	1.84
12F8042	6.0	150	6.28	4.19	3.14	2.17	1.92
12F8043	8.0	150	7.24	4.83	3.62	2.50	2.21
12F8044	10.0	150	8.32	5.55	4.16	2.87	2.54
12F8045	12.0	150	9.28	6.19	4.64	3.20	2.83
12F8007	.1	200	3.08	2.06	1.54	1.06	.94
12F8008	.25	200	3.40	2.27	1.70	1.17	1.04
12F8009	.5	200	3.44	2.30	1.72	1.19	1.05
12F8010	1.0	200	4.00	2.67	2.00	1.38	1.22
12F8011	2.0	200	4.92	3.28	2.46	1.70	1.50
12F8012	3.0	200	6.08	4.06	3.04	2.10	1.85
12F8013	4.0	200	6.68	4.46	3.34	2.31	2.04
12F8014	5.0	200	7.32	4.89	3.66	2.53	2.23
12F8015	6.0	200	8.00	5.34	4.00	2.76	2.44
12F8016	8.0	200	8.80	5.87	4.40	3.04	2.68
12F8017	10.0	200	9.68	6.46	4.84	3.34	2.95
12F8018	.1	400	3.28	2.19	1.64	1.13	1.00
12F8019	.25	400	3.64	2.43	1.82	1.26	1.11
12F8020	.5	400	4.24	2.83	2.12	1.46	1.29
12F8021	1.0	400	5.20	3.47	2.60	1.79	1.59
12F8022	2.0	400	7.00	4.67	3.50	2.42	2.14
12F8023	3.0	400	9.00	6.01	4.50	3.11	2.75
12F8024	4.0	400	10.80	7.21	5.40	3.73	3.29
12F8025	5.0	400	12.76	8.52	6.38	4.40	3.89
12F8000	.1	600	3.68	2.46	1.84	1.27	1.12
12F8001	.25	600	3.96	2.04	1.98	1.37	1.21
12F8002	.5	600	4.60	3.07	2.30	1.59	1.40
12F8003	1.0	600	5.96	3.98	2.98	2.06	1.82
12F8004	2.0	600	7.72	5.15	3.86	2.66	2.36
12F8005	3.0	600	10.00	6.68	5.00	3.45	3.05
12F8006	4.0	600	12.20	8.14	6.10	4.21	3.72

±20% Tolerance

Stock No.	Cap. Mfd.	WVDC	1-9	10-24	25-49	50-99	100-499
16F1319	3.0	150	4.40	2.94	2.20	1.52	1.34
16F1320	4.0	150	5.28	3.52	2.64	1.82	1.61
16F1321	5.0	150	5.84	3.90	2.92	2.02	1.78
16F1322	6.0	150	6.08	5.06	3.04	2.10	1.85
16F1323	8.0	150	7.04	4.70	3.52	2.43	2.15
16F1324	10.0	150	8.12	5.42	4.06	2.80	2.45
16F1325	12.0	150	9.08	6.06	4.54	3.13	2.77
16F920	.1	200	2.88	1.92	1.44	.99	.88
16F921	.25	200	3.20	2.14	1.60	1.10	.98
16F922	.5	200	3.24	2.16	1.62	1.12	.99
16F923	1.0	200	3.80	2.54	1.90	1.31	1.16
12F8026	2.0	200	4.72	3.15	2.36	1.63	1.44
12F8027	3.0	200	5.88	3.93	2.94	2.03	1.79
12F8028	4.0	200	6.48	4.33	3.24	2.24	1.98
12F8029	5.0	200	7.12	4.75	3.56	2.46	2.17
12F8030	6.0	200	7.80	5.21	3.90	2.69	2.38
12F8031	8.0	200	8.60	5.74	4.30	2.97	2.62
12F8032	10.0	200	9.48	6.33	4.74	3.27	2.89
12F8033	.1	400	3.08	2.06	1.54	1.06	.94
12F8034	.25	400	3.36	2.24	1.68	1.16	1.03
12F8035	.5	400	3.92	2.62	1.96	1.35	1.20
12F8036	1.0	400	4.88	3.26	2.44	1.68	1.49
16F1336	2.0	400	6.72	4.49	3.36	2.32	2.05
16F1337	3.0	400	8.56	5.71	4.28	2.95	2.61
16F1338	4.0	400	10.40	6.94	5.20	3.59	3.17
16F1339	5.0	400	12.32	8.27	6.16	4.25	3.76
12F8037	.1	600	3.32	2.22	1.66	1.15	1.01
12F8038	.25	600	3.72	2.48	1.86	1.28	1.14
16F1342	.5	600	4.36	2.91	2.18	1.50	1.33
16F1343	1.0	600	5.80	3.87	2.90	2.00	1.77
16F1344	2.0	600	7.20	4.81	3.60	2.48	2.20
16F1345	3.0	600	9.40	6.28	4.70	3.24	2.87
16F1346	4.0	600	11.92	7.96	5.91	4.11	3.60

TYPE P 30 BATHTUBS

High-quality bypass capacitors. Hyvol M impregnated for operation at —55°C to +25°C. Weight, 8 oz. **Available on special order with terminals on top or bottom.**

Single Section

Stk. No.	Mfd.	Volts	Size	1-9	10-24	25-49	50-99
16F896	.05	600	1¾x1x¾"	2.80	1.87	1.40	.97
16F897	.1	600	1¾x1x¾"	2.96	1.98	1.48	1.02
16F898	.25	600	1¾x1x13/16"	3.32	2.22	1.66	1.15
16F053	.5	600	1¾x1x1"	3.84	2.56	1.92	1.33
16F055	1	600	2x1¾x1"	4.04	2.70	2.02	1.39
16F056	2	600	2x2x1⅜"	4.72	3.15	2.36	1.63
16F067	.25	1000	1¾x1x⅞"	3.40	2.27	1.70	1.17
16F068	.5	1000	2x1¾x⅞"	4.04	2.70	2.02	1.39
16F070	1	1000	2x2x1⅛"	4.84	3.23	2.42	1.67

Dual Section

Stk. No.	Mfd.	Volts	Size	1-9	10-24	25-49	50-99
16F058	2 x .1	600	1¾x1x¾"	3.80	2.54	1.90	1.31
16F059	2 x .25	600	1¾x1x1"	4.28	2.86	2.14	1.48
16F900	2 x .5	400	2x1¾x⅞"	4.32	2.88	2.16	1.49

METALLIZED MYLAR "WRAP & FILL" CAPACITORS

Type V146Z. Light weight, high insulation resistance, long stable life. For use in printed assemblies and light weight portable and airborne equipment of all types. Can be mounted in banks using a minimum amount of space. Self-healing and are of instrument quality. All leads are solder-coated copper-weld wire. Tolerance: ±10%.

100 VDCW @ 85°C 50 VDCW @ 125°C

Stk. No.	Cap.	H. x W. x L.	1-24	25-49	50-99	100-249	250-499
16F378	.1	.125x .234x9/16	.80	.53	.40	.320	.276
16F379	.15	.156x .265x9/16	.88	.59	.44	.352	.304
16F380	.22	.156x .250x11/16	1.00	.67	.50	.400	.345
16F381	.33	.203x .312x11/16	1.20	.80	.60	.480	.414
16F382	.47	.250x .359x11/16	1.36	.91	.68	.544	.469
16F383	.68	.218x .328x15/16	1.62	1.08	.81	.648	.559
16F384	1.00	.265x .375x15/16	1.80	1.20	.90	.720	.621
16F385	1.50	.250x .250x1 1/4	2.12	1.42	1.06	.850	.733
16F386	2.00	.312x .468x1 1/4	2.48	1.66	1.24	.994	.857
16F387	3.00	.406x .562x1 1/4	3.10	2.07	1.55	1.24	1.07
16F388	4.00	.406x .562x1 3/8	3.74	2.50	1.87	1.50	1.29
16F389	5.00	.375x .593x1 3/4	4.40	2.93	2.20	1.76	1.52

200 VDCW @ 85°C 150 VDCW @ 125°C

Stk. No.	Cap.	H. x W. x L.	1-24	25-49	50-99	100-249	250-499
16F390	.01	.156x .203x7/16	.70	.47	.35	.280	.242
16F391	.015	.156x .234x7/16	.54	.36	.27	.216	.186

200 VDCW @ 85°C 150 VDCW @ 125°C

Stk. No.	Cap.	H. x W. x L.	1-24	25-49	50-99	100-249	250-499
16F392	.022	.203x .265x7/16	.54	.36	.27	.216	.186
16F393	.033	.218x .281x7/16	.54	.36	.27	.216	.186
16F394	.047	.171x .265x9/16	.54	.36	.27	.216	.186
16F395	.068	.125x .250x11/16	.54	.36	.27	.216	.186
16F396	.1	.187x .281x11/16	.58	.39	.29	.232	.200
16F397	.15	.187x .312x11/16	.64	.43	.32	.256	.221
16F398	.22	.265x .375x11/16	.70	.47	.35	.280	.242
16F399	.33	.296x .484x11/16	.76	.51	.38	.304	.262
16F500	.47	.359x .546x11/16	.88	.59	.44	.352	.304
16F501	.68	.343x .515x11/16	.96	.64	.48	.384	.331
16F502	1.0	.312x .468x13/16	1.20	.80	.60	.480	.414
16F503	1.5	.406x .593x13/16	1.60	1.07	.80	.640	.552
16F504	2.0	.343x .563x11/16	1.96	1.31	.98	.784	.676
16F505	4.0	.562x .687x11/16	3.48	2.32	1.74	1.39	1.20
16F506	5.0	.484x .843x1 3/4	4.16	2.77	2.08	1.66	1.44

TYPE V146ZR Same as V146Z above except tubular.

100 WVDC

Stk. No.	Size	Mfd.	1-24	25-49	50-99	100-249	250-499
16F1718	.170x11/16"	.1	.80	.53	.40	.320	.276
16F1719	.190x11/16"	.15	.88	.59	.44	.352	.304
16F1720	.215x11/16"	.22	1.00	.67	.50	.400	.345
16F1721	.265x11/16"	.33	1.20	.80	.60	.480	.414
16F1722	.315x11/16"	.47	1.36	.91	.68	.544	.469
16F1723	.280x1"	.68	1.62	1.08	.81	.648	.559
16F1724	.325x1"	1.0	1.80	1.20	.90	.720	.621
16F1725	.340x1 1/4"	1.5	2.12	1.42	1.06	.850	.733
16F1726	.405x1 1/4"	2.0	2.48	1.66	1.24	.994	.857
17F1727	.500x1 1/4"	3.0	3.10	2.07	1.55	1.24	1.07
16F1728	.510x1 3/8"	4.0	3.74	2.50	1.87	1.50	1.29
16F1729	.510x1 3/4"	5.0	4.00	2.94	2.20	1.76	1.52

200 WVDC

Stk. No.	Size	Mfd.	1-24	25-49	50-99	100-249	250-499
16F1730	.200x9/16"	.047	.54	.36	.27	.216	.189
16F1731	.200x11/16"	.068	.54	.36	.27	.216	.186
16F1732	.234x11/16"	.1	.58	.39	.29	.232	.200
16F1733	.265x11/16"	.15	.64	.43	.32	.256	.221
16F1734	.340x11/16"	.22	.70	.47	.35	.280	.242
16F1735	.390x11/16"	.33	.76	.51	.38	.304	.262
16F1736	.328x1"	.47	.88	.59	.44	.352	.304
16F1737	.390x1"	.68	.96	.64	.48	.384	.331
16F1738	.500x1"	1.0	1.20	.80	.60	.480	.414
16F1739	.515x9/16"	1.5	1.60	1.07	.80	.640	.552
16F1740	.620x1 1/4"	2.0	1.96	1.31	.98	.784	.676
16F1741	.656x11/16"	4.0	3.48	2.32	1.74	1.39	1.20
16F1742	.800x1 3/4"	5.0	4.16	2.78	2.08	1.66	1.44

TYPE V146XR AEROFILM "WRAP & FILL" MYLAR CAPACITORS

Aerovox V146XR capacitors offer high resistance to humidity and excellent stability with temperature where a metal case is not needed. Extremely small size makes these ideal for use in miniaturized circuits. Mylar wrapped, epoxy end filled.

Standard tolerance is ±10%. Power factor will not exceed 1% at 25°C. Operating temperature range of —65°C to 85°C at full voltage rating and to 125°C with derating. Extended foil construction. Leads are solder-coated Copper-Weld wire.

150 VOLTS

Stk. No.	Type	Mfd.	1-24	25-49	50-99	100-249	250-499
60F514	V146XR- 1	.01					
60F515	V146XR- 2	.015	.32	.21	.16	.128	.110
60F516	V146XR- 3	.022					
60F517	V146XR- 4	.033					
60F519	V146XR- 6	.68	.34	.23	.17	.136	.117
60F520	V146XR- 7	.1	.35	.24	.18	.141	.121
60F521	V146XR- 8	.15	.36	.24	.18	.144	.124
60F522	V146XR- 9	.22	.38	.25	.19	.152	.131
60F523	V146XR-10	.33	.46	.30	.23	.182	.157
60F524	V146XR-11	.47	.55	.37	.28	.221	.190
60F525	V146XR-12	.68	.71	.47	.35	.283	.244
60F526	V146XR-13	1.0	.99	.66	.49	.395	.341
60F527	V146XR-14	1.5	1.34	.90	.67	.538	.464
60F528	V146XR-15	2.0	1.63	1.09	.81	.651	.562

200 VOLTS

Stk. No.	Type	Mfd.	1-24	25-49	50-99	100-249	250-499
60F529	V146XR-16	.001					
60F531	V146XR-18	.0022					
60F532	V146XR-19	.0033					
60F533	V146XR-20	.0047					
60F534	V146XR-21	.0068	.32	.21	.16	.128	.110
60F535	V146XR-22	.01					
60F536	V146XR-23	.015					
60F537	V146XR-24	.022					
60F538	V146XR-25	.033					
60F539	V146XR-26	.047	.33	.22	.16	.131	.113
60F540	V146XR-27	.068	.34	.23	.17	.138	.119
60F541	V146XR-28	.1	.42	.28	.21	.168	.145
60F542	V146XR-29	.15	.44	.30	.22	.178	.153
60F543	V146XR-30	.22	.47	.31	.23	.187	.161
60F544	V146XR-31	.33	.53	.35	.26	.211	.182
60F545	V146XR-32	.47	.60	.40	.30	.240	.207
60F546	V146XR-33	.68	.71	.47	.35	.283	.244
60F547	V146XR-34	1.0	.99	.66	.49	.395	.341
60F548	V146XR-35	1.5	1.34	.90	.67	.538	.464
60F549	V146XR-36	2.0	1.62	1.08	.81	.650	.560

400 VOLTS

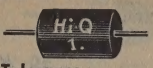
Stk. No.	Type	Mfd.	1-24	25-49	50-99	100-249	250-499
60F550	V146XR-37	.001					
60F551	V146XR-38	.0015					
60F552	V146XR-39	.0022					
60F553	V146XR-40	.0033					
60F554	V146XR-41	.0047	.36	.24	.18	.142	.123
60F555	V146XR-42	.0068					
60F556	V146XR-43	.01					
60F557	V146XR-44	.015					
60F558	V146XR-45	.022					
60F559	V146XR-46	.033					
60F560	V146XR-47	.047	.37	.25	.19	.149	.128
60F561	V146XR-48	.068	.40	.26	.20	.158	.137
60F562	V146XR-49	.1	.40	.27	.20	.162	.139
60F563	V146XR-50	.15	.42	.28	.21	.168	.145
60F564	V146XR-51	.22	.48	.32	.24	.194	.167
60F565	V146XR-52	.33	.78	.52	.39	.314	.270
60F566	V146XR-53	.47	.93	.62	.47	.373	.322
60F567	V146XR-54	.68	1.14	.76	.57	.570	.456
60F568	V146XR-55	1.0	1.36	.91	.68	.542	.468
60F569	V146XR-56	1.5	1.69	1.13	.84	.675	.58
60F570	V146XR-57	2.0	2.22	1.48	1.10	.886	.765

600 VOLTS

Stk. No.	Type	Mfd.	1-24	25-49	50-99	100-249	250-499
60F571	V146XR58	.001					
60F573	V146XR-60	.0022					
60F575	V146XR-62	.0047	.41	.27	.20	.163	.141
60F577	V146XR-64	.01					
60F579	V146XR-66	.022					
60F581	V146XR-68	.047					
60F583	V146XR-70	.1	.53	.35	.26	.211	.182
60F585	V146XR-72	.22	.63	.42	.31	.251	.217
60F587	V146XR-74	.47	1.37	.92	.69	.549	.473
60F589	V146XR-76	1.0	2.90	1.94	1.45	1.16	1.00

CERALAM® MOLDED MINIATURE CERAMIC TUBULARS

Tubular ceramic capacitors permit 60 to 70 times as much capacitance per unit of volume as compared to conventional style hollow-core tubulars. Meet environmental requirements of MIL-C-1105 and 39014. All units English marked with tin copper leads.



±10% Tolerance

Stock No.	Part Number	Cap. Mfd.	Working Volts	1-24	25-49	50-99	100-499
16F362	MC91C153K*	.015	100	9.60	6.41	4.80	3.31
16F363	MC91C223K*	.022	100	9.60	6.41	4.80	3.31
16F364	MC91C333K*	.033	100	9.60	6.41	4.80	3.31
16F365	MC91C473K*	.047	100	9.60	6.41	4.80	3.31
16F366	MC91C683K*	.068	100	9.60	6.41	4.80	3.31
16F367	MC91C104K*	.1	100	10.80	7.21	5.40	3.73
12F9081	MC205C104K	.1	50	8.40	5.61	4.20	2.90
16F368	MC905C154K*	.15	50	8.40	5.61	4.20	2.90
16F369	MC905C224K*	.22	50	8.40	5.61	4.20	2.90
16F370	MC905C254K*	.25	50	8.40	5.61	4.20	2.90
12F9082	MC855C504K	.5	50	16.60	11.08	8.30	5.73
12F9083	MC865C105K	1.0	50	30.00	20.03	15.00	10.35
12F9084	MC875C205K	2.0	50	60.00	40.05	30.00	20.70

*Will be furnished with gold dumet leads until present stocks are depleted.

±20% Tolerance

Stock No.	Part Number	1-24	25-49	50-99	100-499
16F370	MC91C153M*	6.40	4.27	3.20	2.21
16F371	MC91C223M*	6.40	4.27	3.20	2.21
16F372	MC91C333M*	6.40	4.27	3.20	2.21
16F373	MC91C473M	6.40	4.27	3.20	2.21
16F374	MC91C683M*	6.40	4.27	3.20	2.21
16F375	MC91C104M*	7.20	4.81	3.60	2.48
12F9086	MC205C104M	5.60	3.74	2.80	1.93
16F376	MC905C154M*	6.40	4.27	3.20	2.21
16F377	MC905C224M*	6.40	4.27	3.20	2.21
12F9087	MC905C254M*	6.40	4.27	3.20	2.21
12F9088	MC855C504M	11.00	7.34	5.50	3.80
12F9089	MC865C105M	20.00	13.35	10.00	6.90
12F9090	MC875C205M	40.00	26.70	20.00	13.80

The standard will then become tin copper leads.

TYPE K146Z, K146ZR METALLIZED POLYCARBONATE CAPACITORS

Metallized polycarbonate flim capacitors have high capacitance stability and insulation resistance, low dissipation factor, and dielectric absorption. Metallized polycarbonate construction assures a self-healing unit.
Operating temperature range is —65 to 125°C at full rating. Standard tolerance is ±20%.

100 VWDC

Stock No.	Type	Cap. Mfd.	1-24	25-49	50-99	100-249	250-499
12F9021	K146ZR6	.022	1.19	.79	.59	.48	.41
12F9022	K146ZR8	.033	1.19	.79	.59	.48	.41
12F9023	K146ZR10	.047	1.19	.79	.59	.48	.41
12F9024	K146ZR12	.068	1.19	.79	.59	.48	.41
12F9025	K146ZR14	.1	1.19	.79	.59	.48	.41
12F9026	K146ZR16	.15	1.30	.87	.65	.52	.45
12F9027	K146ZR18	.22	1.44	.96	.72	.58	.50
12F9028	K146ZR20	.33	1.58	1.06	.79	.63	.55
12F9029	K146ZR22	.47	1.84	1.23	.92	.73	.63
12F9030	K146ZR24	.68	2.05	1.37	1.03	.82	.71
12F9031	K146ZR26	1.0	2.41	1.61	1.21	.97	.83
12F9032	K146ZR27	1.5	2.99	1.99	1.49	1.20	1.03
12F9033	K146ZR28	2.0	3.38	2.26	1.69	1.35	1.17
12F9034	K146ZR29	3.0	4.20	2.80	2.10	1.68	1.45
12F9035	K146ZR30	4.0	5.16	3.44	2.58	2.06	1.78
12F9036	K146ZR31	5.0	6.08	4.06	3.04	2.43	2.10

200 VWDC

Stock No.	Type	Cap. Mfd.	1-24	25-49	50-99	100-249	250-499
12F9037	K146ZR32	.01	.86	.58	.43	.35	.30
12F9038	K146ZR34	.015	.86	.58	.43	.35	.30
12F9039	K146ZR36	.022	.86	.58	.43	.35	.30
12F9040	K146ZR38	.033	.86	.58	.43	.35	.30
12F9041	K146ZR40	.047	.97	.65	.49	.39	.34
12F9042	K146ZR42	.068	1.04	.70	.52	.42	.36
12F9043	K146ZR43	.1	1.08	.72	.54	.43	.37
12F9044	K146ZR45	.15	1.19	.79	.59	.48	.41
12F9045	K146ZR48	.22	1.30	.87	.65	.52	.45
12F9046	K146ZR50	.33	1.44	.96	.72	.58	.50
12F9047	K146ZR52	.47	1.66	1.11	.83	.66	.57
12F9048	K146ZR54	.68	1.87	1.25	.94	.75	.65
12F9049	K146ZR56	1.0	2.20	1.47	1.10	.88	.76
12F9050	K146ZR57	1.5	2.70	1.80	1.35	1.08	.93
12F9051	K146ZR58	2.0	3.10	2.07	1.55	1.24	1.07
12F9052	K146ZR59	3.0	3.82	2.55	1.91	1.53	1.32

400 VWDC

Stock No.	Type	Cap. Mfd.	1-24	25-49	50-99	100-249	250-499
12F9053	K146ZR88	.01	.86	.58	.43	.35	.30
12F9054	K146ZR90	.015	.86	.58	.43	.35	.30
12F9055	K146ZR92	.022	.94	.63	.47	.37	.32
12F9056	K146ZR94	.033	.97	.65	.49	.39	.34
12F9057	K146ZR96	.047	1.08	.72	.54	.43	.37
12F9058	K146ZR98	.068	1.15	.77	.58	.46	.40
12F9059	K146ZR100	.1	1.26	.84	.63	.50	.44
12F9060	K146ZR102	.15	1.44	.96	.72	.58	.50
12F9061	K146ZR104	.22	1.66	1.11	.83	.66	.57
12F9062	K146ZR106	.33	1.94	1.30	.97	.78	.67
12F9063	K146ZR108	.47	2.38	1.59	1.19	.95	.82
12F9064	K146ZR110	.68	2.77	1.85	1.39	1.11	.96
12F9065	K146ZR112	1.0	3.38	2.26	1.69	1.35	1.17
12F9066	K146ZR113	1.5	4.24	2.83	2.12	1.70	1.46
12F9067	K146ZR114	2.0	5.64	2.77	2.82	2.26	1.95
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600 VWDC

Stock No.	Type	Cap. Mfd.	1-24	25-49	50-99	100-249	250-499
12F9068	K146ZR115	.01	.94	.63	.47	.37	.32
12F9069	K146ZR117	.015	1.01	.67	.50	.40	.35
12F9070	K146ZR119	.022	1.12	.75	.56	.45	.39
12F9071	K146ZR121	.033	1.22	.82	.61	.49	.42
12F9072	K146ZR123	.047	1.37	.91	.68	.55	.47
12F9073	K146ZR125	.068	1.51	1.01	.76	.61	.52
12F9074	K146ZR127	.1	1.66	1.11	.83	.66	.57
12F9075	K146ZR129	.15	1.87	1.23	.92	.73	.63
12F9076	K146ZR131	.22	2.09	1.39	1.04	.84	.72
12F9077	K146ZR133	.33	2.48	1.66	1.24	.99	.86
12F9078	K146ZR135	.47	3.10	1.07	1.55	1.24	1.07
12F9079	K146ZR137	.68	3.71	1.48	1.85	1.48	1.28
12F9080	K146ZR139	1.0	4.96	3.31	2.48	1.98	1.71
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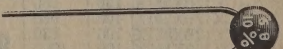
TYPE GPD GENERAL PURPOSE BYPASS AND COUPLING DISKS (1000 VWDC)

Ceramic disk capacitors for all bypass, coupling and filtering applications offer maximum protection against humidity, voltage breakdown and vibration.
All units ±10% (K) tolerance except * (P) which are Guaranteed Minimum Value.



Stock No.	Type	Cap. Mfd.	1-24	25-49	50-99	100-249	250-499
16F852	GPDC0J2R2K	2.2					
16F853	GPDC0J3R3K	3.3					
16F854	GPDC0H4R7K	4.7					
16F855	GPDC0H6R8K	6.8					
16F856	GPDC0H8R2K	8.2					
16F857	GPDC0H100K	10.0					
12F9003	GPDU2J120K	12.0	.07	.05	.04	.029	.025
16F858	GPDU2J150K	15.0					
12F9004	GPDU2J180K	18.0					
16F860	GPDU2J220K	22.0					
12F9005	GPDJ2J270K	27.0					
16F862	GPDP3K330K	33.0					
12F9006	GPDP3K390K	39.0					
16F863	GPDX5F470K	47.0					
12F9007	GPDX5F560K	56.0					
16F865	GPDX5F680K	68.0					
16F866	GPDX5F820K	82.0					
16F867	GPDX5F101K	100					
12F9008	GPDX5F121K	120	.07	.05	.04	.029	.025
16F868	GPDX5F151K	150					
12F9009	GPDX5F181K	180					
16F870	GPDX5F221K	220					
12F9010	GPDX5F271K	270					
16F872	GPDX5F331K	330					

Stock No.	Type	Cap. Mfd.	1-24	25-49	50-99	100-249	250-499
12F9011	GPDX5F391K	390					
12F9012	GPDX5F471K	470					
12F9013	GPDX5F561K	560	.07	.05	.04	.029	.025
16F876	GPDX5F681K	680					
16F877	GPDX5F821K	820					
16F878	GPDX5F102K	1000					
12F9014	GPDX5F122K	1200					
16F879	GPDX5F152K	1500	.07	.05	.04	.029	.025
12F9015	GPDX5F182K	1800	.093	.06	.04	.035	.030
16F881	GPDX5F222K	2200	.09	.06	.04	.035	.030
12F9016	GPDX5F272K	2700	.09	.06	.04	.035	.030
16F883	GPDX5R332K	3300	.11	.07	.05	.04	.04
12F9017	GPDX5R392K	3900	.11	.07	.05	.04	.04
12F9018	GPDX5R472K	4700	.11	.07	.05	.04	.04
12F9019	GPDX5R562K	5600	.12	.08	.06	.05	.043
16F885	GPDX5R682K	6800	.12	.08	.06	.05	.043
16F886	GPDX5R822K	8200	.18	.12	.09	.07	.06
16F887	GPDX5S103K	10000	.18	.12	.09	.07	.06
12F9020	GPDZ5U103P*	10000	.10	.064	.05	.04	.03
16F888	GPDZ5U153P*	15000	.16	.10	.08	.06	.05
16F889	GPDZ5U203P*	20000	.16	.10	.08	.06	.05
16F890	GPDZ5V303P*	30000	.10	.06	.05	.04	.03
16F891	GPDZ5V503P*	50000	.44	.29	.22	.18	.15

MIL TYPE CH09 METALIZED TUBULAR CAPACITORS

Case floating style. Case grounded are available on special order. Tolerances shown are standard, 10% available at closer tolerances on special order.

50 WVDC

Stock No.	Mil Type	Cap. pf	1-24	25-49	50-99	100-249	250-499
12F9193	CH09A1RA104K	.1	2.60	1.75	1.32	.92	.82
12F9194	CH09A1RA184K	.18	2.72	1.83	1.38	.97	.85
12F9195	CH09A1RA224K	.22	2.76	1.86	1.40	.98	.87
12F9196	CH09A1RA274K	.27	2.80	1.88	1.42	.99	.88
12F9197	CH09A1RA334K	.33	2.88	1.94	1.46	1.02	.91
12F9198	CH09A1RA394K	.39	2.96	1.99	1.50	1.05	.93
12F9199	CH09A1RA474K	.47	3.04	2.04	1.54	1.07	.96
12F9200	CH09A1RA564K	.56	3.28	2.21	1.66	1.148	1.028
12F9201	CH09A1RA684K	.68	3.60	2.43	1.82	1.268	1.126
12F9202	CH09A1RA824K	.82	3.88	2.61	1.96	1.365	1.211
12F9203	CH09A1RA105K	1.0	4.16	2.77	2.08	1.448	1.284
12F9204	CH09A1RA155K	1.5	4.52	3.03	2.28	1.586	1.406
12F9205	CH09A1RA225K	2.2	5.64	3.84	2.86	2.00	1.772
12F9206	CH09A1RA275K	2.7	6.76	4.53	3.40	2.36	2.09
12F9207	CH09A1RA335K	3.3	7.56	5.06	3.80	2.634	2.334
12F9208	CH09A1RA395K	3.9	9.16	6.13	4.60	3.186	2.822
12F9209	CH09A1RA475K	4.7	10.88	7.28	5.46	3.76	3.346
12F9210	CH09A1RA565K	5.6	13.00	8.69	6.52	4.511	3.993
12F9211	CH09A1RA685K	6.8	15.04	10.06	7.54	5.215	4.615
12F9212	CH09A1RA106K	10.0	21.08	14.09	10.56	7.30	6.457
12F9213	CH09A1RA126K	12.0	24.04	16.06	12.04	8.32	7.36

200 WVDC

Stock No.	Mil Type	Cap. pf	1-24	25-49	50-99	100-249	250-499
12F9214	CH09A1NC104K	.1	2.24	1.50	1.14	.799	.711
12F9215	CH09A1NC224K	.22	2.28	1.54	1.16	.813	.723
12F9216	CH09A1NC474K	.47	2.60	1.75	1.32	.913	.821
12F9217	CH09A1NC105K	1.0	2.92	1.97	1.48	1.034	.918
12F9218	CH09A1NC155K	1.5	4.32	2.90	2.18	1.517	1.345

200 WVDC (Cont'd)

Stock No.	Type	Cap. pf	1-24	25-49	50-99	100-249	250-499
12F9219	CH09A1NC225K	2.2	5.24	3.52	2.64	1.834	1.626
12F9220	CH09A1NC335K	3.3	5.68	3.81	2.86	1.986	1.76
12F9221	CH09A1NC475K	4.7	7.44	4.98	3.74	2.593	2.297
12F9222	CH09A1NC685K	6.8	8.28	5.54	4.16	2.883	2.553
12F9223	CH09A1NC106K	10.0	10.56	7.06	4.16	2.883	2.553
12F9224	CH09A1NC126K	12.0	11.80	7.89	5.30	3.669	3.249

400 WVDC

Stock No.	Type	Cap. pf	1-24	25-49	50-99	100-249	250-499
12F9225	CH09A1NE473K	.047	2.20	1.49	1.12	.785	.699
12F9226	CH09A1NE104K	.1	2.36	1.60	1.20	.84	.748
12F9227	CH09A1NE224K	.22	2.60	1.75	1.32	.923	.821
12F9228	CH09A1NE474K	.47	3.16	2.13	1.60	1.116	.992
12F9229	CH09A1NE105K	1.0	3.96	2.66	2.00	1.392	1.236
12F9230	CH09A1NE225K	2.2	6.52	4.37	3.28	2.376	2.196
12F9231	CH09A1NE335K	3.3	7.64	5.12	3.84	2.662	2.358

600 WVDC

Stock No.	Type	Cap. pf	1-24	25-49	50-99	100-249	250-499
12F9232	CH09A1NF103K	.01	2.20	1.49	1.12	.785	.699
12F9233	CH09A1NF223K	.022	2.24	1.51	1.14	.799	.711
12F9234	CH09A1NF473K	.047	2.28	1.54	1.16	.813	.723
12F9235	CH09A1NF104K	.1	2.44	1.65	1.24	.863	.773
12F9236	CH09A1NF224K	.22	2.92	1.97	1.48	1.034	.918
12F9237	CH09A1NF474K	.47	3.64	2.45	1.84	1.282	1.138
12F9238	CH09A1NF105K	1.0	4.60	3.09	2.32	1.613	1.431
12F9239	CH09A1NF155K	1.5	5.64	3.78	2.84	1.972	1.748
12F9240	CH09A1NF225K	2.2	6.92	4.63	3.48	2.414	2.138

CK12, CK13, CK14, CK15, CK16 CERAMIC DIELECTRIC CAPACITORS

General purpose ceramic dielectric per MIL-C-11015D. Non-conductive material. .010 inches long x .004 inches diameter leads. ±10% tolerance.

Stock No.	Type	Volts	Cap. pf	1-24	25-49	50-99	100-249	250-499
16F2130	CK12BX100K	100	10					
12F9241	CK12BX120K	100	12					
16F2131	CK12BX150K	100	15					
12F9242	CK12BX180K	100	18					
16F2132	CK12BX220K	100	22					
12F9243	CK12BX270K	100	27					
12F9244	CK12BX330K	100	33					
12F9245	CK12BX390K	100	39	.86	.57	.43	.342	.295
12F9246	CK12BX470K	100	47					
12F9247	CK12BX560K	100	56					
12F9248	CK12BX680K	100	68					
12F9249	CK12BX820K	100	82					
12F9250	CK12BX101K	100	100					
12F9251	CK12BX121K	100	120					
12F9252	CK12BX151K	100	150					
12F9253	CK12BX181K	100	180					
12F9254	CK12BX221K	100	220					
12F9255	CK12BX271K	100	270					
12F9256	CK12BX331K	100	330					
12F9257	CK12BX391K	100	390					
12F9258	CK12BX471K	100	470					
12F9259	CK12BX561K	100	560					
12F9260	CK12BX681K	100	680					
12F9261	CK12BX821K	100	820					
12F9262	CK12BX102K	100	1000	.856	.571	.428	.342	.295
12F9263	CK12BX122K	100	1200					
12F9264	CK12BX152K	100	1500					
12F9265	CK12BX182K	100	1800					
12F9266	CK12BX222K	100	2200					
12F9267	CK12BX272K	100	2700					
12F9268	CK12BX322K	100	3300					
12F9269	CK12BX392K	100	3900					
12F9270	CK12BX472K	100	4700					
12F9271	CK12BX562K	50	5600					
12F9272	CK12BX682K	50	6800	.936	.625	.468	.374	.323
12F9273	CK12BX822K	50	8200	.936	.625	.468	.374	.323
12F9274	CK12BX103K	50	10000	.936	.625	.468	.374	.323
12F9275	CK13BX562K	100	5600	.988	.659	.494	.395	.341
12F9276	CK13BX682K	100	6800	.988	.659	.494	.395	.341
12F9277	CK13BX822K	100	8200	.988	.659	.494	.395	.341

Stock No.	Type	Volts	Cap. pf	1-24	25-49	50-99	100-249	250-499
12F9278	CK12BX103K	100	10000	.988	.659	.494	.395	.341
12F9279	CK13BX123K	50	12000	1.092	.729	.546	.437	.377
12F9280	CK13BX153K	50	15000	1.092	.729	.546	.437	.377
12F9281	CK13BX183K	50	18000	1.092	.729	.546	.437	.377
12F9282	CK13BX223K	50	22000	1.092	.729	.546	.437	.377
12F9283	CK13BR273K	50	27000	1.448	.967	.724	.579	.500
12F9284	CK13BR333K	50	33000	1.448	.967	.724	.579	.500
12F9285	CK13BR393K	50	39000	1.584	1.057	.792	.634	.546
12F9286	CK13BR473K	50	47000	1.584	1.057	.792	.634	.546
12F9287	CK14BX123K	100	12000	1.804	1.204	.902	.722	.622
12F9288	CK14BX153K	100	15000	1.804	1.204	.902	.722	.622
12F9289	CK14BX183K	100	18000	1.804	1.204	.902	.722	.622
12F9290	CK14BX223K	100	22000	1.804	1.204	.902	.722	.622
12F9291	CK14BX273K	100	27000	1.804	1.204	.902	.722	.622
12F9292	CK14BX333K	100	33000	2.140	1.428	1.070	.856	.738
12F9293	CK14BX393K	100	39000	2.140	1.428	1.070	.856	.738
12F9294	CK14BX473K	100	47000	2.140	1.428	1.070	.856	.738
12F9295	CK14BR563K	100	56000	2.520	1.682	1.260	1.008	.869
12F9296	CK14BR683K	100	68000	2.520	1.682	1.260	1.008	.869
12F9297	CK14BR823K	100	82000	2.520	1.682	1.260	1.008	.869
12F9298	CK14BR104K	100	100000	2.520	1.682	1.260	1.008	.869
12F9299	CK14BR124K	50	120000	3.160	2.109	1.580	1.264	1.090
12F9300	CK14BR154K	50	150000	3.160	2.109	1.580	1.264	1.090
12F9301	CK14BR224K	50	220000	4.360	2.910	2.180	1.744	1.504
12F9302	CK14BR274K	50	270000	5.160	3.444	2.580	2.064	1.780
12F9303	CK15BX104K	100	100000	2.788	1.861	1.394	1.115	.962
12F9304	CK15BR124K	100	120000	3.720	2.483	1.860	1.488	1.283
12F9305	CK15BR154K	100	150000	3.720	2.483	1.860	1.488	1.283
12F9306	CK15BR184K	100	180000	4.080	2.723	2.040	1.632	1.408
12F9307	CK15BR224K	100	220000	4.080	2.723	2.040	1.632	1.408
12F9308	CK15BR274K	100	270000	5.800	3.872	2.900	2.320	2.001
12F9309	CK15BR334K	100	330000	5.800	3.872	2.900	2.320	2.001
12F9310	CK15BR474K	50	470000	8.800	5.874	4.400	3.520	3.036
12F9311	CK15BR105K	50	1000000	13.00	8.678	6.500	5.200	4.485
12F9312	CK16BR474K	100	470000	24.64	16.447	12.32	9.856	8.501
12F9313	CK16BR105K	100	1000000	25.80	17.222	12.90	10.32	8.901
12F9314	CK16BR225K	50	2200000	28.80	19.224	14.40	11.52	9.936
12F9315	CK16BR335K	50	3300000	36.00	24.03	18.00	14.40	12.420
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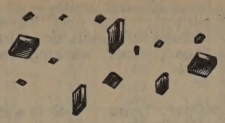
SAVE WORK! Make Newark your Complete 1-Point Stock Source!

SAVE TIME! At Newark—fast, efficient service always!

SAVE MONEY! Quantity Prices Competitive with Manufacturer!

ULA CERAMIC CHIP CAPACITORS (±5%)

Especially suited to hybrid circuitry. Encapsulated, ready to solder. 3 temp. coefficients available. Sizes: ULA11, ULA105; .075 x .050 x .050. ULA305; .105 x .075 x .060. ULA555; .175 x .125 x .060. ULA755; .150 x .060 x .060.



Stock No.	Type ULA	Cap. pF	V.	1-24	25-49	50-99	100-249	250-499
12F9091	11A330J	33	100	.72	.48	.36	.288	.248
12F9092	11A470J	47	100	.72	.48	.36	.288	.248
12F9093	105A680J	68	50	.72	.48	.36	.288	.248
12F9094	105A101J	100	50	.72	.48	.36	.288	.248
12F9095	105A151J	150	50	.94	.63	.47	.374	.323
12F9096	105A221J	220	50	.94	.63	.47	.374	.323
12F9097	11B331J	330	100	.96	.64	.48	.384	.331
12F9098	105B471J	470	50	.96	.64	.48	.384	.331
12F9099	105B681J	680	50	.96	.64	.48	.384	.331
12F9100	105B102J	1000	50	2.91	1.94	1.46	1.17	1.01
		TOLERANCE 10%						
12F9101	105B152K	1500	50	.61	.41	.31	.245	.211
12F9102	11C222K	2200	100	.72	.48	.36	.288	.248
12F9103	105C332K	3300	50	.83	.55	.41	.331	.286
12F9104	105C472K	4700	50	1.66	1.11	.83	.662	.571
12F9105	105C682K	6800	50	1.94	1.30	.97	.778	.671
12F9106	105C103K	10000	50	1.11	.74	.55	.443	.382
12F9107	305C153K	15000	50	1.11	.74	.55	.443	.382
12F9108	305C223K	22000	50	1.22	.81	.61	.486	.420
12F9109	305C333K	33000	50	1.22	.81	.61	.486	.420
12F9110	755C473K	47000	50	2.54	1.69	1.27	1.01	.875
12F9111	555C683K	68000	50	2.91	1.94	1.46	1.17	1.01
12F9112	555C104K	100000	50	3.22	2.15	1.61	1.29	1.11

The entire Aerovox line is available from Newark. Space does not permit all items to be listed.

MC71 CERAMIC CAPACITORS

All units ideally suited for automatic insertion into printed circuit boards. Supplied with gold-plated No. 26 gauge dumet leads. All are rated at 100 VDCW. Cerafil® construction. Case size measures .250" long x .090" diameter. Capacity tolerance: ±10%. Equipped with axial leads.

Stock No.	Type No.	Cap. pF	1-24	25-49	50-99	100-249	250-499
12F9113	MC71A100K	10					
12F9114	MC71A120K	12					
12F9115	MC71A150K	15	.58	.38	.29	.230	.199
12F9116	MC71A180K	18					
12F9117	MC71A220K	22					
12F9118	MC71A270K	27					
12F9119	MC71A330K	33					
12F9120	MC71A390K	39	.58	.38	.29	.230	.199
12F9121	MC71A470K	47					
12F9122	MC71A510K	51					
12F9123	MC71A560K	56					
12F9124	MC71A620K	62					
12F9125	MC71A680K	68	.58	.38	.29	.230	.199
12F9126	MC71A750K	75					
12F9127	MC71A820K	82					
12F9128	MC71A910K	91					
12F9129	MC71A101K	100					
12F9130	MC71A121K	120					
12F9131	MC71A151K	150	.58	.38	.29	.230	.199
12F9132	MC71A181K	180					
12F9133	MC71B221K	220					
12F9134	MC71B271K	270					
12F9135	MC71B331K	330	.58	.38	.29	.230	.199
12F9136	MC71B391K	390					
12F9137	MC71B471K	470					
12F9138	MC71B561K	560					
12F9139	MC71B681K	680	.58	.38	.29	.230	.199
12F9140	MC71B821K	820	.58	.38	.29	.230	.199
12F9141	MC71B102K	1000	.58	.38	.29	.230	.199
12F9142	MC71B122K	1200	1.19	.79	.59	.475	.362
12F9143	MC71B152K	1500	1.19	.79	.59	.475	.362
12F9144	MC71B182K	1800	1.19	.79	.59	.475	.362

NEWARK Electronics proudly announces availability of special capacitor services:

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MALLORY Capacitors

- Pressure Sensitive Safety Vent Construction
- Widest Variety of Container Sizes
- Low ESR
- Mylar Sleeved

TYPE CG

- Operating Temp. —40 to +85°C
- Maximum DC Leakage Current @ 25°C: 4 mA

Stk. No.	Type	Mfd.	WV DC	DxL In	1-49	50-99	100-up
26F434	CG363U3D1	36,000	3	3 x5⅝	4.41	3.47	2.84
26F646	CG2752U5D1	27,500	5	2 x4⅛	4.60	3.61	2.96
17F1730	CG63U10B1	6,000	10	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.37	1.87	1.53
26F425	CG822U10C1	8,200	10	1⅜ x4⅛	2.84	2.23	1.82
17F1731	CG14U10H1	10,000	10	1⁴⁹⁄₆₄x3⁹⁄₆₄	3.15	2.48	2.03
26F428	CG1352U10K1	12,500	10	2 x3⅛	3.72	2.92	2.39
26F430	CG183U10D1	18,000	10	3 4⅛	4.59	3.61	2.96
26F631	CG152U25A1	1,500	25	1⅜ x2½	1.72	1.35	1.11
17F1735	CG282U25B1	2,800	25	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.12	1.67	1.36
26F639	CG382U25C1	3,800	25	1⅜ x4⅛	2.60	2.05	1.67
17F1736	CG452U25H1	4,500	25	1⁴⁹⁄₆₄x3¹⁵⁄₆₄	2.77	2.18	1.78
26F641	CG63U25K1	6,000	25	2 x3⅛	3.23	2.54	2.08
26F427	CG852U25D1	8,500	25	2 x4⅛	3.90	3.07	2.51
17F1737	CG1352U25E1	13,500	25	2³³⁄₆₄x4⁹⁄₆₄	5.99	4.70	3.85
26F431	CG24U25F1	20,000	25	3 x5⅝	6.55	5.15	4.21
26F432	CG3152U25G1	31,500	25	3 4⅛	8.78	6.90	5.64
17F1738	CG212U35B1	2,100	35	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.16	1.70	1.39
17F1739	CG312U35C1	3,100	35	1²⁵⁄₆₄x4⁹⁄₆₄	3.04	2.40	1.96
17F1740	CG362U35H1	3,600	35	1⁴⁹⁄₆₄x3¹⁵⁄₆₄	3.21	2.52	2.07
26F630	CG82U50A1	800	50	1⅜ x 2¼	1.74	1.37	1.12
17F1743	CG152U50B1	1,500	50	1²⁵⁄₆₄x4⁹⁄₆₄	2.05	1.62	1.32
26F633	CG23U50C1	2,000	50	1⅜ x4⅛	2.29	1.80	1.47
17F1744	CG252U50H1	2,500	50	1⁴⁹⁄₆₄x3¹⁵⁄₆₄	2.52	1.98	1.62
60F2130	CG332U50K1	3,300	50	2 x3⅛	3.25	2.56	2.09
26F424	CG452U50D1	4,500	50	2 x4⅛	3.47	2.72	2.23
17F1745	CG732U50E1	7,300	50	2³³⁄₆₄x4⁹⁄₆₄	5.33	4.19	3.42
60F2133	CG14U50F1	10,000	50	3 x4⅛	6.70	5.27	4.30
26F429	CG1652U50G1	16,500	50	3 x5⅝	9.20	7.23	5.91
26F628	CG62U75A1	600	75	1⅜ x4¼	2.01	1.58	1.30
17F1715	CG13U75B1	1,000	75	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.35	1.85	1.51
26F632	CG152U75C1	1,500	75	1⅜ x4⅛	2.84	2.23	1.82
17F1716	CG23U75H1	2,000	75	1⁴⁹⁄₆₄x3⁹⁄₆₄	3.09	2.43	1.98
26F636	CG252U75K1	2,500	75	2 x3⅛	3.70	2.90	2.38
26F421	CG3451U75D1	3,450	75	1⅜ x4⅛	4.03	3.17	2.59
17F1717	CG552U75E1	5,500	75	2³³⁄₆₄x4⁹⁄₆₄	6.40	5.04	4.12
26F643	CG822U75F1	8,200	75	3 x4⅛	7.25	5.70	4.66
60F2132	CG1252U75G1	12,500	75	3 x5⅝	9.45	7.42	6.08
60F2123	CG42U100A1	400	100	1⅜ x2¼	2.01	1.58	1.30
17F1718	CG751U100B1	750	100	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.38	1.86	1.53
60F2126	CG13U100C1	1,000	100	1⅜ x4⅛	2.73	2.15	1.76
17F1719	CG132U100H1	1,300	100	1⁴⁹⁄₆₄x3¹⁵⁄₆₄	2.99	2.35	1.92
60F2128	CG1652U100K1	1,650	100	2 x3⅛	3.17	2.49	2.04
26F419	CG2251U100D1	2,250	100	2 x4⅛	4.12	3.23	2.64
17F1720	CG362U100E1	3,600	100	2³³⁄₆₄x4⁹⁄₆₄	6.03	4.74	3.88
26F640	CG532U100F1	5,300	100	2 x4⅛	6.74	5.30	4.33
26F426	CG832U100G1	8,300	100	3 x5⅝	9.68	7.61	6.23
26F627	CG2750U150A1	275	150	1⅜ x2¼	1.63	1.29	1.05
17F1721	CG52U150B1	500	150	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.05	1.62	1.32
26F629	CG72U150C1	700	150	1⅜ x4⅛	2.40	1.89	1.54
60F2127	CG112U150K1	1,100	150	2 x3⅛	3.13	2.46	2.01
26F416	CG1551U150D1	1,550	150	2 x4⅛	4.01	3.15	2.58
17F1722	CG252U150E1	2,500	150	2³³⁄₆₄x4⁹⁄₆₄	5.92	4.65	3.81
26F422	CG362U150F1	3,600	150	2 x4⅛	7.08	5.56	4.55
60F2131	CG562U150G1	5,600	150	3 x5⅝	9.87	7.76	6.35
60F2119	CG181T200A1	180	200	⅜ x2¼	2.02	1.59	1.30
60F2125	CG451T200C1	450	200	1⅜ x4⅛	2.58	2.03	1.66
17F1723	CG551T200H1	550	200	1⁴⁹⁄₆₄x3¹⁵⁄₆₄	2.86	2.24	1.84
26F414	CG13T200D1	1,000	200	2 x4⅛	4.51	3.54	2.90
26F420	CG2451T200F1	2,450	200	3 x4⅛	6.83	5.37	4.39
26F423	CG382T200G1	3,800	200	3 x5⅝	12.26	9.64	7.88
60F2120	CG141T250A1	140	250	1⅜ x2¼	2.41	1.90	1.55
17F1724	CG2750T250B1	275	250	1²⁵⁄₆₄x3¹⁵⁄₆₄	2.75	2.16	1.76
60F2122	CG3750T250C1	375	250	1⅜ x4⅛	2.99	2.35	1.92
26F413	CG82T250D1	800	250	2 x4⅛	4.72	3.71	3.04
26F418	CG192T250F1	1,900	250	3 x4⅛	7.60	5.97	4.89
26F638	CG33T250G1	3,000	250	3 x5⅝	10.16	8.00	6.53
17F1725	CG3250T300C1	325	300	1²⁵⁄₆₄x4⁹⁄₆₄	2.85	2.24	1.84
26F412	CG72T300D1	700	300	2 x4⅛	4.74	3.72	3.05
26F637	CG262T300G1	2,600	300	3 x5⅝	10.63	8.35	6.84
60F2121	CG12T350A1	100	350	1⅜ x2¼	2.43	1.91	1.57
60F2118	CG251T350C1	250	350	1⅜ x4⅛	2.96	2.33	1.90
60F2124	CG42T350K1	400	350	2 x3⅛	3.57	2.80	2.30
26F411	CG551T350D1	550	350	2 x4⅛	5.10	4.01	3.28
17F1726	CG92T350E1	900	350	2³³⁄₆₄x4⁹⁄₆₄	6.46	5.09	4.16
26F415	CG132T350F1	1,300	350	3 x4⅛	8.59	6.75	5.52
26F634	CG23T350G1	2,000	350	3 x5⅝	10.63	8.35	6.84
26F626	CG151T400C1	150	400	1⅜ x4⅛	2.96	2.33	1.90
26F410	CG3250T400D1	325	400	2 x4-1/8	3.80	2.99	2.44
26F624	CG41T450A1	40	450	1¾ x2-¼	1.80	1.41	1.16
26F625	CG111T450C1	110	450	1⅜ x4⅛	2.73	2.15	1.76
26F409	CG241T450D1	240	450	2 x4-1/8	3.42	2.69	2.20

COMPUTER GRADE ELECTROLYTIC CAPACITORS

Computer grade capacitors have capacity tolerance: —10, +75% for 0-150 volt units; —10, +50% for 150-450 volt units. Supplied with 7/32" high post. Terminals with #10-32 screws. Sizes do not include terminals or sleeve. Lug and low post terminals, special capacitances, working voltages, and sizes available on special order.

TYPE CGS

- Oper. Temp. —40 to +65°C
- Mylar Sleeved
- Maximum DC Leakage Current @25°C, 6 mA

10 WORKING VOLTS DC

Stock No.	Type	Mfd.	DxL Im.	1-24	25-49	50-99	100-249
60F3666	CGS722U010BB1	7,200	1²⁵⁄₆₄x2⁹⁄₆₄	2.41	1.92	1.69	1.30
17F1791	CGS133U010BD1	13,000	1²⁵⁄₆₄x3⁹⁄₆₄	2.85	2.28	2.00	1.54
60F3667	CGS203U010BF1	20,000	1²⁵⁄₆₄x4⁹⁄₆₄	3.42	2.74	2.40	1.85
17F1792	CGS303U010DD1	30,000	2¹⁄₆₄x3⁹⁄₆₄	4.42	3.54	3.10	2.39
60F3668	CGS663U010D11	66,000	2¹⁄₆₄x5⁴¹⁄₆₄	7.38	5.91	5.18	3.99

15 WORKING VOLTS DC

60F3669	CGS552U015BB1	5,500	1²⁵⁄₆₄x2⁹⁄₆₄	2.26	1.81	1.58	1.22
60F3670	CGS103U015BD1	10,000	1²⁵⁄₆₄x3⁹⁄₆₄	2.89	2.13	2.02	1.56
60F3671	CGS153U015BF1	15,000	1²⁵⁄₆₄x4⁹⁄₆₄	3.50	2.80	2.45	1.89
17F1793	CGS233U015DD1	23,000	2¹⁄₆₄x3⁹⁄₆₄	4.51	3.51	3.16	2.44
60F3672	CGS343U015DF1	34,000	2¹⁄₆₄x4⁹⁄₆₄	5.59	4.47	3.92	3.02
60F3673	CGS503U015D11	50,000	2¹⁄₆₄x5⁴¹⁄₆₄	7.38	5.91	5.18	3.99
60F6374	CGS803U015FF1	80,000	3¹⁄₆₄x5⁹⁄₆₄	9.90	7.92	6.94	5.35
60F3675	CGS104U015FH1	100,000	3¹⁄₆₄x5⁹⁄₆₄	12.21	9.77	8.56	6.60

25 WORKING VOLTS DC

60F3676	CGS302U025BB1	3,000	1²⁵⁄₆₄x2⁹⁄₆₄	2.37	1.89	1.66	1.28
60F3677	CGS562U025BD1	5,600	1²⁵⁄₆₄x3⁹⁄₆₄	2.81	2.25	1.97	1.52
60F3678	CGS822U025BF1	8,200	1²⁵⁄₆₄x4⁹⁄₆₄	3.24	2.59	2.27	1.75
17F1794	CGS123U025DD1	12,000	2¹⁄₆₄x3⁹⁄₆₄	4.01	3.21	2.81	2.17
60F3679	CGS183U025DF1	18,000	2¹⁄₆₄x4⁹⁄₆₄	5.20	4.16	3.64	2.81
60F3680	CGS273U025D11	27,000	2¹⁄₆₄x5⁴¹⁄₆₄	6.88	5.51	4.82	3.72
60F3681	CGS433U025FF1	43,000	3¹⁄₆₄x5⁹⁄₆₄	9.36	7.49	6.56	5.06
60F3682	CGS573U025FH1	57,000	3¹⁄₆₄x5⁹⁄₆₄	12.12	9.69	8.50	6.55

40 WORKING VOLTS DC

17F1795	CGS222U040BB1	2,200	1²⁵⁄₆₄x2⁹⁄₆₄	2.50	2.00	1.75	1.35
17F1796	CGS422U040BD1	4,200	1²⁵⁄₆₄x3⁹⁄₆₄	2.87	2.29	2.01	1.55
17F1797	CGS622U040BF1	6,200	1²⁵⁄₆₄x4⁹⁄₆₄	3.61	2.89	2.53	1.95
17F1798	CGS932U040DD1	9,300	2¹⁄₆₄x5¹⁄₆₄	4.61	3.69	3.23	2.49
17F1799	CGS133U040DF1	13,000	2¹⁄₆₄x4⁹⁄₆₄	5.62	4.50	3.94	3.04
17F1800	CGS203U040D11	20,000	2¹⁄₆₄x5⁹⁄₆₄	7.46	5.96	5.23	4.03
17F1801	CGS323U040FF1	32,000	3¹⁄₆₄x5⁹⁄₆₄	10.73	8.58	7.52	5.80
17F1802	CGS433U040FH1	43,000	3¹⁄₆₄x5⁹⁄₆₄	13.41	10.73	9.40	7.25
17F1803	CGS503U040FJ1	50,000	3¹⁄₆₄x5⁵⁹⁄₆₄	15.13	12.11	10.61	8.18

50 WORKING VOLTS DC

60F3683	CGS162U050BB1	1,600	2⁵⁄₆₄x2⁹⁄₆₄	2.41	1.92	1.69	1.30
60F3684	CGS292U050DB1	2,900	1²⁵⁄₆₄x3⁹⁄₆₄	.96	2.37	2.08	1.60
60F3685	CGS432U050BF1	4,300	1²⁵⁄₆₄x4⁹⁄₆₄	3.50	2.80	2.45	1.89
60F3686	CGS652U050DD1	6,500	2¹⁄₆₄x3⁹⁄₆₄	4.50	3.60	3.15	2.43
60F3687	CGS962U050DF1	9,600	2¹⁄₆₄x4⁹⁄₆₄	5.59	4.47	3.92	3.02
60F3688	CGS143U050D11	14,000	2¹⁄₆₄x5⁴¹⁄₆₄	7.40	5.92	5.19	4.00
60F3689	CGS223U050FF1	22,000	3¹⁄₆₄x5⁹⁄₆₄	10.08	8.07	7.07	5.45
60F3690	CGS303U050FH1	30,000	3¹⁄₆₄x5⁹⁄₆₄	12.86	10.29	9.01	6.95

75 WORKING VOLTS DC

60F3691	CGS821U075BB1	820	2²⁵⁄₆₄x2⁹⁄₆₄	2.37	1.89	1.66	1.28
60F3692	CGS152U075BD1	1,500	1²⁵⁄₆₄x3⁹⁄₆₄	2.74	2.19	1.92	1.48
60F3693	CGS232U075BF1	2,300	1²⁵⁄₆₄x4⁹⁄₆₄	3.20	2.50	2.24	1.73
60F3694	CGS342U075DD1	3,400	2¹⁄₆₄x3⁹⁄₆₄	4.07	3.26	2.85	2.20
60F3695	CGS502U075DF1	5,000	2¹⁄₆₄x4⁹⁄₆₄	4.96	3.97	3.48	2.68
60F3696	CGS752U075D11	7,500	2¹⁄₆₄x5⁴¹⁄₆₄	6.48	5.18	4.54	3.50
60F3697	CGS123U075FF1	12,000	3¹⁄₆₄x5⁹⁄₆₄	9.29	7.43	6.51	5.02
60F3698	CGS163U075FH1	16,000	3¹⁄₆₄x5⁹⁄₆₄	11.29	9.03	7.91	6.10

100 WORKING VOLTS DC

60F3699	CGS651U100BB1	650	1²⁵⁄₆₄x2⁹⁄₆₄	2.55	2.04	1.79	1.38
60F3700	CGS122U100BD1	1,200	1²⁵⁄₆₄x3⁹⁄₆₄	3.15	2.52	2.20	1.70
60F3701	CGS182U100BF1	1,800	1²⁵⁄₆₄x4⁹⁄₆₄	3.87	3.09	2.71	2.09
60F3702	CGS272U100DD1	2,700	2¹⁄₆₄x3⁹⁄₆₄	4.92	3.94	3.45	2.66
60F3703	CGS402U100DF1	4,000	2¹⁄₆₄x4⁹⁄₆₄	6.38	5.11	4.47	3.45
60F3704	CGS592U100D11	5,900	2¹⁄₆₄x5⁴¹⁄₆₄	8.51	6.81	5.97	4.60
60F3705	CGS932U100FF1	9,300	3¹⁄₆₄x5⁹⁄₆₄	12.43	9.95	8.72	6.72
60F3706	CGS123U100FH1	12,000	3¹⁄₆₄x5⁹⁄₆₄	15.26	12.21	10.70	8.25

150 WORKING VOLTS DC

60F3707	CGS401U150BB1	400	1²⁵⁄₆₄x2⁹⁄₆₄	2.52	2.01	1.76	1.36
60F3708	CG112U150BF	1,100	1²⁵⁄₆₄x4⁹⁄₆₄	3.66	2.93	2.57	1.98
60F3709	CGS162U150DD1	1,600	2¹⁄₆₄x3⁹⁄₆₄	4.59	3.67	3.22	2.48
60F3710	CGS252U150DF1	2,500	2¹⁄₆₄x4⁹⁄₆₄	5.92	4.74	4.15	3.20
60F3711	CGS352U150D11	3,500	2¹⁄₆₄x5⁹⁄₆₄	7.68	6.14	5.38	4.15
60F3712	CGS552U150FF1	5,500	3¹⁄₆₄x5⁹⁄₆₄	10.73	8.58	7.52	5.80
60F3713	CGS742U150FH1	7,400	3¹⁄₆₄x5⁹⁄₆₄	13.65	10.92	9.57	7.38

250 WORKING VOLTS DC

60F3714	CGS201T250BB1	200	1²⁵⁄₆₄x2⁹⁄₆₄	2.31	1.85	1.62	1.25
60F3715	CGS381T250DB1	380	1-25/64	2.78	2.22	1.95	1.50
60F3716	CGS551T250BF1	550	1²⁵⁄₆₄x4⁹⁄₆₄	3.24	2.59	2.27	1.75
60F3717	CGS851T250DD1	850	2¹⁄₆₄x3⁹⁄₆₄	4.07	3.26	2.85	2.20
60F3718	CGS122T250DF1	1,200	2¹⁄₆₄x4⁹⁄₆₄	5.11	4.08	3.58	2.76
60F3719	CGS192T250D11	1,900	2¹⁄₆₄x5⁴¹⁄₆₄	7.18	5.74	5.03	3.88
60F3720	CGS292T250FF1	2,900	3¹⁄₆₄x5⁹⁄₆₄	9.95	7.96	6.98	5.38
60F3721	CGS392T250FH1	3,900	3¹⁄₆₄x5⁹⁄₆₄	12.58	10.06	8.82	6.80

450 WORKING VOLTS DC

60F3722	CGS750T450BB1	75	1²⁵⁄₆₄x2-⁹⁄₆₄	2.55	2.04	1.79	1.38
60F3723	CGS141T450BD1	140	1²⁵⁄₆₄x3-⁹⁄₆₄	3.11	2.49	2.18	1.63
60F3724	CGS321T450DD1	320	2¹⁄₆₄x3⁹⁄₆₄	4.90	3.92	3.44	2.65

Tantalum Capacitors

MALLORY

Key	WVDC	Dia. x Len.	1-24	25-49	50-99	100-499	500-999
A	6 TO 35	.135x.286	1.46	1.17	.80	.65	.53
B		.185x.474	1.71	1.37	.83	.69	.54
C		.289x.686	2.82	2.25	1.55	1.25	.98
D		.351x.786	5.21	4.15	3.08	2.49	1.91
A	50	.135x.286	2.71	2.17	1.83	1.58	1.31
B		.185x.474	2.86	2.29	1.94	1.65	1.39
C		.289x.686	4.70	3.75	3.19	2.70	2.26
D		.351x.786	8.76	7.00	5.92	5.03	4.20

TYPE CSR SOLID ELECTROLYTE CAPACITORS

New solid electrolyte tantalum capacitors meet or exceed established reliability requirements of MIL-C-39003A for 2% (L) and 1% (M failure rate levels. Rigid MIL specifications. Have hermetically sealed metal cases with insulating sleeves. WVDC is at +85%C. ±10% Tolerance. Av. shpg. wt. 2 oz.

2% FAILURE

Stock No.	Type CSR13	MIL-C 39003-A	MFD	WV DC	Key
17F1505	B565KL	2001	5.6	6	A
17F1506	B685KL	2002	6.8	6	A
17F1507	B476KL	2004	47	6	B
17F1508	B566KL	2006	56	6	B
17F1509	B157KL	2007	150	6	C
17F1510	B187KL	2009	180	6	C
47F688	B277KL	2010	270	6	D
47F689	B337KL	2011	330	6	D
47F690	C395KL	2013	3.9	10	A
17F1514	C475KL	2014	4.7	10	A
17F1515	C276KL	2016	27	10	B
17F1516	C336KL	2017	33	10	B
17F1517	C396KL	2019	39	10	B
17F1518	C826KL	2020	82	10	C
17F1519	C107KL	2021	100	10	C
17F1520	C127KL	2023	120	10	C
47F691	C187KL	2024	180	10	D
17F1522	C227KL	2025	220	10	D
17F1523	D275KL	2027	2.7	15	A
17F1524	D335KL	2028	3.3	15	A
17F1525	D186KL	2030	18	15	B
17F1526	D226KL	2031	22	15	B
17F1527	D566KL	2033	56	15	C
17F1528	D686KL	2034	68	15	C
47F692	D127KL	2036	120	15	D
17F1530	D157KL	2037	150	15	D
17F1531	E125KL	2039	1.2	20	A
17F1532	E155KL	2040	1.5	20	A
47F693	E185KL	2042	1.8	20	A
17F1534	E225KL	2043	2.2	20	A
17F1535	E825KL	2045	8.2	20	B
17F1536	E106KL	2046	10	20	B
47F694	E126KL	2048	12	20	B
17F1538	E156KL	2049	15	20	B
17F1539	E276KL	2051	27	20	C
17F1540	E336KL	2052	33	20	C
17F1541	E396KL	2054	39	20	C
17F1542	E476KL	2055	47	20	C
47F695	E566KL	2057	56	20	D
17F1544	E686KL	2058	68	20	D
47F696	E826KL	2060	82	20	D
17F1546	E107KL	2061	100	20	D
17F1547	F565KL	2063	5.6	35	B
17F1548	F685KL	2064	6.8	35	B
17F1549	F226KL	2066	22	35	C
17F1550	F276KL	2068	27	25	D
17F1551	F336KL	2069	33	35	D
17F1552	F396KL	2071	39	35	D
17F1553	F476KL	2072	47	35	D
17F1554	G472KL	2074	.0047	50	A
47F697	G562KL	2076	.0056	50	A
47F698	G682KL	2077	.0068	50	A
47F699	G822KL	2079	.0082	50	A
17F1558	G103KL	2080	.01	50	A
17F1559	G123KL	2082	.012	50	A
47F070	G153KL	2083	.015	50	A
47F071	G183KL	2085	.018	50	A
17F1562	G223KL	2086	.022	50	A
17F1563	G273KL	2088	.027	50	A
17F1564	G333KL	2089	.033	50	A
47F072	G393KL	2091	.039	50	A
17F1566	G473KL	2092	.047	50	A
17F1567	G563KL	2094	.056	50	A
47F073	G683KL	2095	.068	50	A
47F074	G823KL	2097	.082	50	A
17F1570	G104KL	2098	.1	50	A
47F075	G124KL	2100	.12	50	A
17F1572	G154KL	2101	.15	50	A
47F076	G184KL	2103	.18	50	A
17F1574	G224KL	2104	.22	50	A
47F077	G274KL	2106	.27	50	A
17F1576	G334KL	2107	.33	50	A
47F738	G394KL	2109	.39	50	A
17F1578	G474KL	2110	.47	50	A
17F1579	G564KL	2112	.56	50	A
17F1580	G684KL	2113	.68	50	A
17F1581	G824KL	2115	.82	50	A
17F1582	G105KL	2116	1.0	50	A
47F739	G125KL	2118	1.2	50	B
17F1584	G155KL	2119	1.5	50	B
47F740	G185KL	2121	1.8	50	B
17F1586	G225KL	2122	2.2	50	B
47F741	G275KL	2124	2.7	50	B
17F1588	G335KL	2125	3.3	50	B
47F742	G395KL	2127	3.9	50	B
17F1590	G475KL	2128	4.7	50	B
17F1591	G565KL	2130	5.6	50	C
17F1592	G685KL	2131	6.8	50	C
47F743	G825KL	2133	8.2	50	C
17F1594	G106KL	2134	10	50	C
17F1595	G126KL	2136	12	50	C
17F1596	G156KL	2137	15	50	C
47F744	G186KL	2139	18	50	C
17F1598	G226KL	2140	22	50	D

1% FAILURE

Key	WVDC	Dia. x Len.	1-24	25-49	50-99	100-499	500-999
A	6 TO 35	.135x.286	1.99	1.60	1.10	.90	.77
B		.185x.474	2.34	1.88	1.13	.93	.78
C		.289x.686	3.83	3.08	2.11	1.72	1.45
D		.351x.786	7.10	5.66	4.20	3.40	2.85

Key	WVDC	Dia. x Len.	1-24	25-49	50-99	100-499	500-999
A	50	.135x.286	3.69	2.95	2.49	2.15	1.93
B		.185x.474	3.91	3.11	2.63	2.25	2.05
C		.289x.686	6.40	5.10	4.34	3.69	3.35
D		.351x.786	11.95	9.54	8.07	6.86	6.28

Stock No.	Type CSR13	MIL-C 39003-A	MFD	WV DC	Key
47F745	B565KM	2241	5.6	6	A
17F1678	B685KM	2242	6.8	6	A
17F1680	B476KM	2244	47	6	B
47F746	B566KM	2246	56	6	B
47F747	B157KM	2247	150	6	C
47F748	B187KM	2249	180	6	C
47F749	B227KM	2250	270	6	D
47F750	B337KM	2251	330	6	D
47F751	C395KM	2253	3.9	10	A
17F1683	C475KM	2254	4.7	10	A
47F752	C276KM	2256	27	10	B
17F1684	C336KM	2257	33	10	B
47F753	C396KM	2259	39	10	B
47F754	C826KM	2260	82	10	C
17F1685	C107KM	2261	100	10	C
47F755	C127KM	2263	120	10	C
47F756	C187KM	2264	180	10	D
17F1686	C227KM	2265	220	10	D
47F757	D275KM	2267	2.7	15	A
17F1687	D335KM	2268	3.3	15	A
47F758	D186KM	2270	18	15	B
47F759	D226KM	2271	22	15	B
47F760	D566KM	2273	56	15	C
47F761	D686KM	2274	68	15	C
47F762	D127KM	2276	120	15	D
17F1689	D157KM	2277	150	15	D
47F763	E125KM	2279	1.2	20	A
17F1690	E155KM	2280	1.5	20	A
47F764	E185KM	2282	1.8	20	A
17F1691	E225KM	2283	2.2	20	A
47F765	E825KM	2285	8.2	20	B
17F1692	E106KM	2286	10	20	B
47F766	E126KM	2288	12	20	B
17F1693	E156KM	2289	15	20	B
47F767	E276KM	2291	27	20	C
47F768	E336KM	2292	33	20	C
47F769	E396KM	2294	39	20	C
17F1695	E476KM	2295	47	20	C
47F770	E566KM	2297	56	20	D
17F1696	E686KM	2298	68	20	D
47F771	E826KM	2300	82	20	D
17F1697	E107KM	2301	100	20	D
47F772	F565KM	2303	5.6	35	B
17F1698	F685KM	2304	6.8	35	B
17F1699	F226KM	2306	22	35	C
47F773	F276KM	2308	27	35	D
17F1655	F336KM	2309	33	35	D
47F774	F396KM	2311	39	35	D
17F1656	F476KM	2312	47	35	D
47F775	G472KM	2314	.0047	50	A
47F776	G562KM	2316	.0056	50	A
47F777	G682KM	2317	.0068	50	A
47F778	G822KM	2319	.0082	50	A
47F779	G103KM	2320	.01	50	A
47F780	G123KM	2322	.012	50	A
47F781	G153KM	2323	.015	50	A
47F782	G183KM	2325	.018	50	A
17F1659	G223KM	2326	.022	50	A
47F783	G273KM	2328	.027	50	A
17F1660	G333KM	2329	.033	50	A
47F784	G393KM	2331	.039	50	A
17F1661	G473KM	2332	.047	50	A
47F785	G563KM	2334	.056	50	A
47F786	G683KM	2335	.068	50	A
47F787	G823KM	2337	.082	50	A
17F1663	G104KM	2338	.1	50	A
47F788	G124KM	2340	.12	50	A
17F1665	G154KM	2341	.15	50	A
47F789	G184KM	2343	.18	50	A
47F790	G224KM	2344	.22	50	A
47F791	G274KM	2346	.27	50	A
17F1666	G334KM	2347	.33	50	A
47F792	G394KM	2349	.39	50	A
17F1667	G474KM	2350	.47	50	A
47F793	G564KM	2352	.56	50	A
17F1668	G684KM	2353	.68	50	A
47F794	G824KM	2355	.82	50	A
17F1669	G105KM	2356	1.0	50	A
47F795	G125KM	2358	1.2	50	B
47F796	G155KM	2359	1.5	50	B
47F797	G185KM	2361	1.8	50	B
17F1671	G225KM	2362	2.2	50	B
47F731	G275KM	2364	2.7	50	B
17F1672	G335KM	2365	3.3	50	B
47F732	G395KM	2367	3.9	50	B
17F1673	G475KM	2368	4.7	50	B
47F733	G565KM	2370	5.6	50	C
17F1674	G685KM	2371	6.8	50	C
47F734	G825KM	2373	8.2	50	C
17F1675	G106KM	2374	10	50	C
47F735	G126KM	2376	12	50	C
47F736	G156KM	2377	15	50	C
47F737	G186KM	2379	18	50	C
17F1677	G226KM	2380	22	50	D

NEWARK STOCKS THE WORLD'S MOST COMPLETE INVENTORY OF INDUSTRIAL ELECTRONICS EQUIPMENT

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MALLORY Electrolytic Capacitors

FP AND WP CAPACITORS

Vertical mounting dry electrolytics for all filter and audio by-pass circuits, and TV applications. All types include deep etched anodes and etched cathodes. All hermetically sealed in aluminum cases. Can is negative; separate positive terminals provided for each section. With mounting washers. Shipping weight, 6 oz.

SIZE CHART

Key Size	Key Size	Key Size
A—¾x2	E—1x2	I—1⅜x2
B—1x2½	F—1x1¾	J—1⅜x3¼
C—1x3	G—1⅜x3	K—1⅜x1¾
D—1x1½	H—1⅜x2	N—1⅜x4

SINGLE SECTION

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F216	WP039A	1000	15	D	1.76	1.04	.831	.622
14F217	WP041A	2000	15	H	2.37	1.401	1.120	.838
14F243	WP042A	3000	15	H	2.93	1.735	1.387	1.038
60F2105	FP042.8A	10000	15	J	6.69	3.962	3.166	2.371
14F214	WP057A	500	25	D	1.49	.883	.706	.529
14F215	WP059	1000	25	H	2.18	1.292	1.032	.773
60F2106	FP060.2	2000	25	K	2.93	1.735	1.387	.038
60F2107	FP060.4A	4000	25	G	4.50	2.662	2.128	.593
60F2108	FP060.6A	5000	25	J	5.30	3.135	2.506	.876
14F212	WP065	500	50	H	1.75	1.033	.826	.618
14F245	WP068A	1500	50	G	2.97	2.001	1.60	1.119
60F2110	FP070A	2000	50	J	3.38	2.280	1.823	1.366
14F248	FP119A	300	150	H	1.96	1.320	1.055	.791
14F972	FP140.6A	150	350	I	2.72	1.607	1.284	.962
14F251	FP137A	50	350	E	1.49	.884	.707	.529
14F209	FP140A	125	350	I	2.52	1.489	1.19	.891
14F203	FP142	10	450	A	1.05	.710	.568	.425
14F205	FP144A	20	450	F	1.26	.849	.679	.509
14F207	FP146	40	450	B	1.52	1.022	.817	.612
14F208	FP149	80	450	I	2.20	1.482	1.185	.888
14F973	FP150A	100	450	I	2.42	1.628	1.302	.976
14F291	FP187A	90	500	I	2.68	1.808	1.446	1.084

DUAL SECTION

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F229	WP200	1000-1000	15-15	H	2.91	1.72	1.374	1.029
14F292	FP216.4A	200-200	150-150	I	2.76	1.632	1.304	.976
14F227	FP221A	40-40	250-250	F	1.70	1.006	.804	.602
14F256	FP227A	20-20	350-350	E	1.59	.941	.752	.563
14F219	FP231A	10-10	450-450	F	1.34	.902	.721	.540
14F220	FP234A	20-20	450-450	B	1.77	1.045	.835	.625
14F222	FP238A	40-40	450-450	I	2.37	1.595	1.275	.956
14F223	FP240	50-50	450-450	G	3.01	1.782	1.424	1.066
14F980	FP258	15-15	475-475	B	1.68	.996	.796	.596
14F262	FP288A	40-40	500-500	I	2.98	1.763	1.409	1.055

TRIPLE SECTION

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F263	FP311.5A	40-40-40	150-150-150	F	1.75	1.035	.827	.620
14F270	FP345.8	20-20-20	450-450-25	B	1.97	1.168	.934	.699
14F271	FP346A	40-40-20	450-450-25	G	2.76	1.636	1.307	.979
14F275	FP375.8	10-10-10	450-450-450	B	1.80	1.065	.851	.637
14F278	FP376.5A	20-20-20	450-450-450	H	2.48	1.469	1.174	.879
14F234	FP377.1A	40-40-40	450-450-450	G	3.38	2.002	1.600	1.198
14F235	FP378	80-40-20	450-450-450	N	3.65	2.159	1.726	1.292
14F231	FP394A	10-10-10	475-475-475	B	2.08	1.233	.985	.738

QUADRUPLE SECTION

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
14F996	FP428.4A	40-40-30-30	J	3.88	2.106	1.685	1.263
14F239	FP424	10-10-10-10	H	2.31	1.367	1.092	.818
14F289	FP434.5	20-10-10-10	H	2.55	1.509	1.206	.903
14F240	FP444A	20-20-20-20	I	3.20	1.734	1.387	1.04
14F283	FP447A	40-40-20-20	J	3.76	2.039	1.63	1.222
14F990	FP447.5A	40-40-30-30	J	4.17	2.26	1.808	1.355

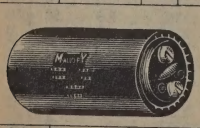
Working volts: 450-450-450-450.

METAL TUBLAR DRY ELECTROLYTIC CAPACITORS

TC Electrolytic with Mylar Sleeve. Single section capacitor with clear mylar insluating sleeve. Sizes shown are for base can, without sleeve. More capacitance and voltage in a smaller sized can. Tol. —10%+100%. Temp. rating up to 85°C. (*) includes mounting strap.

Stock No.	Type	Mfd.	VDC	Can Size	1-24	25-49	50-99	100-249	250-499
14F171	TC47A	30	150	5/8x1 1/16	.79	.55	.43	.35	.30
14F172	TC48A	40	150	3/4x1 1/16	.82	.59	.45	.36	.31
16F1704	TC493A	100	150	3/4x1 13/16	1.05	.75	.58	.47	.40
14F175	TC495A*	150	150	1x1 5/16	1.13	.81	.64	.48	.43
16F1705	TC496A*	200	150	1x1 9/16	1.32	.93	.74	.69	.47
16F1706	TC499A*	300	150	1x2 1/16	1.63	1.21	.96	.84	.64
26F990	TC50XA	5	250	1/2x1 1/16	.69	.49	.37	.31	.26
16F1708	TC52A	10	250	5/8x1 5/16	.72	.56	.43	.35	.29
16F1709	TC55A	20	250	5/8x1 1/16	.82	.64	.51	.40	.34
15F1710	TC58A	40	250	3/4x1 9/16	.94	.69	.55	.43	.39
16F1711	TC59A	50	250	3/4x1 9/16	1.02	.74	.59	.48	.43
16F1712	TC1265A*	100	250	7/8x2 1/16	1.47	.97	.75	.60	.50
14F024	TC65A	20	350	3/4x1 9/16	.87	.65	.53	.42	.36
26F991	TC68A	60	350	7/8x2 1/16	1.17	.87	.66	.57	.48
14F176	TC70A	5	450	5/8x1 5/16	.72	.52	.40	.34	.29
14F180	TC75A	20	450	7/8x1 9/16	.93	.70	.58	.45	.39
14F182	TC78A	40	450	1x2 1/16	1.08	.83	.65	.51	.44
14F443	TC1501A	1000	15	3/4x1 9/16	1.38	1.07	.83	.67	.54
16F1689	TC1520A*	2000	15	7/8x1 13/16	1.65	1.25	.95	.78	.67
16F1691	TC26A	25	25	5/16x3/4	.60	.43	.35	.28	.23
16F1692	TC29A	50	25	3/8x7/8	.67	.47	.36	.30	.24
14F157	TC2501A	100	25	3/8x1 3/8	.80	.57	.45	.35	.30
16F1693	TC25025	250	25	5/8x1 5/16	1.02	.79	.63	.50	.42
16F1694	TC2505B	500	25	3/4x1 9/16	1.35	1.05	.83	.66	.55
16F1695	TC2510*	1000	25	7/8x1 13/16	1.98	1.17	.91	.77	.60
16F1696	TC2515*	1500	25	7/8x2 1/16	2.35	1.76	1.35	1.06	.90
16F1697	TC2520*	2000	25	1x2 1/16	2.73	1.58	1.23	.98	.81
16F1699	TC32A	10	50	5/16x3/4	.60	.43	.33	.27	.22
14F163	TC36A	25	50	3/8x7/8	.64	.44	.35	.28	.23
14F164	TC39A	50	50	3/8x1 3/8	.72	.52	.40	.33	.28
14F165	TC3501A	100	50	5/8x1 9/16	.83	.61	.47	.40	.31
14F185	TC50025A	250	50	3/4x1 9/16	1.00	.78	.62	.48	.43
16F1701	TC50050A*	500	50	1x1 9/16	1.40	1.06	.83	.60	.50
16F1702	TC50100A*	1000	50	1x2 1/16	1.90	1.30	1.04	.82	.64
14F166	TC40A	5	150	5/16x3/4	.60	.43	.34	.27	.22
14F168	TC42A	10	150	3/8x1	.64	.47	.37	.29	.24
14F170	TC45A	20	150	3/8x1 3/8	.72	.51	.39	.32	.27
14F177	TC71A	8	450	3/4x1 9/16	.75	.56	.45	.37	.32
14F178	TC72A	10	450	3/4x1 9/16	.77	.59	47	.37	.33

HC CAPACITORS



Plastic case electrolytics for high capacity, low-voltage applications such as dry disc rectifier filters, movie equipment, etc. All are polarized. Two screw terminals. 10 oz.

Stk. No.	Type	Mfd.	WV DC	Size	1-9	10-24	25-49	50-99
14F105	HC1560A	6000	15	1 13/16x3 3/8	5.62	4.82	2.87	2.19
14F106	HC2510A	1000	25	1 7/16x2 3/4	3.19	2.73	1.59	1.23
14F107	HC2520A	2000	25	1 7/16x3 3/8	4.15	3.56	2.07	1.60
14F108	HC2540A	4000	25	1 13/16x3 3/8	5.58	4.79	2.79	2.15
14F298	HC5040	4000	50	2 1/16x4 3/8	7.32	6.27	3.66	2.82
14F109	HC5005A	500	50	1 7/16x2 3/4	3.33	2.85	1.66	1.28
14F110	HC5010A	1000	50	1 7/16x3 3/8	4.25	3.65	2.13	1.64
14F111	HC5020A	2000	50	1 13/16x3 3/8	5.06	4.34	2.53	1.95
14F997	HC15010	1000	150	2 1/16x4 3/8	6.89	5.96	3.45	2.68
14F112	HC15010A	1000	150	1 13/16x4 3/8	6.44	5.52	3.22	2.48
14F113	HC20005A	500	200	1 13/16x3 3/8	5.53	4.74	2.77	2.13
14F114	HC45003	300	450	2 1/16x4 3/8	8.47	7.26	4.24	3.27

TYPE NP NON-POLARIZED HIGH CAP ELECTROLYTICS

Stk. No.	Type	Mfd.	WV	Size	1-9	10-24	25-49	50-99
14F136	NP1255A	500	125	1 13/16x4 3/8	6.30	5.40	3.15	2.42
14F134	NP3025	200	300		7.00	6.00	3.50	2.70
14F131	NP4505	50	450		6.30	5.40	3.15	2.42
14F132	NP4510	100	450		7.70	6.60	3.85	2.97

Tantalum Capacitors

MALLORY

TIM TYPE

Mallory TIM capacitors are solid electrolytic tantalum types in rectangular cases. Tinned #24 AWG wire leads. Total lead length is 1½" ±¼".

PRICE AND SIZE LOCATOR

LXW	Key	1-24	25-49	50-99	100-499	500-999	Key	1-24	25-49	50-99	100-499	500-999
.225x.280	A	1.31	1.05	.72	.59	.49	A-1	1.62	1.30	.90	.73	.59
.225x.280	B	1.33	1.07	.74	.61	.51	B-1	1.75	1.40	.97	.78	.63
.415x.325	C	1.33	1.07	.74	.61	.51	C-1	1.75	1.40	.97	.78	.63
.335x.380	D	2.52	2.02	1.39	1.13	.95	D-1	4.15	3.32	2.49	2.01	1.62
.340x.228	E	1.00	.82	.60	.50	.40	...	...	...	...	...	...

Stock No.	Type TIM	MFD	Volts	Key
47F700	226K006P0X	22	6	B
14F147	556K006P0V	56	6	C
17F1651	685K010P0W	6.8	10	E
47F701	475K010P0W	4.7	10	E
47F702	106K010P0X	10	10	B
47F703	156K010P0X	15	10	B
14F145	336K010P0V	33	10	C
47F704	225K015P0X	2.2	15	A
47F705	335K015P0X	3.3	15	A
47F706	475K015P0X	4.7	15	B
47F707	685K015P0X	6.8	15	B
47F708	226K015P0Y	22	15	C
14F129	226K015P0V	22	15	C
47F709	336K015P0Y	33	15	D

Stock No.	Type TIM	MFD	Volts	Size
47F709	336K015P0Y	33	15	D
17F1643	155K020P0W	1.5	20	E
17F1645	225K020P0W	2.2	20	E
14F126	685K02025P0V	6.8	25	C
14F127	106K025P0V	10.0	25	C
47F710	106K025P0Y	10	25	C
14F128	156K025P0V	15	25	C
47F711	104K035P0X	.1	35	A
47F712	154K035P0X	.15	35	A
47F713	224K035P0X	.22	35	A
47F714	334K035P0X	.33	35	A
47F715	474K035P0X	.47	35	A
47F716	684K035P0X	.68	35	A
17F1641	105K035P0W	1.0	35	E
47F717	155K035P0X	1.5	35	B

Stock No.	Type TIM	MFD	Volts	Size
47F718	225K035P0X	2.2	35	B
47F719	335K035P0X	3.31	35	B
47F720	475K035P0Y	4.7	35	C
60F2214	475K035P0V	4.7	35	C
47F721	685K035P0Y	6.8	35	C
47F722	106K035P0Y	10.0	35	D
47F723	154K050P0X	.15	50	A-1
47F724	224K050P0X	.22	50	A-1
47F725	474K050P0X	.47	50	A-1
47F726	105K050P0X	1.0	50	A-1
47F727	225K050P0X	2.2	50	B-1
47F728	335K050P0Y	3.3	50	C-1
47F729	475K050P0X	4.7	50	C-1
47F730	565K050P0Y	5.6	50	D-1

TAC TYPE

Miniature molded—solid electrolytic tantalum capacitors. Designed for high density applications. 10% tolerance, #24 (.020") wire leads 1½" x ¼" long.

SIZE AND PRICE LOCATOR

Key	Dia. x Lt.	1-24	25-49	50-99	100-499	500-999	Key	Lt. x Wdth	1-24	25-49	50-99	100-499	500-999
E	.105"x.290"	.68	.55	.50	.45	.37	H	.137"x.340"	.68	.55	.50	.45	.37
F	.105"x.290"	.63	.53	.48	.43	.35	I	.187"x.530"	.65	.55	.50	.45	.37
G	.137"x.340"	.63	.53	.48	.43	.35	J	.187"x.530"	.71	.57	.52	.47	.39

Stock No.	Type Tac—	Mfd.	WV DC	Key
17F1600	823K050P02	.082	50	E
17F1601	104K050P02	.1	50	E
17F1603	154K050P02	.15	50	E
17F1604	184K050P02	.18	50	E
17F1605	224K050P02	.22	50	E
17F1606	274K050P02	.27	50	E
17F1607	334K050P02	.33	50	E
17F1608	394K050P02	.39	50	E
17F1609	474K050P02	.47	50	E
60F3550	564K035P03	.56	50	H
17F1610	564K035P02	.56	35	F
60F3551	684K050P03	.68	50	H
17F1611	684K035P02	.68	35	F
60F3552	824K050P03	.82	50	H
17F1612	824K035P02	.82	35	F
60F3553	105K050P03	1.0	50	H
17K1613	105K020P02	1.0	20	F
60F3554	125K050P04	1.2	50	J
60F3555	125K035P03	1.2	35	G
60F3556	125K025P03	1.2	25	G
17F1614	125K020P02	1.2	20	F
60F3557	155K050P04	1.5	50	J
60F3558	155K025P03	1.5	25	G
17F1615	155K020P02	1.5	20	F
60F3559	185K050P04	1.8	50	J
60F3560	185K025P03	1.8	25	G
17F1616	185K020P02	1.8	20	F
60F3561	225K050P04	2.2	50	J
60F3562	225K025P03	2.2	25	G
17F1617	225K020P02	2.2	20	F
60F3563	275K035P40	2.7	50	J
60F3564	275K035P04	2.7	35	I
60F3565	275K025P04	2.7	25	I
17F1618	275K015P02	2.7	15	F

Stock No.	Type Tac—	Mid.	WV DC	Key
60F3566	335K050P04	3.3	50	J
60F3567	335K035P04	3.3	35	I
60F3568	335K025P04	3.3	25	I
60F3569	335K020P04	3.3	20	I
60F3570	335K015P03	3.3	15	G
17F1619	335K010P02	3.3	10	F
60F3571	395K050P04	3.9	50	J
60F3572	395K035P04	3.9	35	I
60F3573	395K025P04	3.9	25	I
60F3574	395K020P04	3.9	20	I
60F3575	395K015P04	3.9	15	I
17F1620	395K010P02	3.9	10	F
60F3576	475K050P04	4.7	50	J
60F3577	475K035P04	4.7	35	I
60F3578	475K025P04	4.7	25	I
60F3579	475K020P04	4.7	20	I
60F3580	475K015P04	4.7	15	I
17F1621	475K010P02	4.7	10	F
60F3581	565K035P04	5.6	35	I
60F3582	565K025P04	5.6	25	I
60F3583	565K020P04	5.6	20	I
60F3584	565K015P04	5.6	15	I
17F1622	565K010P02	5.6	10	F
60F3585	685K035P04	6.8	35	I
60F3586	685K025P04	6.8	25	I
60F3587	685K020P04	6.8	20	I
60F3588	685K015P04	6.8	15	I
17F1623	685K010P02	6.8	10	F
60F3589	825K035P04	8.2	35	I
60F3590	825K025P04	8.2	25	I
60F3591	825K020P04	8.2	20	I
60F3592	825K015P04	8.2	15	I
60F3593	825K010P04	8.2	10	I
17F1624	825K006P02	8.2	6	F

Stock No.	Type Tac—	Mfd.	WV DC	Key
60F3594	106K025P04	10	25	I
60F3595	106K020P04	10	20	I
60F3596	106K015P04	10	15	I
60F3597	106K010P04	10	10	I
17F1625	106K006P02	10	6	F
60F3598	126K025P04	12	25	I
60F3599	126K020P04	12	20	I
60F3644	126K015P04	12	15	I
60F3645	126K010P04	12	10	I
17F1626	126K006P02	12	6	F
60F3646	156K020P04	15	20	I
60F3647	156K015P04	15	15	I
60F3648	156K010P04	15	10	I
60F3649	156K006P04	15	6	I
17F1627	156K003P04	15	3	F
60F3650	186K015P04	18	15	I
60F3651	186K010P04	18	10	I
60F3652	186K006P04	18	6	I
17F1628	186K003P02	18	3	F
60F3653	226K015P04	22	15	I
60F3654	226K010P04	22	10	I
60F3655	226K006P04	22	6	I
60F3656	276K010P04	27	10	I
60F3657	276K006P04	27	6	I
60F3658	336K010P04	33	10	I
60F3659	336K006P04	33	6	I
60F3660	396K010P04	39	10	I
60F3661	396K006P04	39	6	I
60F3662	476K006P04	47	6	I
60F3663	566K006P04	56	6	I
60F3664	686K003P04	68	3	I
60F3665	826K003P04	82	3	I

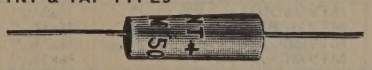
WET-SLUG TANTALUM CAPACITORS TNT & TAP TYPES

Type TAP. Operating temp. —55° to +85°C. DC leakage is less than 1 microamp after 10 min. of rated voltage. Furnished in metal cases with precision formed epoxy end seals. Tol., —15% to +75%. Axial leads 1½" tinned for easy soldering.

Stk. No.	TAP Type	Cap. Mfd.	WVDC +85°C	Case Size	Price Code
14F441	TAP206U01POA	20	10	.228x .500	A
14F090	TAP107U010POB	100	10	.228x .660	B
14F089	TAP706U015POB	70	15	.228x .660	B
14F438	TAP106U025POA	10	25	.228x .500	A
14F088	TAP406U030POB	40	30	.228x .660	B
14F435	TAP505U050POA	5	50	.228x .500	A
14F086	TAP256U050POB	25	50	.228x .660	B
14F434	TAP405U060POA	4	60	.228x .500	A
14F432	TAP205U090POA	2	90	.228x .500	A
14F083	TAP116U090POB	11	90	.228x .660	B

TAP Prices

Case Size	1-24	25-49	50-99	100-499	500-999
A	1.46	1.17	0.99	0.84	0,766
B	2.46	1.97	1.66	1.415	1.29



Type TNT. Oper. temp. —55° to +85°C. DC leakage less than 1 microamp after 10 min. of rated voltage. Tol., —15% to +75%.

Stk. No.	TNT Type	Cap. Mfd.	WVDC +85°	Case Size	Price Code
14F448	TNT356U012POB	35	12	.152x .475	B
14F447	TNT256U015POB	25	15	.152x .475	B
14F446	TNT156U030POB	15	30	.152x .475	B
14F497	TNT605U035POA	6	35	.152x .325	A
14F870	TNT126U035POB	12	35	.152x .475	B
14F495	TNT205U050POA	2	50	.152x .325	A
14F498	TNT405U050POA	4	50	.152x .325	A
14F445	TNT805U050POB	8	50	.152x .475	B

TNT Prices

Case Size	1-24	25-49	50-99	100-499	500-999
A	1.24	0.99	0.84	0,714	0.651
B	1.46	1.17	0.99	0.84	0.766

MALLORY Capacitors

MTA

MTV

MOLDED ALUMINUM ELECTROLYTICS

Molded polypropelene cases provides excellent protection as well as positive elec) frotype seal. MTA has axial leads, MTV has two #20 AWG leads ½" long spaced 0.200" apart. Both types rated for operation from —30° to +65°C. Tolerance: —10%+100%. DCL: less than .03 ua/ mf—volt (4 ua. max.).

MTA PRICES

Price Code	1-24	25-49	50-99	100-249	250-499	500-999	1000-Up
A	.36	.27	.24	.202	.179	.150	.130
B	.40	.30	.26	.220	.195	.164	.142
C	.45	.34	.30	.252	.222	.188	.162
D	.51	.38	.33	.280	.248	.209	.181
E	.54	.40	.35	.296	.262	.222	.191
F	.57	.43	.37	.315	.279	.235	.203

TYPE MTA — AXIAL LEADS

Stock No.	Type	Mfd.	WV DC	Size	Price Code
17F1746	175E3	175	3	½x1⅜"	C
17F1747	600F3	600	3	½x1⅜"	C
17F1748	50D6	50	6	5/16x¾"	A
17F1749	150E6	150	6	⅜x1"	B
17F1750	500F6	500	6	½x1⅜"	D
26F950	40D10	40	10	5/16x¾"	A
17F1751	100E10	100	10	⅜x1"	B
17F1752	200F10	200	10	½x1⅜"	C
26F951	400F10	400	10	½x1⅜"	E
26F952	30D15	30	15	5/16x¾"	A
17F1753	MTA50E15	50	15	⅜x1"	B
26F956	MTA100E15	100	15	½x1⅜"	B
17F1754	MTA250F15	250	15	½x1⅜"	D
17F1816	MTA300F15	300	15	½x1⅜"	F
26F958	MTA350F15	350	15	5/16x¾"	F
26F959	MTA25D20	25	20	½x1⅜"	A
17F1817	MTA60E20	60	20	⅜x1"	B
26F962	MTA250F20	250	20	⅜x1"	F
26F963	MTA50E25	50	25	½x1⅜"	B
17F1818	MTA175F25	175	25	½x1⅜"	E
26F965	MTA200F25	200	25	5/16x¾"	F
17F1819	MTA20D30	20	30	5/16x¾"	A
17F1820	MTA40E30	40	30	⅜x1"	B
17F1755	MTA10D35	10	35	⅜x1"	A
17F1821	MTA15D35	15	35	5/16x¾"	A
26F968	MTA25D35	25	35	½x1⅜"	B
17F1822	MTA35E35	35	35	⅜x1"	B
26F972	MTA100F35	100	35	5/16x¾"	D
17F1823	MTA125F35	125	35	½x1⅜"	E
26F974	MTA150F35	150	35	⅜x1"	F
26F975	MTA1D50	1	50	½x1⅜"	A
26F976	MTA2D50	2	50	½x1⅜"	A
17F1824	MTA3D50	3	50	5/16x¾"	A
17F1825	MTA4D50	4	50	5/16x¾"	A
26F977	MTA5D50	5	50	5/16x¾"	A
17F1826	MTA6D50	6	50	5/16x¾"	A
17F1827	MTA7D50	7	50	5/16x¾"	A
17F1828	MTA8D50	8	50	5/16x¾"	A
17F1829	MTA9F50	9	50	5/16x¾"	B
26F978	MTA10E50	10	50	⅜x1"	B
17F1830	MTA15E50	15	50	⅜x1"	B
26F981	MTA25F50	25	50	½x1⅜"	C
26F982	MTA30F50	30	50	½x1⅜"	C
26F985	MTA50F50	50	50	½x1⅜"	C
17F1831	MTA60F50	60	50	½x1⅜"	D
17F1832	MTA70F50	70	50	½x1⅜"	D
26F988	MTA80F50	80	50	½x1⅜"	E
17F1833	MTA5D75	5	75	5/16x¾"	C
17F1834	MTA15E75	15	75	⅜x1"	C
17F1835	MTA50E75	50	75	⅜x1"	D
17F1836	MTA1D100	1	100	5/16x¾"	C
17F1837	MTA2D100	2	100	5/16x¾"	C
17F1838	MTA3D100	3	100	5/16x¾"	C
17F1839	MTA4D100	4	100	5/16x¾"	C
17F1840	MTA5E100	5	100	⅜x1"	C
17F1841	MTA6E100	6	100	⅜x1"	C
17F1842	MTA8E100	8	100	⅜x1"	C
17F1843	MTA10E100	10	100	⅜x1"	C
17F1844	MTA15F100	15	100	½x1⅜"	C
17F1845	MTA25F100	25	100	½x1⅜"	D
17F1846	MTA30F100	30	100	½x1⅜"	D
17F1847	MTA40F100	40	100	½x1⅜"	D

TYPE MTV — PRINTED CIRCUIT

Stock No.	Type	Mfd.	WV DC	Size	Price Code
17F1756	MTV150CD3	150	3	⅜x1 5/16"	B
17F1759	MTV700DJ3	700	3	½x1¼"	E
17F1760	MTV1000DN3	1000	3	½x1½"	F
17F1761	MTV100CB6	100	6	⅜x1 3/16"	B
17F1762	MTV150CF6	150	6	⅜x1 1/16"	B
17F1763	MTV250CK6	250	6	⅜x1 5/16"	C
17F1804	MTV300CP6	300	6	⅜x1 9/16"	C
17F1764	MTV400DE6	400	6	½x1"	C
17F1765	MTV500DJ6	500	6	½x1¼"	D
17F1805	MTV750DN6	750	6	½x1½"	F
17F1766	MTV800DN6	800	6	½x1½"	F
17F1767	MTV100CD10	100	10	⅜x1 5/16"	B
17F1768	MTV250CP10	250	10	⅜x1 9/16"	C
17F1769	MTV400DJ10	400	10	½x1¼"	E
17F1770	MTV600DN10	600	10	½x1½"	F
17F1771	MTV500CB15	500	15	⅜x1 3/16"	B
17F1772	MTV100CF15	100	15	⅜x1 1/16"	B
17F1773	MTV150CK15	150	15	⅜x1 5/16"	C
17F1806	MTV200CP15	200	15	⅜x1 9/16"	D
17F1774	MTV250DE15	250	15	½x1"	D
17F1775	MTV500DN15	500	15	½x1½"	F
17F1807	MTV35CB25	35	25	⅜x1 3/16"	B
17F1776	MTV500CD25	500	25	⅜x1 5/16"	B
17F1808	MTV75CK25	75	25	⅜x1 5/16"	C
17F1777	MTV100CP25	100	25	⅜x1 9/16"	C
17F1809	MTV200DJ25	200	25	½x1¼"	F
17F1778	MTV250DN25	250	25	½x1½"	F
17F1779	MTV25CB25	25	35	⅜x1 3/16"	B
17F1790	MTV50CF35	50	35	⅜x1 1/16"	C
17F1780	MTV100DE35	100	35	½x1"	D
17F1781	MTV150DJ35	150	35	½x1¼"	F
17F1782	MTV200DN35	200	35	½x1½"	F
17F1783	MTV1CB50	1	50	⅜x1 3/16"	A
17F1784	MTV2CB50	2	50	⅜x1 3/16"	A
17F1810	MTV3CB50	3	50	⅜x1 3/16"	A
17F1785	MTV4C50	5	50	⅜x1 3/16"	A
17F1811	MTV5CB50	4	50	⅜x1 3/16"	A
17F1812	MTV6CB50	6	50	⅜x1 3/16"	A
17F1813	MTV8CB50	8	50	⅜x1 3/16"	B
17F1814	MTV15CD50	15	50	⅜x1 5/16"	C
17F1815	MTV35CG50	35	50	⅜x1 5/16"	B
17F1786	MTV10CB50	10	50	⅜x1 3/16"	C
17F1787	MTV25CF50	25	50	⅜x1 1/16"	C
17F1788	MTV50DE50	50	50	½x1"	C
17F1789	MTV100DN50	1000	50	½x1½"	F

MTV PRICES

Price Code	1-24	25-49	50-99	100-249	250-499	500-999	1000-Up
A	.40	.30	.26	.220	.195	.164	.143
B	.42	.32	.27	.230	.206	.173	.150
C	.48	.36	.31	.267	.237	.199	.172
D	.54	.40	.36	.283	.262	.222	.191
E	.56	.42	.37	.313	.277	.233	.201
F	.60	.45	.40	.331	.292	.247	.213

MTV-15-1 MALLOBIN

Assortment of high quality, low cost printed circuit MTV molded aluminum electrolytic capacitors. Contents include two each of 24 popular MTV ratings. From 750 MFD at 6WVDC to 100 MFD at 50 WVDC. Has 15 drawers clearly marked.

60F2294. NET 23.04

MTV CAPACITORS SUPPLIED

MTV500DP6
MTV100CB6
MTV250DE15
MTV100CF15
MTV25CB35
MTV250DN25
MTV10CB50
MTV5CB50
MTV100CD10
MTV750DN6
MTV35CB25
MTV500DN15
MTV200DN35
MTV100DE35
MTV35CK50
MTV25CF50
MTV90CD15
MTV50CB15
MTV100CP25
MTV50CD25
MTV2CB50
MTV1CB50
MTV100DN50
MTV50DE50

MALLORY

MOUNTING PLATES

For mounting "Twist-Prong" capacitors.
*For mounting 1" FP's in chassis punches for 1⅜" wafer.
†Mount 1" dia. can over a 1⅜" dia. hole.

FIG. A METAL		FIG. B PHENOLIC				
Stk. No.	Size	Stk. No.	Size	1-99	100-999	1000-Up
14F400	¾"	14F403	¾"	.18	.12	.09
14F401	1"	14F404	1"			
14F402	1⅛"†	14F405	1"*			
		14F406	1⅜"†			

MOUNTING SOCKETS—Fig. C

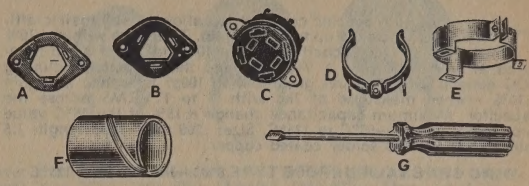
Stk. No.	Size. In.	1-24	25-49	50-99	100-249
29F549	1	.52	.42	.35	.28
29F550	1⅜	.76	.61	.51	.41

CLIPS — Fig. D

Stock No.	Size in.	1-99	100-999	1000-up
14F414	⅜ x 7/16	.12	.10	.08
14F415	½ x 9/16	.12	.10	.08
14F416	⅝ x 11/16	.12	.10	.08
14F417	¾ x 13/16	.15	.11	.09
14F418	⅞ x 15/16	.15	.11	.09
14F419	1 x1 1/16	.15	.11	.09
14F420	1⅜ x1 7/16	.15	.11	.09

CLAMPS—Fig. E

14F409	1 x1 1/16	.20	.15	.12
14F410	1⅜x1 7/16	.22	.17	.13
14F411	1½x1 9/16	.22	.17	.13
14F412	1¾x1 13/16	.27	.21	.16
14F413	2 x2 1/16	.40	.30	.24
60F2292	2½x2 9/16	.40	.30	.24
60F2113	3	.50	.38	.30



FIBER INSULATING SLEEVES—Fig. F

For Twist-Prong capacitors. Closed end. Weight 2 oz.

Stock No.	Size	1-99	100-999	1000-up
14F422	¾x2"	.15	.10	.08
14D423	1 x2"			
14F424	1 x3"			
14F425	1⅜x2"			
14F426	1⅜x3"			
14F427	1 x2½"			
14F428	1 x4"			
14F429	1⅜x2½"			
14F430	1⅜x4"			
60F2114	1 x3½"			
60F2115	1⅜x3½"			
60F2116	1 x1¾"			
60F2117	¾x1½"			

MOUNTING WRENCH—Fig.G

For locking "Twist-Prong" electrolytic capacitors securely into position. Shipping weight, 1 lb.
14F421 ..... **1.49**

PLASTIC CAPACITORS, INC.

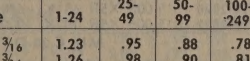
TYPE "OF" HIGH V. GLASS CAPACITORS

Plastic film dielectric. Useful for high voltage power filter. Mount in any position. Temperature range — 55°C. to +85°C. Tolerance ±10%. ⅜x8-32 screw terminals except * marked have tinned copper pigtails. Heavy wall, hard glass case.

Stk. No.	Type	Cap. Mfd.	Volts	Size	1-9	10-24	25-49	50-99	100-249
19F700	20-103*	.01	2000	13/16x1 9/32"	2.85	2.85	2.59	2.33	2.04
19F701	20-503	.05	2000	1¾x¾"	3.07	3.07	2.82	2.53	2.20
19F702	20-104	.10	2000	2¼x¾"	3.48	3.48	3.19	2.88	2.49
19F703	20-254	.25	2000	2¾x2 9/32"	3.96	3.96	3.63	3.25	2.18
19F704	30-103*	.01	3000	1 9/16x1 9/32"					
19F705	30-203	.05	3000	1¾x¾"	3.55	3.55	3.22	3.07	2.33
19F706	30-503	.10	3000	2¼x¾"	3.61		3.38	3.14	2.40
19F707	30-104	.25	3000	1¾x1 1/16"	4.23		3.94	3.65	2.78
19F1290	30-254	.50	3000	2x1⅜"	4.78	4.78	4.43	4.10	3.12
19F1291	30-504	.01	3000	2¾x1⅝"	5.95	5.95	5.54	5.15	3.90
19F708	50-103	.02	5000	1¾x¾"	4.58	4.58	4.11	3.84	3.34
19F709	50-203	.05	5000	2¼x¾"	5.10	5.10	4.51	4.26	3.65
19F710	50-503	.10	5000	2¼x2 9/32"	5.55	5.55	4.86	4.59	3.92
19F711	50-104	.001	5000	2¼x1⅜"	7.45	7.45	6.57	6.18	5.29
19F1292	50-102*	.02	5000	13/16x1 9/32"	4.51	4.51	4.00	3.75	3.24
19F1293	50-502*	.005	5000	1⅜x1 9/32"	4.56	4.56	4.05	3.81	3.29
19F1294	50-254	.25	5000	3x1⅝"	9.36	9.36	8.21	7.80	6.70
19F1295	50-504	.50	5000	6x1⅝"	10.79	10.79	9.50	9.00	7.70
19F1296	80-502*	.005	8000	1¾x¾"	4.85	4.85	4.26	4.00	3.52
19F1297	80-103	.01	8000	2¼x¾"	5.37	5.18	4.59	4.33	3.73
19F1298	80-104	.10	8000	3⅝x1⅝"	9.88	8.49	7.92	7.25	6.09
19F712	100-102*	.001	10KV	1⅜x1 9/32"	4.82	4.82	4.20	4.06	3.55
19F713	100-502	.005	10KV	1¾x1 3/16"	5.86	5.26	4.85	4.55	3.95
19F714	100-103	.01	10KV	2¼x2 9/32"	6.46	5.91	5.36	5.02	4.37
19F715	100-203	.02	10KV	2¾x1 1/8"	8.53	7.78	7.03	6.61	5.73
19F1299	150-103	.01	15KV	3¾x1 1/16"	10.36	9.47	8.59	8.02	7.01
19F716	200-102	.001	20KV	3½x¾"	9.90	9.02	8.13	7.44	6.36
19F717	200-202	.002	20KV	3½x1 3/16"	10.27	9.33	8.45	7.69	6.62
19F718	200-502	.005	20KV	3½x1 1/8"	11.02	10.03	9.07	8.26	7.12
19F719	200-103	.01	20KV	4½x1 1/8"	13.11	11.91	10.71	9.85	8.45
19F720	300-501*	.0005	30KV	4 1/16x1 9/32	9.98	9.06	8.20	7.54	6.48
19F722	300-202	.002	30KV	5x2 9/32"	15.92	14.57	13.10	11.94	10.23
19F723	300-502	.005	30KV	5x1⅜"	19.59	17.76	15.68	14.70	12.85
19F724	600-501	.0005	60KV	10x¾"	17.69	16.22	14.73	13.64	11.43
19F725	600-102	.001	60KV	10x2 9/32"	21.41	19.59	17.45	16.49	13.81
19F726	600-202	.002	60KV	10x1⅜"	22.99	21.06	19.16	17.71	14.85

TYPE AM METAL CLAD MINIATURE CAPACITORS

Type AM metal clad miniature capacitors utilize metalized mylar film as the solid dielectric and are hermetically sealed. High performance exceeding the most rigid tests for humidity and temperature. Windings are extended foil (non-inductive) construction. The capacitors are self healing and non-sparking. Tolerance is 20%. Sizes shown are for diameter and length. Power factor is less than 1% at 25°C. Temp. Range +125°C.



200 WORKING VOLTS DC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
19F1562	AM2-104	.1	.235x1 3/16	1.23	.95	.88	.78
19F1564	AM2-224	.22	.312x1 3/16	1.26	.98	.90	.81
19F1568	AM2-105	1.0	.562x1⅛	1.79	1.39	1.28	1.14
19F1569	AM2-205	2.0	.670x1 5/16	2.43	1.89	1.74	1.56
19F1570	AM2-405	4.0	.670x1 13/16	3.08	2.39	2.20	1.97
19F1571	AM2-505	5.0	.750x1 13/16	3.22	2.50	2.30	2.06
19F1572	AM2-805	8.0	1.000x1 13/16	4.74	3.69	3.39	3.04
19F1573	AM2-106	10.0	1.000x2 5/16	6.11	4.75	4.36	3.91

300 WORKING VOLTS DC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
19F1580	AM3-104	.10	.312x1 3/16	1.24	.97	.89	.80
19F1582	AM3-224	.22	.400x1⅛	1.38	1.07	.99	.88
19F1583	AM3-334	.33	.400x1⅛	1.45	1.13	1.04	.93
19F1584	AM3-474	.47	.562x1⅛	1.72	1.33	1.23	1.10
19F1586	AM3-105	1.0	.562x1 9/16	2.00	1.55	1.43	1.28
19F1587	AM3-205	2.0	.670x1 13/16	3.08	2.39	2.20	1.97
19F1588	AM3-405	4.0	1x1 9/16	4.25	3.30	3.04	2.72
19F1599	AM3-505	5.0	1x2 5/16	4.78	3.71	3.41	3.06

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ERIE Capacitors

SUBMINIATURE MONOBLOC CERAMIC CAPACITORS

Type 8003

Monobloc construction allows a volumetric efficiency up to 20mf/cu. in. Tolerance within ±10% for capacitance from 10 pf to 100 pf when measured at 1mc with .5 to 1 VRMS across the capacitor including COG dielectric. For values greater than 100pf tolerance is within ±10% —when measured at 1kc with .5 to 1 VRMS across the capacitor. Maximum capacitance change ±15% of the 25°C value over temp. range —55°C to 125°C. Size: .260 max. lead length 1.5 min. Leads 22AWG solder coated copper.

W5RO GENERAL-PURPOSE TYPE 8003—100 VDCW @ 125°C

Stock No.	Type	Cap. (pf.)	1-49	50-99	100-249	250-499	500-999
19F2534	8003-000 W5RO 181K	180					
19F2535	8003-000 W5RO 221K	220					
19F2537	8003-000 W5RO 331K	330					
19F2539	8003-000 W5RO 471K	470					
19F2540	8003-000 W5RO 561K	560					
19F2541	8003-000 W5RO 681K	680	.81	.59	.49	.41	.35
19F2543	8003-000 W5RO 102K	1000					
19F2544	8003-000 W5RO 122K	1200					
19F2545	8003-000 W5RO 152K	1500					
19F2546	8003-000 W5RO 182K	1800	.84	.62	.50	.42	.36
19F2547	8003-000 W5RO 222K	2200	.84	.62	.50	.42	.36
19F2548	8003-000 W5RO 272K	2700	.84	.62	.50	.42	.36
19F2549	8003-000 W5RO 332K	3300	.84	.62	.50	.42	.36
19F2550	8003-000 W5RO 392K	3900	.90	.66	.54	.45	.39
19F2551	8003-000 W5RO 472K	4700	.90	.66	.54	.45	.39
19F2552	8003-000 W5RO 562K	5600	.90	.66	.54	.45	.39
19F2553	8003-000 W5RO 682K	6800	.99	.73	.59	.50	.43
19F2555	8003-000 W5RO 103K	10000	1.05	.77	.63	.53	.46
19F2556	8003-000 W5RO 123K	12000	1.17	.86	.70	.59	.51
19F2557	8003-000 W5RO 153K	15000	1.50	1.10	.90	.75	.65
19F2559	8003-000 W5RO 223K	22000	2.31	1.69	1.39	1.16	1.00

NPO HIGH STABILITY TYPE 8003-100 VDCW @ 125°C

19F2560	8003-000 COGO 100K	10	.90	.66	.54	.45	.39
19F2562	8003-000 COGO 150K	15	.90	.66	.54	.45	.39
19F2564	8003-000 COGO 220K	22					
19F2565	8003-000 COGO 270K	27	.99	.73	.59	.50	.43
19F2566	8003-000 COGO 330K	33					
19F2568	8003-000 COGO 470K	47	1.08	.79	.65	.54	.47
19F2572	8003-000 COGO 101K	100	1.29	.95	.77	.65	.56
19F2573	8003-000 COGO 121K	120	1.29	.95	.77	.65	.56
19F2574	8003-000 COGO 151K	150	1.38	1.01	.83	.69	.60

W5R GENERAL PURPOSE TYPE 8123 & 8133—100 VDC @ 125°C

19F2580	8123-000 W5RO 681K	680					
19F2582	8123-000 W5RO 102K	1000					
19F2586	8133-000 W5RO 222K	2200	.66	.48	.40	.33	.29
19F2588	8133-000 W5RO 332K	3300					
19F2590	8133-000 W5RO 472K	4700	.69	.51	.41	.35	.30
19F2592	8133-000 W5RO 682K	6800	.69	.51	.41	.35	.30
19F2594	8133-000 W5RO 103K	10000	.72	.53	.43	.36	.31
19F2598	8133-000 W5RO 223K	22000	.81	.59	.49	.41	.35
19F2600	8133-000 W5RO 333K	33000	.84	.62	.50	.42	.36
19F2602	8133-000 W5RO 473K	47000	1.17	.86	.70	.59	.51
19F2604	8133-000 W5RO 683K	68000	1.50	1.10	.90	.75	.65
19F2606	8133-000 W5RO 104K	100000	1.56	1.14	.94	.78	.68

NPO HIGH STABILITY TYPE 8123 & 8133— 100 VDCW @ 125°C EXCEPT (*) 25 VDCW

Specified Temperature Range over which maximum capacitance change is guaranteed. —55°C to 125°C. **Type 8123. Size:** Width .200, height .200, thickness .100 spacing .200 **Type 8133. Size:** Width .300, height .200, thickness .100, spacing .200.

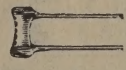
Stock No.	Type	Cap (pf)	1-49	50-99	100-249	250-499	500-999
19F2607	8123-000 COGO 100K	10					
19F2608	8123-000 COGO 120K	12					
19F2609	8123-000 COGO 150K	15	.81	.59	.49	.41	.35
19F2611	8123-000 COGO 220K	22					
19F2613	8123-000 COGO 330K	33	.90	.66	.54	.45	.39
19F2615	8123-000 COGO 470K	47					
19F2617	8123-000 COGO 680K	68					
19F2619	8123-000 COGO 101K	100	1.08	.79	.65	.54	.47
19F2623	8123-000 COGO 221K	220	1.26	.92	.76	.63	.55
19F2625	8133-000 COGO 331K	330	1.20	.88	.72	.60	.52
19F2627	8133-000 COGO 471K	470	1.38	1.01	.83	.69	.60
19F2628	8133-000 COGO 561K	560	1.38	1.01	.83	.69	.60
19F2629	8133-000 COGO 681K	680	1.38	1.01	.83	.69	.60
19F2630	8133-000 COGO 821K	820	1.50	1.10	.90	.75	.65
19F2631	8133-000 COGO 102K	1000	1.50	1.10	.90	.75	.65
19F3358	8133-000 Z5UO 154M*	150000	1.02	.75	.61	.51	.44
19F3359	8133-000 Z5UO 224M*	220000	1.14	.84	.68	.57	.49
19F3360	8133-000 Z5UO 334M*	330000	1.38	1.01	.83	.69	.60
19F3361	8133-000 Z5UO 474M*	470000	1.59	1.17	.95	.80	.69

TYPE 390-000 SUB-MINIATURE MOLDED CAPACITORS

Meets military specifications MIL-C-11015 with a cap. range up to 300 pf ±10%, 20%; 390-680 pf ±20%+100-0% (GMV); 820 and above +100-0% (GMV). Working voltage of 100 volts DC at 85°C, or 50 volts at 125°C. Constructed of high quality molded plastic to assure resistance against moisture and humidity. Dia., —.100; L—.260 Lead L—1.50 min. #22 AWG (.025) tinned copper leads.

Stk. No.	Type 390-000	Mmf.	Tol.	1-49	50-99	100-249	250-499	500-999	1M-5M
19F1709	X5PO 569K	5.6	±10%						
19F1710	X5PO 689K	6.8	±10%						
19F1711	X5PO 829K	8.2	±10%						
19F1712	X5PO 100K	10	±10%						
19F1713	X5PO 120K	12	±10%						
19F1714	X5PO 150K	15	±10%						
19F1716	X5PO 220K	22	±10%						
19F1718	X5PO 330K	33	±10%	.64	.48	.40	.288	.272	.160
19F1719	X5PO 390K	39	±10%						
19F1720	X5PO 470K	47	±10%						
19F1722	X5PO 680K	68	±10%						
19F1723	X5PO 820K	82	±10%						
19F1724	X5PO 101K	100	±10%						
19F1728	X5TO 221K	220	±10%						
19F1730	X5TO 331K	330	±10%						
19F1732	X5UO 471M	470	±20%	.596	.447	.373	.268	.253	.149
19F1734	X5UO 681M	680	±20%	.596	.447	.373	.268	.253	.149
19F1736	X5VO 102P	1000	GMV	.552	.414	.345	.248	.235	.138

TYPE NPO CERAMICONS



301

Tubular capacitors for frequency determining application. Also used as temp. compensating elements in circuits which must be temp. stabilized. Shpg. wt. 1 oz. Size: 301; D-.200, L-.400 Lead sp.-.250; 316 same as 315.

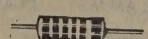
±.25 PF TOL.

Stk.No.	Type	T.Co NPO	Cap pf	1-49	50-99	100-249	250-499	500-999	1M-5M
19F1092	301-000 COKO 508C	±250	0.5						
19F1093	301-000 COKO 688C	±250	0.68						
19F1094	301-000 COKO 109C	±250	1.0	.132	.099	.083	.059	.056	.033
19F500	301-000 COKO 159C	±250	1.5						
19F2823	301-000 COKO 209C	±250	2.0	.124	.093	.078	.056	.053	.031
19F1096	301-000 COJO 229C	±120	2.2	.124	.093	.078	.056	.053	.031
19F501	301-000 COJO 309C	±120	3.0						
19F502	301-000 COJO 339C	±120	3.3						
19F503	301-000 COHO 479C	±60	4.7	.132	.099	.033	.059	.056	.033
19F504	301-000 COHO 509C	±60	5.0						
19F505	301-000 COHO 689C	±60	6.8	.26	.195	.163	.117	.111	.065
19F506	301-000 COHO 829C	±60	8.2	.26	.195	.163	.117	.111	.065
19F507	301-000 COHO 100C	±60	10.0	.26	.195	.163	.117	.111	.065

±5% TOL

19F2824	301-000 COGO 120J	±30	12.0						
19F2825	301-000 COGO 150J	±30	15.0						
18F2826	301-000 COGO 180J	±30	18.0	.132	.099	.083	.059	.056	.033
19F2827	301-000 COGO 200J	±30	20.0						
19F2828	301-000 COGO 220J	±30	22.0						
19F2829	301-000 COGO 240J	±30	24.0						

GENERAL PURPOSE CERAMICONS—500 VDC



Reliability at low cost. Tolerance, ±10%; characteristic X5R. Capacitance within tolerance @ 1 kc, 25°C., with 0.5 to 5 V RMS across piece, Size: O-.250, L-.562.

Stk. No.	Type	Cap. (pf)	1-49	50-99	100-249	250-499	500-999	1M-5M
19F2808	315-005 X5R 101K	100	.212	.159	.133	.095	.090	.053
19F2809	315-005 X5R 151K	150	.228	.171	.143	.103	.097	.057
19F2811	315-005 X5R 221K	220						
19F2818	315-005 X5R 501K	500	.228	.171	.143	.103	.097	.057
19F2820	315-005 X5R 681K	680						
19F2822	315-005 X5R 102K	1000						

MIL C-20-D TUBULARS

Ideally suited for applications where temperature coefficient is not important. Ceramicons meet performance specifications of E1A Standard RS109 for class 1; temp. comp. class 2 HI-K.

Stk. No.	Mil. Type	Mmf.	Body Style	1-49	50-99	100-249	250-499	500-999	1M-5M
19F2200	CC20 CH 040C	4	301	.292	.219	.183	.131	.124	.073
19F2201	CC20 CH 050C	5	301	.292	.219	.183	.131	.124	.073
19F2202	CC20 CH 060C	6	301	.420	.315	.263	.189	.179	.105
19F2204	CC20 CH 080C	8	301	.420	.315	.263	.189	.179	.105
19F2206	CC20 CH 100C	10	301	.420	.315	.263	.189	.179	.105
19F2835	CC20 CH 120G	12	301	.468	.351	.293	.199	.199	.117
19F2839	CC20 CH 220G	22	301	468	.351	.293	.199	.199	.117

RED CAPS

Encapsulated with JET-SEAL, a hard, bright polymeric coating, formulated to provide mechanical and electrical protection under the most severe environmental conditions. Meet requirements of MIL-C-20 and MIL-C-11015. Size height .300 width .300 and spacing .200.

MAX DIM'S

Type	W&H	T	Lead Spacing	Type	W&H	T	Lead Spacing
8101	.100	.100	100	8131	.300	.150	200
8111	.150	.100	100	8141	.400	. .	. .
8121	.200	.125	100	8151	.500	. .	400

100 VOLT GENERAL PURPOSE CAPACITORS

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499	500-999
17F110	8121050651103M	.01	.42	.31	.25	.21	.18
17F111	8121050651153M	.015	.45	.33	.27	.23	.20
17F112	8121050651223M	.022	.51	.37	.31	.26	.22
17F113	8121050651273M	.027	.57	.42	.34	.29	.25
17F114	8121050651333M	.033	.63	.46	.38	.32	.27
17F115	8121050651473M	.047	.69	.51	.41	.35	.30
17F116	8121050651683M	.068	.81	.59	.49	.41	.35
17F117	8121050651104M	.100	.96	.70	.58	.48	.42
17F118	8121050651154M	.15	1.08	.79	.65	.54	.47
17F119	8131050651224M	.22	.81	.59	.49	.41	.35
17F120	8131050651334M	.33	.96	.70	.58	.48	.42
17F121	8131050651474M	.47	1.14	.84	.68	.57	.49
17F122	8131050651684M	.68	1.23	.90	.74	.62	.53
17F123	8131050651105M	1.00	1.59	1.17	.95	.80	.69
17F124	8141050651115M	1.10	2.34	1.72	1.40	1.17	1.01
17F125	8141050651225M		3.18	2.33	1.90	1.59	1.38
17F126	8151050651335M	3.3	4.47	3.28	2.68	2.24	1.94
17F127	8151050651475M	4.7	5.70	4.18	3.42	2.85	2.47

50 VOLT

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499	500-999
19F3544	8121-100-651-103M	.01	.48	.35	.29	.24	.21
19F3546	8121-100-651-223M	.022	.60	.44	.36	.30	.26
19F3549	8121-100-651-473M	.047	.81	.59	.49	.41	.35
19F3551	8131-100-651-104M	.1	.78	.57	.47	.39	.34
19F3552	8131-100-651-154M	.15	.84	.62	.50	.42	.36
19F3553	8131-100-651-224M	.22	.93	.68	.56	.47	.40
19F3555	8131-100-651-334M	.33	1.11	.81	.67	.56	.48
19F3556	8131-100-651-474M	.47	1.44	1.06	.86	.72	.62
19F3558	8141-100-651-105M	1.0	2.19	1.61	1.31	1.10	.95
19F3560	8151-100-651-225M	2.2	3.99	2.93	2.39	2.00	1.73

100 VOLT ULTRA MMF CAPACITORS

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499	500-999
19F3500	8101-100-COGO-479D	4.7	.36	.26	.22	.16	.16
19F3502	8101-100-COGO-100K	10	.36	.26	.22	.18	.16
19F3504	8111-100-COGO-220K	22	.36	.26	.22	.18	.16
19F3505	8121-100-COGO-330K	33	.33	.24	.20	.17	.14
19F3506	8121-100-COGO-470K	47	.60	.44	.36	.30	.26
19F3508	8121-100-COGO-101K	100	.66	.48	.40	.33	.29
19F3510	8121-100-COGO-221K	220	.78	.57	.47	.39	.34
19F3511	8121-100-COGO-331K	330	.90	.66	.54	.45	.39
19F3512	8121-100-COGO-471K	470	1.05	.77	.63	.53	.46
19F3513	8121-100-COGO-681K	680	1.26	.92	.76	.63	.55
19F3514	8121-100-COGO-102K	1000	1.56	1.14	.94	.78	.68
19F3516	8131-100-COGO-222K	2200	1.62	1.19	.97	.81	.70
19F3517	8131-100-COGO-332K	3300	2.10	1.54	1.26	1.05	.91
19F3518	8141-100-COGO-472K	4700	3.06	2.24	1.84	1.53	1.33
19F3519	8141-100-COGO-682K	6800	4.14	3.04	2.48	2.07	1.79
19F3520	8141-100-COGO-103K	10000	5.64	4.14	3.38	2.82	2.44

100 VOLT STABLE

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499	500-999
19F3522	8101-100-W5RO-221K	220	.36	.26	.22	.18	.16
19F3524	8111-100-W5RO-471K	470	.36	.26	.22	.18	.16
19F3526	8121-100-W5RO-102K	1000	.33	.24	.20	.17	.14
19F3527	8121-100-W5RO-152K	1500	.33	.24	.20	.17	.14
19F3528	8121-100-W5RO-222K	2200	.42	.31	.25	.21	.18
19F3530	8121-100-W5RO-472K	4700	.45	.33	.27	.23	.20
19F3531	8121-100-W5RO-682K	6800	.51	.37	.31	.26	.22
19F3532	8121-100-W5RO-103K	10K	.60	.44	.36	.30	.26
19F3533	8131-100-W5RO-153K	15K	.75	.55	.45	.38	.33
19F3534	8131-100-W5RO-223K	22K	.87	.64	.52	.44	.38
19F3535	8131-100-W5RO-333K	33K	.96	.70	.58	.48	.42
19F3538	8131-100-W5RO-104K	100K	1.74	1.28	1.04	.87	.75
19F3539	8141-100-W5RO-224K	220K	3.72	2.73	2.23	1.86	1.61
19F3540	8151-100-W5RO-334K	330K	4.68	3.43	2.81	2.34	2.03

GENERAL PURPOSE CERAMICONS

851 811 841

Silver fired ceramic dielectric. 1000 DCWV, 1500 VDC test. Tolerance: (*±.25%), (**±.5%), (†±5%), (††±20%). Shpg. wt. 1 oz.

KEY FOR CERAMICONS

Type	Diameter	Lead Spacing	Thickness
831	.290	.250	.156
801	.360	.250	.156
811	.593	.375	.156
841	.675	.375	.156
851	.437	.250/.375	.156

Stk. No.	Type	Cap. (pf.)	1-49	50-99	100-249	250-499	500-999
19F2683	831-000-COGO-509C	5.0*	.10	.08	.063	.045	.043
19F2685	831-000-COGO-100D	10.0**	.10	.08	.063	.045	.043
19F2686	831-000-COGO-120J	12.0†	.10	.08	.063	.045	.043
19F2687	801-000-COGO-150J	15.0†	.10	.08	.063	.045	.043
19F2689	801-000-COGO-200J	20.0†	.10	.08	.063	.045	.043
19F2690	801-000-COGO-220J	22.0†	.10	.08	.063	.045	.043
19F2691	851-000-COGO-270J	27.0†	.10	.08	.063	.045	.043
19F2692	851-000-COGO-330J	33.0†	.10	.08	.063	.045	.043
19F2693	851-000-COGO-470J	47.0†	.10	.08	.063	.045	.043
19F2713	841-000 COGO 101J	100.0†	.124	.09	.078	.056	.053
19F2694	831-000 U2JO 100D	10.0**	.10	.08	.063	.045	.043
19F2695	831-000 U2JO 120J	12.0†	.10	.08	.063	.045	.043
19F2696	831-000 U2JO 150J	15.0†	.10	.08	.063	.045	.043
19F2697	831-000 U2JO 180J	18.0†	.10	.08	.063	.045	.043
19F2698	831-000 U2JO 200J	20.0†	.10	.08	.063	.045	.043
19F2699	831-000 U2JO 220J	22.0†	.10	.08	.063	.045	.043
19F2700	831-000 U2JO 270J	27.0†	.10	.08	.063	.045	.043
19F2701	831-000 U2JO 330J	33.0†	.10	.08	.063	.045	.043
19F2703	801-000 U2JO 470J	47.0†	.10	.08	.063	.045	.043
19F2704	801-000 U2JO 500J	50.0†	.10	.08	.063	.045	.043
19F2705	801-000 U2JO 560J	56.0†	.10	.08	.063	.045	.043
19F2706	851-000 U2JO 680J	68.0†	.10	.08	.063	.045	.043
19F2709	851-000 U2JO 101J	100.0†	.10	.08	.063	.045	.043
19F2718	831-000 X5FO 470K	47.0	.15	.11	.095	.068	.065
19F2719	831-000 X5FO 560K	56.0	.15	.11	.095	.068	.065
19F2720	831-000 X5FO 680K	68.0	.15	.11	.095	.068	.065
19F2721	831-000 X5FO 101K	100.0	.15	.11	.095	.068	.065
19F2722	831-000 X5FO 151K	150.0	.15	.11	.095	.068	.065
19F2723	831-000 X5FO 201K	200.0	.15	.11	.095	.068	.065
19F2724	831-000 X5FO 221K	220.0	.15	.11	.095	.068	.065
19F2725	831-000 X5FO 271K	270.0	.15	.11	.095	.068	.065
19F2726	831-000 X5FO 331K	330.0	.15	.11	.095	.068	.065
19F2727	831-000 X5FO 391K	390.0	.15	.11	.095	.068	.065
19F2728	831-000 X5FO 471K	470.0	.15	.11	.095	.068	.065
19F2729	831-000 X5FO 501K	500.0	.15	.11	.095	.068	.065
19F2730	801-000 X5FO 681K	680.0	.15	.11	.094	.068	.064
19F2731	801-000 X5FO 102K	1,000.0	.15	.11	.094	.068	.064
19F2732	851-000 X5FO 152K	1,500.0	.15	.11	.094	.068	.064
19F2733	871-000 X5FO 202K	2,000.0	.16	.12	.099	.071	.067
19F2734	811-000 X5FO 222K	2,200.0	.16	.12	.10	.072	.068
19F2735	811-000 X5FO 332K	3,300.0	.16	.12	.10	.072	.068
19F2736	811-000 X5RO 472K	4,700.0	.12	.09	.075	.054	.051
19F2737	811-000 X5RO 502K	5,000.0	.12	.09	.075	.054	.051
19F2738	811-000 Z5UO 103M	10,000.0††	.13	.10	.080	.058	.054
19F2739	841-000 Z5UO 153M	15,000.0††	.16	.12	.099	.071	.067
19F2740	841-000 X5UO 203M	20,000.0††	.16	.12	.099	.071	.067

TRANSCAPS

Use in transistorized, filtering and by-pass applications. .156" thick. All char. Y5F. PF max is 8%. IR (min) ohms, is 1,000,000 for 5655 and 5615. Life, at 85°C. and rated voltage, is 500 hours. All are rated at ±20% tol. Shpg. wt., 1 oz.
Lead spacing.250 except type 5615, 5645 and 5685 which are .325.

12 VOLT

Stk. No.	Type	Dia.	Mf	1-49	50-99	100-249	250-499	500-999	1000-4999
19F2802	5635-000 Y5F0 503M	.275	.05	.22	.16	.135	.097	.092	.054
19F2803	5655-000 Y5F0 104M	.420	.1	.22	.17	.140	.101	.095	.056
19F2804	5615-000 Y5F0 224M	.550	.22	.34	.25	.21	.151	.143	.084
19F2805	5645-000 Y5F0 334M	.660	.33	.44	.33	.275	.198	.187	.110
19F2806	5685-000 Y5F0 474M	.800	.47	.55	.41	.345	.248	.235	.138

25-VOLT

19F2085	5835-000 Y5U0-103Z	.01	290	.20	.15	.125	.09	.085	.050
19F2086	5835-000 Y5U0-203Z	.02	290	.24	.18	.15	.108	.102	.06
19F2087	5855-000-Y5U0-503Z	.05	437	.30	.23	.189	.136	.128	.076
19F2088	5815-000-Y5U0-104Z	.1	593	.32	.24	.200	.144	.136	.08
19F2089	5815-000-Y5U0-204Z	.2	593	.62	.47	.388	.279	.264	.155
19F1707	5865-000-Y5U0-224Z	.22	895	.48	.36	.30	.216	.204	.120
19F1708	5865-000-Y5U0-474Z	.47	895	.94	.70	.588	.423	.400	.235

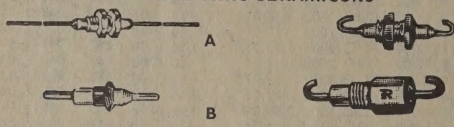
ERIE Capacitors and Trimmers

MIL-C-11015C DISC CERAMICS

Capacitors meet requirements for TV, industrial electronics and military equipment at 85°C. All .156" thick. Style 831: .290 disc. dia., .250 lead spacing. Style 801: 360 disc dia., .250 lead spacing. Style 811: .539 disc. dia., .357 lead spacing. Style 841: .675 disc. dia. .375 lead spacing. 500 VDC. 1500 VDC Flash Test. Shpg. Wt., 1 oz.

Stk. No.	Mil. No.	Cap. (pf)	1-49	50-99	100-249	250-499	500-999
19F2750	CK60BX470K	47.0	.23	.18	.146	.105	.099
19F2754	CK60BX101K	100.0	.23	.18	.146	.105	.099
19F2756	CK60BX151K	150.0	.23	.18	.146	.105	.099
19F2762	CK60AX471K	470.0	.19	.15	.121	.087	.082
19F2764	CK60AW471M	470.0	.18	.14	.114	.082	.077
19F2765	CK60AW681M	680.0	.18	.14	.114	.082	.077
19F2766	CK60AW821M	820.0	.18	.14	.114	.082	.077
19F2767	CK60AW102M	1,000.0	.18	.14	.114	.082	.077
19F2769	CK61BX221K	220.0	.23	.18	.146	.105	.099
19F2773	CK61BX471K	470.0	.23	.18	.146	.105	.099
19F2777	CK61AW222M	2,200.0	.18	.14	.114	.082	.077
19F2778	CK62AY220M	22.0	.21	.16	.130	.094	.088
19F2785	CK62BX102K	1,000.0	.24	.18	.149	.107	.101
19F2787	CK62BX152K	1,500.0	.24	.18	.149	.107	.101
19F2789	CK62AX222K	2,200.0	.20	.15	.124	.089	.084
19F2791	CK62AW332M	3,300.0	.21	.16	.13	.094	.088
19F2792	CK62AW472M	4,700.0	.21	.16	.13	.094	.088
19F2794	CK62AW822M	8,200.0	.21	.16	.13	.094	.088
19F2795	CK63BX222K	2,200.0	.26	.19	.16	.115	.109
19F2797	CK63BX332K	3,300.0	.26	.19	.16	.115	.109
19F2800	CK63AY103M	10,000.0	.22	.17	.138	.099	.094
19F2801	CK63AW103M	10,000.0	.24	.18	.149	.107	.101

FEED-THRU CERAMICONS



Types 362 and 327 have tie-point terminals; provide point to point wiring. 20%. Tol. 500 WVDC. Size: 327 ($1\frac{1}{4}$x$\frac{5}{16}$) 357 and 362 (.625x$\frac{5}{16}$), 2404 (.375x.150). Lock washers available on request. Shpg. wt., 1 oz.

Stk. No.	Type	Fig.	Mmf.	1-49	50-99	100-249	250-499	500-999
19F1780	327-005-X5U0-102M	D	1000	1.62	1.21	1.01	.729	.689
19F1781	327-005-X5U0-152M	D	1500	1.62	1.21	1.01	.729	.689
19F1783	357-000-X5U0-102M	C	1000	1.12	.843	.703	.506	.478
19F1784	357-000-X5U0-152M	C	1500	1.12	.843	.703	.506	.478
19F1785	362-000-X5U0-102M	A	1000	1.12	.843	.703	.506	.478
19F1786	362-000-X5U0-152M	A	1500	1.12	.843	.703	.506	.478
19F1787	2404-000-U2M0-500M	B	50	.224	.168	.14	.101	.095
19F1788	2404-000-X5U0-101M	B	100	.224	.168	.14	.101	.095
19F1789	2404-000-X5U0-102P	B	1000	.224	.168	.14	.101	.095
19F1790	2404-014-X5U0-501M	...	500	.18	.135	.113	.081	.077
19F1791	2404-014-X5U0-102P	...	1000	.18	.135	.113	.081	.077
19F2857	2443-000-X5S0-102M	...	1000	1.36	1.02	.85	.62	.578
19F2861	2499-003-X5S0-102M	...	1000	1.5	1.125	.938	.675	.638
19F2862	2499-003-X5S0-152M	...	1500	1.5	1.125	.938	.675	.638

Fig. D—CK-70 Series Mil-C-11015C Feed-Thru Ceramicons. Body style 327. Size 1.25Hx$\frac{5}{16}$"

Stk. No.	Mil. Type	Mmf.	Tol.	1-49	50-99	100-249	250-499	500-999
19F2149	CK70 AW 102M	1000	±20	1.884	1.413	1.178	.848	.801
19F2150	CK 70 AW 152M	1500	±20	1.884	1.413	1.178	.848	.801

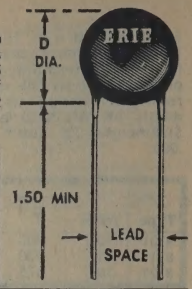
BUTTON MICA CAPACITORS

Designed for use where compact size, minimum series inductance, and high leakage resistance are essential. Temp. range: —55°C to +85°C. Tol: 10% except (*) 5%.

Stk. No.	Type	Mil No. CB11-	Cap. (pf)	1-49	50-99	100-249	250-499	500-999
19F3082	654-017 150K	RD150K	15	.86	.71	.57	.428	.314
19F3396	654-017 240K	RD240K	24	.86	.71	.57	.428	.314
19F3397	654-017 470K	RD470K	47	.86	.71	.57	.428	.314
19F3085	654-017 101K	RD101K	100	.86	.71	.57	.428	.314
19F3398	654-017 241K	RD241K	240	.86	.71	.57	.428	.314
19F3400	654-017 471J*	RD471J	470	1.28	1.06	.85	.638	.468
19F3092	654-017 102J*	RD102J	1K	2.13	1.78	1.42	1.065	.781
19F3392	662-003 101K	PD101K	100	.84	.70	.56	.42	.308
19F3080	662-003 102K	PD102K	1K	1.70	1.41	1.13	.848	.622

100 V TRANSISTOR CAPACITORS

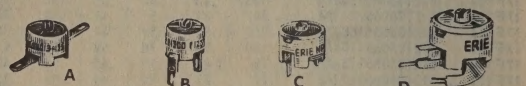
Ultra miniature. Capacitance Tol. 80% to 20%. Style 835, 805, & 855 have a thickness of .125 and lead spacing of .250. Style 845 has a thickness of .125 and lead spacing of .375. Style *845 have a thickness of .172 and lead spacing of .375 with a duel Ceramicon. Shpg. wt., 1 oz.



Type	D-Dia.	T.-Thick.	Lead Spacing
835	.275	.125	.250
805	.344	.125	.250
855	.420	.125	.250
845	.655	.125	.375
845*	.675	.172	.375

Stk. No.	Type	Mf.	1-49	50-99	100-249	250-499	500-999	1M-5M
19F1700	835-000-X5V0-502Z	.005	.12	.09	.078	.056	.053	.031
19F1701	805-000-X5V0-103Z	.01	.20	.15	.128	.092	.087	.051
19F1702	855-000-X5V0-203Z	.02	.20	.15	.128	.092	.087	.051
19F1704	845-000-X5V0-473Z	.047	.27	.20	.166	.12	.113	.067
19F1705	845-000-X5V0-503Z	.05	.27	.20	.166	.12	.113	.067
19F1706	845-000-X5V0-104Z	.1	.67	.50	.412	.299	.283	.166

MINIATURE CERAMIC DISC TRIMMERS



Stk. No.	Type	Fig.	Mmf. Range	1-49	50-99	100-249	250-499	500-999
19F2090	538-000A-2-8	A	2-8	1.69	1.35	1.125	.675	.563
19F2091	538-000A-5.5-18	A	5.5-18	1.69	1.35	1.125	.675	.563
19F2092	538-000A-2.5-11	A	2.5-11	1.69	1.35	1.125	.675	.563
19F2093	538-000A-7-25	A	7-25	1.69	1.35	1.125	.675	.563
19F2095	538-000C-8-25	A	8-25	1.69	1.35	1.125	.675	.563
19F2096	538-000D-3-15	A	3-15	1.69	1.35	1.125	.675	.563
19F2097	538-000D-9-35	A	9-35	1.69	1.35	1.125	.675	.563
19F2893	538-000F-15-60	A	15-60	1.98	1.59	1.317	.787	.653
19F2098	538-002A-2-8	B	2-8	1.69	1.35	1.125	.675	.563
19F2099	538-002A-5.5-18	B	5.5-18	1.69	1.35	1.125	.675	.563
19F2100	538-002B-2.5-11	B	2.5-11	1.69	1.35	1.125	.675	.563
19F2101	538-002B-7-25	B	7-25	1.69	1.35	1.125	.675	.563
19F2102	538-002C-3-10	B	3-10	1.69	1.35	1.125	.675	.563
19F2103	538-002C-8-25	B	8-25	1.69	1.35	1.125	.675	.563
19F2104	538-002D-3-15	B	3-15	1.69	1.35	1.125	.675	.563
19F2105	538-002D-9-35	B	9-35	1.69	1.35	1.125	.675	.563
19F2894	538-002F-15-60	B	15-60	1.98	1.59	1.317	.787	.653
19F2219	538-006A-2-8	D	2-8	1.86	1.49	1.240	.743	.619
19F2220	538-006A-5.5-18	D	5.5-18	1.86	1.49	1.240	.743	.619
19F2221	538-006B-2.5-11	D	2.5-11	1.86	1.49	1.240	.743	.619
19F2222	538-006B-7-25	D	7-25	1.86	1.49	1.240	.743	.619
19F2223	538-006C-3-10	D	3-10	1.86	1.49	1.240	.743	.619
19F2224	538-006C-8-25	D	8-25	1.86	1.49	1.240	.743	.619
19F2225	538-006D-3-15	D	3-15	1.86	1.49	1.240	.743	.619
19F2226	538-006D-9-35	D	9-35	1.86	1.49	1.240	.743	.619
19F2444	538-006F-15-60	D	15-60	2.15	1.73	1.432	.855	.709
19F1738	538-011A-2-8	C	2-8	2.05	1.64	1.365	.819	.683
19F1739	538-011A-5.5-18	C	5.5-18	2.05	1.64	1.365	.819	.683
19F1740	538-011B-2.5-11	C	2.5-11	2.05	1.64	1.365	.819	.683
19F1741	538-011B-7-25	C	7-25	2.05	1.64	1.365	.819	.683
19F1742	538-011C-3-10	C	3-10	2.05	1.64	1.365	.819	.683
19F1744	538-011D-3-15	C	3-15	2.05	1.64	1.365	.819	.683
19F1745	538-011D-9-35	C	9-35	2.05	1.64	1.365	.819	.683
19F2895	538-011F-15-60	C	15-60	2.34	1.88	1.557	.931	.773
19F2259	538-016A-2-8	C	2-8	2.33	1.86	1.553	.932	.776
19F2260	538-016B-5.5-18	C	5.5-18	2.33	1.86	1.553	.932	.776
19F2262	538-0168-7-25	C	7-25	2.33	1.86	1.553	.932	.776
19F2265	538-016D-3-15	C	3-15	2.33	1.86	1.553	.932	.776
19F2266	538-016D-9-35	C	9-35	2.33	1.86	1.553	.932	.776
19F2446	538-016F-15-60	C	15-60	2.62	2.10	1.745	1.044	.866

STYLE 503 - CERAMIC DISC TRIMMERS - M1-C-81A

Stk. No.	Mil. Type	Cap. Rnge.	Temp. Coef.	1-49	50-99	100-249	250-499	500-999
19F1072	CV11A070	1.5-7	NP0	1.43	1.140	.980	.759	.638
19F1073	CV11A120	3-12	NP0	1.43	1.140	.980	.759	.638
19F1074	CV11A250	4.5-25	NP0	1.43	1.140	.980	.759	.638
19F1075	CV11B130	3-13	N300	1.43	1.140	.980	.759	.638
19F1076	CV11B200	5-20	N300	1.43	1.140	.980	.759	.638
19F1078	CV11C450	7-45	N500	1.43	1.140	.980	.759	.638
19F1080	CV11D450	7-45	N650	1.43	1.140	.980	.759	.638

NEWARK STOCKS THE WORLD'S MOST COMPLETE INVENTORY OF INDUSTRIAL ELECTRONIC COMPONENTS

Filters and Ceramic Trimmers

SUBMINIATURE CERAMIC DISC TRIMMER CAPACITORS

Space saver-occupies less than .007 cubic inches. Non-ferrous silver plated metal parts. Type A&E 100WVDC to 85°C, 50 WVDC to 125°C. Type G 25 WVDC to 125°C. Torque: 5-3oz. in.

Stk. No.	Type & Cap.	1-49	50-99	100-249	250-499	500-999
17F100	511-000A1-3	2.10	1.50	1.25	1.05	.900
17F101	511-000E2-5	2.10	1.50	1.25	1.05	.900
17F102	511-000A3-9	2.10	1.50	1.25	1.05	.900
17F103	511-000E5-15	2.10	1.50	1.25	1.05	.900
17F104	511-000G6-22	2.10	1.50	1.25	1.05	.900
17F105	511-002A1.2-3	2.40	1.75	1.45	1.20	1.05
17F106	511-002E2.2-5	2.40	1.75	1.45	1.20	1.05
17F107	511-002A3.2-9	2.40	1.75	1.45	1.20	1.05
17F108	511-002E5.2-15	2.40	1.75	1.45	1.20	1.05
17F109	511-002G6.2-22	2.40	1.75	1.45	1.20	1.05

STYLE 538 CERAMIC DISC TRIMMERS MIL-C-81

Stk. No.	Mil No.	Cap Range	1-49	50-99	100-249	250-499	500-999
17F131	CV31A080	2-8	2.33	1.86	1.553	.932	.776
17F132	CV31A180	5.5-18	2.33	1.86	1.553	.932	.776
17F133	CV31B110	2.5-11	2.33	1.86	1.553	.932	.776
17F134	CV31B250	7-25	2.33	1.86	1.553	.932	.776
17F135	CV31C100	3-10	2.33	1.86	1.553	.932	.776
17F136	CV31C250	8-25	2.33	1.86	1.553	.932	.776
17F137	CV31D150	3-15	2.33	1.86	1.553	.932	.776
17F138	CV31D350	9-35	2.33	1.86	1.553	.932	.776
17F139	CV31E600	15-60	2.62	2.10	1.744	1.044	.866

SUBMINIATURE EMI FILTER

Min. Attenuation per Mil.-Std. 220A; 50 db from 200 MC to 2000 MC over range from —55 C to 125 C. Working Voltage; 100VDC.

Stock No.	Type	1-9	10-49	50-99	100-249	250-499
19F3061	1250-003	3.36	3.36	2.86	2.35	2.18

LOW PASS EMI SUPRESSION FILTERS

Temp. range: —55°C to 85°C. Miniaturized line of filters rated at 100WVDC to cover the freq. range from 10khz to 10ghz. Filters hermetically sealed.

100 WVDC—L Section Filters—.728x.406"

Stk. No.	Type	Rdc Ohms	1-9	10-49	50-99	100-249	250-499	500-999
19F3404	9000-000-0000	1.5	21.85	20.15	17.85	15.30	13.80	12.65
19F3405	9000-000-0003	.35	20.45	18.85	16.70	14.30	12.90	11.85
19F3406	9000-000-0007	.04	20.80	19.15	16.95	14.55	13.15	12.05

100 WVDC—Pi Section Filters—.778x.406

Stk. No.	Type	Rdc Ohms	1-9	10-49	50-99	100-249	250-499	500-999
19F3407	9001-000-1000	1.5	23.20	21.40	18.95	16.95	14.65	13.45
19F3408	9001-000-1003	.35	21.45	19.75	17.50	15.00	13.55	12.40

115 VAC—L Section Filters—1.406x1.164" (*), 406x.930

19F3413	9400-000-0003	*.35	11.80	10.85	9.65	8.25	7.45	6.80
19F3414	9400-000-0005	*.06	11.80	10.85	9.65	8.25	7.45	6.80
19F3415	9400-000-0007	*.04	11.70	10.80	9.55	8.20	7.40	6.80
19F3416	9401-000-0003	.35	12.05	11.10	9.85	8.45	7.60	7.00
19F3418	9401-000-0007	.4	12.65	11.65	10.30	8.85	8.00	7.35

100 VOLT PI SECTION .778x.406

17F140	9001-100-1000	1.5	15.85	14.60	12.95	11.10	10.00	9.20

150 VOLT PI SECTION .778x.406

17F141	9001-100-1013	.25	16.20	14.90	13.20	11.35	10.25	9.40

200 VOLT PI SECTION .778x.406

17F142	9001-100-1021	.25	14.40	13.25	11.75	10.05	9.10	8.35

80 VOLT LB TYPE .420x.406

17F143	9009-103-0000	.01	8.80	8.10	7.20	6.15	5.55	5.10

125 VOLT PI SECTION 1.170x.567

17F144	9011-100-1000	.35	27.50	25.35	22.45	19.25	17.40	15.95
17F145	9011-100-1003	.02	22.50	20.70	18.35	15.75	14.20	13.00
17F146	9011-100-1007	.0075	26.00	23.95	21.20	18.20	16.45	15.05

125 VOLT LB TYPE 1.006x.667

17F147	9013-100-0007	.0075	18.05	16.65	14.75	12.65	11.40	10.45
17F148	9013-100-1002	.05	22.25	20.50	18.15	15.55	14.05	12.90

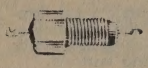
80 VOLT L TYPES .280x.375 (*).285x.375

17F208	9050-000-0000	.008	5.15	4.75	4.20	3.60	3.25	3.00
17F209	9051-100-0000	.008	6.55	6.05	5.35	4.60	4.15	3.80

80 VOLT C TYPE CAPACITY 1.4 MFD .430x.315 (*) .420x.406

17F210	9916-100-6000	.004	8.55	7.90	7.00	6.00	5.40	4.95
17F211	9921-100-6000	.004	6.55	6.05	5.35	4.60	4.15	3.80

LOW PASS, HIGH FREQUENCY FILTERS



Type 1270. Minimum attenuation 45dB from 200 MHZ to 10 GHZ over temp. range —55°C to +125°C. Capacitance 1270-009 and-024 1500 pf 1270-016 and -025 5000 pf *denotes nut supplied.

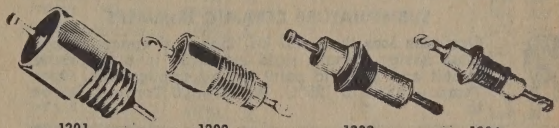
Stock No.	Type	Atten.	1-9	10-49	50-99	100-249	250-499
19F2455	1270-009*	40 db.	2.20	2.20	1.87	1.54	1.43
19F2456	1270-016*	40 db.	2.20	2.20	1.87	1.54	1.43

Stock No.	Type	Atten.	1-9	10-49	50-99	100-249	250-499	500-999
19F2457	1270-024	50 db.	2.16	1.89	1.62	1.51	1.40	1.30
19F2458	1270-025	50 db.	2.20	2.20	1.87	1.54	1.43	

BROAD BAND EMI FILTERS

Temp. mg.:—55°C. Working volt. 50 VDC at 85°C, 35 VDC @ 105° 28 VDC at 125°C. Dielectric strength: 110 VDC at 25°C. (50 ma max. changing current.)
Thread L=.187"

Stk. No.	Type	IDC	1-9	10-49	50-99	100-249	250-499	500-999
19F3048	1200-028	60 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3049	1200-023	150 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3050	1200-024	240 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3051	1200-021	300 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3052	1200-022	450 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3053	1200-025	10 amps	12.29	11.57	10.12	9.40	8.68	7.95



1201 1202 1203 1204

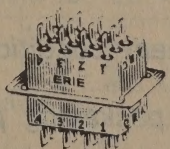
Specifications for 1201 & 1202. Cap. 1000 mmf. at 1KC; .5 to 5 VRMS; 25°C; working voltage, 200 VDC; operating temp. range, —55°C to 125°DC resistance 0.01 ohms max. DC and low frequency current 5 amps. max.
Type 1201. bushing type. Lockwashers and hex nuts supplied. .812 L x .250 Dia.
Type 1202. Same as 1201 but size is 1.175L. x .375 Dia. Hex nuts and lockwashers are supplied.

Stk. No.	Type	1-9	10-49	50-99	100-249	250- 499
19F2452	1201-051	2.40	2.02	1.68	1.56	1.44
19F2110	1201-052	2.40	2.02	1.68	1.56	1.44

Specifications for 1203 & 1204. Minimum attenuation 50 db from 100 MC to 2000MC over a temp. range of —55°C to 125°C Cap.: 2000 mmf. min. at 1 KC, 5 to 5 VRMS, 25°C. working voltage: 500 VDC. DC resistant: 0.10 ohms max. DC and 10W frequency current; 5 amps. max. RF current: 0.25 amps. max.
Type 1203. miniaturized eyelet type. Size is: .718 L. x .218 Dia.
Type 1204 eyelet type similar to 1203 but size is: 1.187 L. x .328 Dia.

Stk. No.	Type	1-9	10-49	50-99	100-249	250-499
19F2112	1202-052	1.84	1.84	1.56	1.29	1.20
19F2111	1203-050	1.28	1.28	1.09	.90	.83
19F2113	1204-050	1.20	1.20	1.02	.84	.78

MINIATURE 6 & 12 CHANNEL R.F.I. FILTERS

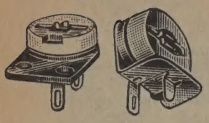


Minimum attenuation: 45 db from 100-200 Mc, 50 db from 200 Mc to 2000 Mc, over the temp. range of —55°C to +125°C measured in accordance with Mil-Std.-220A. Capacitance: 2500 pf min. at 1Kc, 0.5 to 5 Vrms. 25°C. Working voltage: 350 VDC. Insulation resistance: 20K megohms min. at 100 FDC 25°C (50 ma max. charging current). D.C. resistance: .01 ohms per section D.C. and low Frequency current: 5 amps max. per section.
Type 1212 is 12 channel—**Type 1206** is 6 channel. **Size:** 502 and 501—1.125 x .594". 552 and 554—.75 x .437".

Stk. No.	Type	1-9	10-49	50- 99	100-249	250-499
19F3067	1212-502*	20.69	20.69	19.21	17.00	16.26
19F3063	1212-554*	18.48	17.76	17.05	15.62	14.92
19F3065	1206-502	16.11	16.11	14.96	13.24	13.24
19F3068	1206-554*	17.55	16.90	16.20	14.85	14.18

Solder Mount except (*) bolt mount.

ERIE



PHENOLIC BASE — TYPE 557

Features .500" dia. ceramic rotor, lapped and silvered on the underside, and a silvered ceramic dielectric stator disc with lapped bearing surface.

Stk. No.	Type	Mmf. Range	Temp. Coef.	Type 557 1-49	50-99	100-249	250-499	Type 3192 500-999
19F2971	557-000A-1.5-7	1.5- 7	NP0	1.09	.91	.726	.427	.382
19F2972	557-000A-3-12	3 -12	NP0	1.09	.91	.726	.427	.382
19F2973	557-000A-5-25	5 -25	NP0	1.09	.91	.726	.427	.382
19F2974	557-000F-10-75	10 -75	N1500	1.29	1.02	.857	.503	.450
19F2976	557-000E-5-30	5 -30	N750	1.09	.91	.726	.427	.382
19F2977	557-000E-8-50	8 -50	N750	1.09	.91	.726	.427	.382
19F2981	557-006F-10-75	10 -75	N1500	1.29	1.09	.857	.503	.450
19F2984	557-006E-8-50	8 -50	N750	1.09	.91	.726	.427	.382
19F2985	557-013A-1.5-7	1.5- 7	NP0	1.09	.91	.726	.402	.359
19F2987	557-013A-5-25	5 -25	NP0	1.09	.91	.726	.402	.359
19F2988	557-013F-10-75	10 -75	N1500	1.29	1.07	.857	.478	.427
19F3000	557-091A-3-12	3 -12	NP0	1.24	1.03	.823	.473	.422
19F3001	557-091A-5-25	5 -25	NP0	1.24	1.03	.823	.473	.422
19F3003	557-091B-5-20	5 -20	N330	1.24	1.03	.823	.473	.422
19F3005	557-091E-8-50	8 -50	N750	1.24	1.03	.823	.473	.422

CERAMIC TRIMMERS — PHENOLIC BASE — TYPE 3192

19F3006	3192-000A-2.5-7	2.5- 7	NP0	1.37	1.14	.91	.53	.48
19F3007	3192-000A-4-12	4 -12	NP0	1.37	1.14	.91	.53	.48
19F3008	3192-000A-6-25	6 -25	NP0	1.37	1.14	.91	.53	.48
19F3009	3192-000B-6-20	11 -75	N1500	1.37	1.14	.91	.53	.48

SUBMINIATURE CERAMIC TRIMMERS

Occupies less than .007 cu. inches of space. Unique base design permits rigid mounting in both printed circuit and point to point wiring applications. Oper. Temp. —55°C to 125°C. WVDC, 100 Torque, .5-3 oz. in.

Stk. No.	Type	1-49	50-99	100-249	250-499	500-999
19F3440	518-000A-5-25					
19F3446	518-000A-2.5-9	4.95	4.25	3.75	3.50	2.60
19F3447	518-000A-3.5-20					
17F130	518-000G-7-40					

GLASS & QUARTZ TRIMMER CAPACITORS

A B C

Meets MIL-C-14409. 1000 VDCW from —55°C to 125°C. Life test: 1500VDC for 250 hours @ 125°C. "Q" minimum at 1MC: 500.

GLASS PANEL MOUNT

Stk. No.	Type	Fig.	Mmf.	1-24	25-49	50-99	100-299	300-499	500-999
19F1756	562-013	A	.8-8.5	3.40	3.05	2.70	2.25	2.15	1.80
19F1757	564-013	A	.7-12	3.75	3.40	2.95	2.45	2.35	2.00
19F1758	566-013	A	.8-18	4.35	3.95	3.40	2.85	2.70	2.35
19F1759	568-013	A	1.0-30.0	4.55	4.15	3.60	3.05	2.90	2.40

GLASS PRINTED CIRCUIT MOUNT

19F3364	521-000	B	.8-5.5	3.40	3.05	2.75	2.40	2.15	2.00
19F1760	561-013	B	.8-4.5	2.80	2.60	2.20	1.85	1.75	1.50
19F1761	563-013	B	.8-8.5	3.00	2.75	2.40	2.00	1.90	1.65
19F1763	567-013	B	.8-18	3.95	3.60	3.10	2.60	2.45	2.10
19F1764	569-013	B	.8-30	4.15	3.80	3.30	2.80	2.65	2.25
19F1765	561-023	C	.8-4.5	2.80	2.60	2.20	1.85	1.75	1.50

CERAMIC TRIMMER TYPE 503

Provides maximum stability and ease of adjustment. Capacity change constant per degree of rotation. Silver electrodes are fired onto ceramic rotor and base, 500 wkg. volts DC. 503-000: .843"-656".

Stk. No.	Type	Mmf. Range	1-49	50-99	100-249	250-499	500-999
19F520	503-000A-1.5-7	1.5-7					
19F1746	503-000A-3-12	3-12					
19F1747	503-000B-5-20	5-20					
19F522	503-000C-4-30	4-30	1.34	1.05	.890	.668	.547
19F523	503-000C-7-45	7-45					
19F2899	503-000D-4-30	4-30					
19F2900	503-000D-7-45	7-45					
19F1748	503-000D-5-50	5-50					
19F2901	503-000F-11-110	11-110	1.72	1.37	1.15	.821	.683

NEWARK ELECTRONICS PROUDLY ANNOUNCES AVAILABILITY OF SPECIAL CAPACITOR SERVICES:

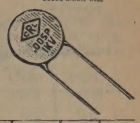
- *Close tolerance testing to 0.1%*
- *Parts marking per your specifications*
- *Matching units for close tolerance work*
- *Component conditioning for high reliability*
- *Special packaging per your specifications*
- *Military packaging on request*
- *Cutting and forming of leads*

Centralab Capacitors

CENTRALAB
Electronics Division
GLOBE-UNION INC.

TYPE DD DISC CERAMIC CAPACITORS

Primarily intended for by-pass, coupling or filter service where high capacity is necessary and controlled stability is secondary. Disc ceramic capacitors have a higher dielectric constant, greater voltages, and higher capacities in less space than paper or mica types. Construction enables these units to operate for long periods of time under extreme moisture, temperature, and vibration. 1000 volts DC working except #, which are 600 volts DC working. Tol. ±10% except * ±20%, † ±.5 mmf, ‡ GMV; ** +80—20% (A) 9/32x5/32"; (B) 3/8x5/32"; (C) 19/32"x5/32"; (D) 11/16x5/32"; (F) 23/32x1/4"; (G) 7/8x1/4";

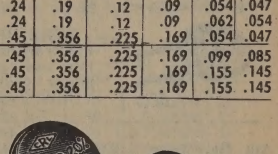


Stk. No.	Type	Mmf	Size	1-99	100-199	200-499	500-999	1M-3M	4M-5M
19F300	DD-3R3	.3†	A						
19F301	DD-050	5	A						
19F341	DD-060	6	A						
19F302	DD-6R8	6.8	A	.15	.119	.075	.056	.048	.042
19F342	DD-7R5	7.5	A						
19F343	DD-080	8	A						
19F303	DD-100	10	A						
19F344	DD-120	12	A						
19F304	DD-150	15	A						
19F345	DD-180	18	A						
19F305	DD-200	20	A						
19F346	DD-220	22	A						
19F347	DD-240	24	A						
19F306	DD-250	25	A						
19F348	DD-270	27	A						
19F349	DD-300	30	A						
19F307	DD-330	33	A						
19F308	DD-390	39	A						
19F309	DD-470	47	A	.15	.119	.075	.056	.038	.033
19F310	DD-500	50	A						
19F516	DD-510	51	A						
19F311	DD-560	56	A						
19F312	DD-680	68	A						
19F313	DD-750	75	A						
19F358	DD-820	82	A						
19F359	DD-910	91	A						
19F314	DD-101	100	A						
19F315	DD-121	120	A						
19F365	DD-131	130	A						
19F316	DD-151	150	A						
19F317	DD-181	180	A						
19F318	DD-201	200	A						
19F319	DD-221	220	A						
19F366	DD-241	240	A						
19F320	DD-251	250	A						
19F321	DD-271	270	A						
19F322	DD-301	300	A						
19F323	DD-331	330	A	.15	.119	.075	.056	.041	.035
19F368	DD-351	350	A						
19F369	DD-361	360	A						
19F324	DD-391	390	A						
19F379	DD-401	400	A						
19F325	DD-471	470	A						

Stk. No	Type	Mmf	Size	1-99	100-199	200-499	500-999	1M 3M	4M 5M
19F517	DD-471G	470‡	A					.036	.031
19F326	DD-501	500	A					.041	.035
19F518	DD-511	510	A					.041	.035
19F327	DD-561	560	A					.041	.035
19F519	DD-601	600	A					.041	.035
19F328	DD-681	680	A					.041	.035
19F329	DD-751	750	A					.041	.035
19F330	DD-801	800‡	A					.036	.031
19F380	DD-821	820	A					.041	.035
19F531	DD-911	910	A					.041	.035
19F331	DD-102	1000	B					.044	.038
19F532	DD-102G	1000‡	A					.036	.031
19F381	DD-122	1200	B					.044	.038
19F533	DD-122G	1200‡	A					.036	.031
19F382	DD-132	1300	B					.044	.038
19F332	DD-152	1500	B					.044	.038
19F534	DD-152G	1500‡	A					.036	.031
19F383	DD-162	1600	B	.15	.119	.075	.056	.044	.038
19F384	DD-182	1800	B					.044	.038
19F333	DD-202	2000‡	B					.038	.033
19F385	DD-222	2200‡	B					.838	.033
19F386	DD-252	2500‡	B					.038	.033
19F387	DD-272	2700‡	B					.038	.033
19F334	DD-302	3000‡	B					.038	.033
19F388	DD-332	3300‡	C					.044	.038
19F389	DD-392	3900‡	C					.044	.038
19F390	DD-402	4000‡	C					.044	.038
19F391	DD-432	4300‡	C					.044	.038
19F335	DD-472	4700*	C					.046	.040
19F535	DD-472G	4700‡	C					.044	.038
19F336	DD-5022	5000*	C					.046	.040
19F337	DD-502	5000‡	C					.044	.038
19F392	DD-562	5600‡	C					.044	.038
19F393	DD-682	6800‡	C					.044	.038
19F394	DD-752	7500‡	C					.044	.038
19F536	DD-822	8200‡	D					.054	.047
19F339	DD-103	10000‡	D	.24	.19	.12	.09	.054	.047
19F338	DD-1032	10000*	D	.24	.19	.12	.09	.062	.054
19F340	DD-203#	20000**	D	.45	.356	.225	.169	.054	.047
19F537	DD-303#	30000**	F	.45	.356	.225	.169	.099	.085
19F538	DD-403#	40000**	F	.45	.356	.225	.169	.155	.145
19F539	DD-503#	50000**	G	.45	.356	.225	.169	.155	.145

HI-VO DISC CAPACITORS 3000-6000 V

Highly efficient for by-pass-coupling in high frequency circuits under conditions of extreme humidity or temperature. Maintain performance at temperatures up to 85° C. Tested at twice rated working voltage before shipment. Leads #22 tinned copper wire 1½" min. length. Insul.: Double coating of "DUREZ" and high temp. vacuum wax impregnation. Tol. ±20%. Volt. DD30 series, 3000 VDCW, 6000 VDC test; DD60 series, 6000 VDCW, 12,000 test. Sizes: (A) .330" dia.; (B) .430" dia.; (C) .630" dia.; (F) .800" dia.; (G) .730" dia.



TYPE DD30 3000 VDCW-6000 VDC TEST

Stk. No.	Type	Mmf	Size	1-49	50-149	150-499	500-1000
19F203	100	10	A				
19F217	101	100	A	.24	.19	.12	.09
19F219	151	150	A				
19F222	221	220	A				
19F230	501	500	A				
19F234	102	1,000	B	.30	.238	.15	.113

Stk. No.	Type	Mmf	Size	1-49	50-149	150-499	500-1000
19F236	152	1,500	C				
19F237	202	2,000	C	.30	.238	.15	.113
19F238	222	2,200	C				
19F241	302	3,000	C				
19F242	502	5,000	F				

TYPE DD60 6000 VDCW-12000 VDC TEST

19F473	500	50	C				
19F481	181	180	C	.36	.285	.18	.135
19F482	201	200	C				
19F485	271	270	C				

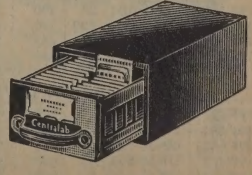
19F490	471	470	C				
19F493	681	680	C	.36	.285	.18	.135
19F495	102	1,000	C				
19F498	202	2,000	G	.60	.475	.30	.225

CERAMIC CAPACITOR KIT

MODEL DDK-200 KIT. Contains a carefully balanced inventory of 200 disc capacitors required most in replacement applications. All are 1000 WVDC except (*) 600 WVDC. Value desired can easily be located and removed from labeled, reusable clear plastic packages. Housed in one drawer, heavy gauge steel 6x4x11" cabinet finished with durable blue enamel.

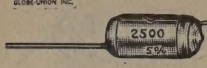
19F2406. NET 37.95

Cap. Mmf.	Qty.	Type	Cap. Mmf.	Qty.	Type	Cap. Mfd.	Qty.	Type
5	5	DD-050	200	10	DD-201	.001	15	DD-102
10	5	DD-100	220	5	DD-221	.0015	5	DD-152
25	5	DD-250	250	5	DD-251	.003	5	DD-302
33	5	DD-330	270	5	DD-271	.0047	5	DD-472
47	5	DD-470	300	5	DD-301	.005	5	DD-5022
50	5	DD-500	330	5	DD-331	.005	10	DD-502
68	5	DD-680	390	5	DD-391	.01	5	*DD6-103
100	10	DD-101	470	5	DD-471	.01	15	DD-103
120	5	DD-121	500	5	DD-501	.01	5	DD-1032
150	5	DD-151	680	5	DD-681	.02	15	*DD-203
180	5	DD-181						



Centralab Capacitors

CENTRALAB
Electronics Division
GLOBE-UNION INC.



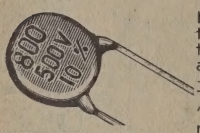
POLYSTYRENE CAPACITORS

Sealed polystyrene foil-capacitors, ideal for applications in TV and radio where they can be used as direct replacements for micas and mylars. Voltage rating 500 VDCW; 1500 VDC test. Tolerance 5%, 20-470pF; .434" L., 165" to .217" Diam., 510-3000pF; .631" L. .205" to .346" Diam.; 3300-10000pF .827" L., 335" to .504" Diam.

Stk. No.	Type	Mmf.	1-49	50-149	150-499	500-999	1M 3M	4M 5M
19F2337	CPR-20J	20						
19F2338	CPR-22J	22						
19F2342	CPR-33J	33						
19F2344	CPR-39J	39						
19F2346	CPR-47J	47						
19F2347	CPR-56J	56						
19F2349	CPR-68J	68						
19F2350	CPR-75J	75						
19F2351	CPR-82J	82						
19F2353	CPR-100J	100						
19F2357	CPR-150J	150	.15	.119	.075	.056	.052	.047
19F2359	CPR-180J	180						
19F2360	CPR-200J	200						
19F2361	CPR-220J	220						
19F2362	CPR-240J	240						
19F2363	CPR-270J	270						
19F2364	CPR-200J	300						
19F2365	CPR-330J	330						
19F2367	CPR-390J	390						

Stk. No.	Type	Mmf.	1-49	50-149	150-499	500-999	1M-3M	4M-5M
19F2367	CPR-390J	390						
19F2368	CPR-430J	430						
19F2369	CPR-470J	470						
19F2370	CPR-510J	510	.15	.119	.075	.056	.052	.047
19F2372	CPR-620J	620						
19F2373	CPR-680J	680						
19F2375	CPR-820J	820						
19F2376	CPR-910J	910						
19F2377	CPR-1000J	1000						
19F2379	CPR-1200J	1200						
19F2381	CPR-1500J	1500						
19F2384	CPR-2000J	2000	.18	.143	.09	.068	.064	.059
19F2385	CPR-2200J	2200						
19F2388	CPR-2700J	2700						
19F2390	CPR-3300J	3300						
19F2394	CPR-4700J	4700						
19F2395	CPR-5000J	5000	.21	.166	.105	.079	.075	.070
19F2398	CPR-6200J	6200						
19F2403	CPR-10000J	10000						

TEMPERATURE STABLE "K" AND SEMI-STABLE "K" DISC HI-KAPS



Types CE & CF. Hi-Kaps afford extra stability through a temperature range of +10°C to +85°C. Type CE Stable "K" has +7.5% max. capacity change from 25°C reading over a temp. range of +10°C to +85°C. Type CF semi-stable "K" ±15%. Working voltage: 500 VDC. Tolerance ±10%. Leads: 1½" L. min. * .290"D. ** .390"D. † .590"D. ‡ .690"D. # .920"D. Phenolic insulation. Average shipping wt. 1 oz.

STABLE

Stk. No.	Mmf.	CRL. No.	1-99	100-199	200-499	500-1M
19F1235	150	CE-151*	.18	.143	.09	.068
19F1236	220	CE-221*	.18	.143	.09	.068
19F1237	330	CE-331*	.18	.143	.09	.068
19F1238	470	CE-471*	.18	.143	.09	.068

Stk. No.	Mmf.	CRL. No.	1-99	100-199	200-499	500-1M
19F1239	500	CE-501**	.18	.143	.09	.068
19F1241	680	CE-681**	.18	.143	.09	.068
19F1242	750	CE-751**	.18	.143	.09	.068
19F1244	1000	CE-102†	.18	.143	.09	.068

SEMI-STABLE

Stk. No.	Mmf	CRL. No.	1-99	100-199	200-499	500-1M
19F1246	1500	CF-152**	.18	.143	.09	.068
19F1247	1800	CF-182**	.18	.143	.09	.068
19F1249	2200	CF-222†	.21	.166	.105	.079
19F1250	3300	CF-332†	.21	.166	.105	.079

Stk. No.	Mmf	CRL. No.	1-99	100-199	200-499	500-1M
19F1251	3900	CF-392†	.21	.166	.105	.079
19F1252	4700	CF-472‡	.21	.166	.105	.079
19F1253	5000	CF-502†	.21	.166	.105	.079
19F1256	10000	CF-103#-	.24	.19	.12	.09

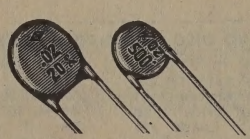
UK10

TYPE UK ULTRA-KAPS

For transistor circuit applications, low voltage use requiring high capacities and low power factors. TOL: (GMV) Rated: 3 VDCW. 3VDCW (GMV)

Stk. No.	Type	Mfd.	Diam.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F395	UK-104	.1	.220	.42	.333	.210	.158	.145	.127
19F396	UK-224	.22	.290	.30	.238	.150	.113	.094	.082
19F397	UK-474	.47	.405	.30	.238	.150	.113	.098	.086
19F398	UK-105	1.0	.590	.36	.285	.180	.135	.125	.110
19F399	UK-225	2.2	.820	.42	.333	.210	.158	.153	.135
			10 VDCW (Tol. +80 —20%)						
19F276	UK10-503	.05	.290	.18	.143	.09	.068	.066	.053
19F277	UK10-104	.1	.405	.180	.143	.09	.068	.066	.058
19F278	UK10-204	.2	.590	.30	.238	.15	.113	.085	.083
19F279	UK10-474	.47	.820	.42	.333	.21	.158	.145	.127
			—16 VDCW (+80 —20%)						
19F1267	UK16-103	.01	.290"	.15	.12	.087	.074	.052	.046
19F1268	UK16-223	.022	.390"	.16	.13	.09	.08	.052	.046
19F1269	UK16-503	.05	.406"	.23	.18	.125	.105	.082	.072
19F1270	UK16-104	.1	.590"	.19	.15	.11	.10	.082	.072
			—20 VDCW (Tol. +80 —20%)						
19F1278	UK20-503	.05	.405"	.18	.143	.090	.068	.062	.055
19F1279	UK20-104	.1	.590"	.21	.166	.105	.079	.077	.068
19F1280	UK20-204	.2	.820"	.39	.310	.195	.146	.139	.122
			—25 VDCW x 20z						
19F1271	UK25-103	.01	.290"	.16	.13	.09	.08	.052	.046
19F1272	UK25-223	.022	.390"	.19	.15	.11	.10	.082	.076
19F1273	UK25-503	.06	.485"	.24	.19	.14	.12	.085	.076
19F1274	UK25-104	.1	.690"	.25	.20	.15	.13	.085	.076
			• NEW 50 VDCW ±20%						
19F400	UK50-103	.01	.290"	.19	.156	.095	.081	.056	.05
19F401	UK50-153	.015	.390"	.25	.198	.12	.102	.062	.054
19F402	UK50-223	.022	.485"	.35	.276	.168	.143	.093	.082
19F403	UK50-503	.05	.690"	.51	.406	.244	.207	.139	.122
19F404	UK50-104	.1	.920"	.86	.69	.415	.352	.244	.215

TYPE CK—50 & HK-VDC



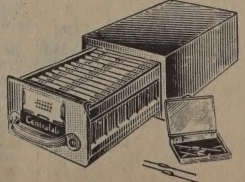
Designed for high capacity low voltage demands of transistor circuitry. Leads: #22 tinned copper, 1" minimum length. Max. thickness .171". Power factor: 3% max. at 1 KC. Insulation: Phenolic vacuum wax impregnated. Tolerance: +80 —20%. Operating range: —55° to +85°C.

Stk. No.	Cap. Mfd.	CRL. No.	Diam	1-99	100-199	200-499	500-999	1M-3M	4M-5M
19F1223	.005	CK-502	3/8"	.21	.166	.105	.079	.048	.042
19F1224	.01	CK-103	3/8"	.21	.166	.105	.079	.052	.046
19F1225	.02	CK-203	19/32"	.21	.166	.105	.079	.076	.067
19F1226	.025	CK-253	19/32"	.21	.166	.105	.079	.076	.067
19F1228	.05	CK-503	11/16"	.30	.238	.15	.113	.088	.077
19F1229	.1	CK-104	23/32"	.60	.475	.30	.225	.216	.192

TYPE HK 50 VDCW

19F405	.01	HK-103	5/16"	.16	.124	.08	.06	.04	.035
19F406	.02	HK-203	2/5"	.16	.124	.08	.06	.04	.035
19F407	.05	HK-503	17/32"	.23	.18	.11	.085	.066	.058

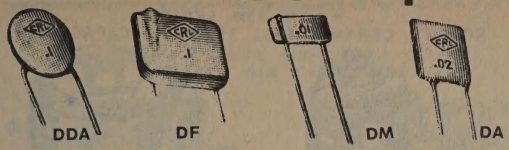
POLYSTYRENE CAPACITOR KIT



Model CPK-150 Kit. Contains 150 sealed polystyrene foil capacitors, rated at 500VDCW and with a ±5% tolerance. 17 values range 22 pF to 10,000 pF. 5 to 20 pieces per value. The polystyrene film dielectric of these units permits use in place of mcia, Mylar, paper, and ceramic steel cabinet finished in blue baked enamel. Contents are fully labeled.

19F2404. NET **25.55**

Centralab Capacitors and Trimmers



TYPE DDA CAPACITORS

Type DDA. Disc. type 5/8" diam. x 5/32" thk. Cap. tolerance -30%, +80%. Rated 75 VDCW.

Stock No.	Type	Mfd.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F1103	DDA-503	.05	.30	.238	.15	.13	.082	.073
19F1104	DDA-104	.1	.60	.475	.30	.225	.203	.178

TYPE DF FLAT HI-KAPS

Type DF Flat Hi-Kaps. 600 WVDC. 1200 VDC test 1 7/16 x 1 1/16 x 7/32".

Stk. No.	Type	Mfd.	Tol.	1-49	50-149	150-499	500-1000
19F362	DF-503	.05	GMV	.75	.594	.375	.280
19F364	DF-104	.1	+80-20%	1.05	.83	.525	.394

TYPE DA CAPACITOR

Type DA. High capacity, low voltage ceramic capacitors designed for such sub-biniature applications as transistor circuits. 1/2x1/2x 3/16" Cap. Tolerance: —20%, +100%. Rated 30 VDCW.

Stk. No.	Type	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F1100	DA-203	.36	.285	.180	.135	.102	.089
19F1101	DA-503	.81	.641	.405	.304	.235	.207
19F1102	DA-104	1.35	1.07	.675	.506	.400	.351

TYPE DM

Type DM. Plate type, 17/32 x 7/32 x 7/64". Operating temperature -55°C to 85°C. Temp. vs. Cap.: EIA Z5V or better (22 -82% maximum capacity change from 25°C. reading over temp. range of 10°C to 85°C.) Rated 105 WVDC.

Stk. No.	Type	Mfd.	1-99	100-199	200-499	500-999
19F1105	DM-101	.0001				
19F1108	DM-501	.0005				
19F1109	DM-102	.001	.90	.72	.45	.338
19F1112	DM-502	.005				
19F1113	DM-103	.01				

TRIMMERS PRICE CHART

	1-4	5-29	30-104	105-250
A	.90	.75	.71	.60
B	1.17	.98	.93	.78
C	1.14	.95	.90	.76
	1-24	25-124	125-499	500-1M
D	.30	.238	.15	.113

	1-99	100-199	200-499	500-1M
E	.75	.594	.375	.28
	1-4	5-29	30-104	105-250
G	1.80	1.62	1.43	1.28
H	2.70	2.43	2.14	1.92

	1-9	10-24	25-99	100-249
I	8.40	7.56	6.65	5.99
J	7.20	6.48	5.70	5.13

TYPE 827 TRIMMER

Ceramic molded phenolic body. Maintain stability under vibration, due to light weight rotor construction that is always in balance under heavy spring pressure. 500 volts DC working, 1000 volts DC test. Initial insulation resistance, 10,000 megs minimum. Power factor is less than 0.2% at one MHz. Size: 17/32x3/4". Wt., 2 oz.

Stk. No.	Type	Mmf	Key
19F094	827A	2.5-7	A
19F095	827B	3.5-12	A
19F096	827C	6.0-30	A
19F097	827D	7.0-35	A

TYPE 825 MIL-C-81A TRIMMER CAPACITORS

Ceramic trimmer caps. 27/32x21/32". Mtg. hole takes No. 4 screws. 500 VDC working. Shpg. wt. 2 oz. CVII Series meet MIL-C-81B specifications. Temp. Coetts: DN, BN—N650; AN, FN—N300; CN, GN—N500; EZ, FZ, AZ—0.

Stk. No.	Type	Mmf.	MIL No.	Key
19F1217	825-EZ	1.5-7	CV11A070	B
19F1218	825-FZ	3-12	CV11A120	B
19F1219	825-AZ	4 5-25	CV11A250	B
19F1220	825-DN	2-6	CV11D060	B
19F1222	825-BN	7-45	CV11D450	B
19F1230	825-AN	3-13.0	CV11B130	B
19F1231	825-GN	7-45.0	CV11C450	B
19F1232	825-FN	5-20.0	CV11B200	B
19F1233	825-CN	4-30.0	CV11C300	B

TYPE FT FEED-THRU CAPACITORS

Bushing type ceramic. Rated 500 V D C working, thread hex nut .281" lg. Overall size 5/16" hex x 1 5/32" lg. Tol. ±20% except (*) +50%, —20%. Shpg. wt., 2 oz.

Stk. No.	Type	Mmf	Key
19F1115	FT-500	500	E
19F1116	FT-1000	1000	E
19F1117	FT-1500	1500*	E
19F1118	FT-1800	1800*	E
19F1119	FT-2300	2300*	E

TYPE 829 TUBULAR TRIMMER

Tiny tubular high-voltage trimmers for TV and FM applications. Have ceramic bodies, .225" in diameter. Length as shown. Mount by means of lock-nut. Full capacity range obtained in 180° rotation. Power factor: .25% at 1 MHz 500 volts DC working, 1000 VDC test. Shpg. wt 1 oz.

Stk. No.	Type	Length	Mmf	Key
19F170	829-3	1/2"	.5-3	D
19F171	829-4	1/2"	1-4	D
19F172	829-6	5/8"	1-6	D
19F173	829-7	3/4"	1-7.5	D
19F174	829-10	3/4"	1.5-10	D

TYPE 822 TRIMMERS

Type 822. Steatite body trimmers. Silver rotor and stator plates. 500 VDC working 1500 VDC test, 27/32 + 21/32". Mtg. holes take No. 4 screws. All are zero temp. coeff. except * neg. T.C. Shpg. wt., 2 oz.

Stk. No.	Type	Mmf.	Key
19F163	AN*	8.0-50	C
19F164	BN*	7-45	C
19F165	CN*	4.5-25	C
19F166	DN*	2-6	C
19F167	AZ	4.5-25	C
19F168	BZ	2.5-13	C
19F169	CZ	2-7.5	C
19F185	DZ	1.5-3	C
19F186	EZ	1.5-7	C
19F188	EN*	4-30	C
19F189	FZ	3-12	C

TYPE MFT FEED-THRU CAPACITORS

Miniature eyelet type, rated 500 VDC working, 1000 VDC test. Mounts on 1/4" flange on eyelet inserted in .160" hole in chassis. Body diam. .135x13/8" L. overall. Shipping wt., 1 oz.

Stk. No.	Type	Mmf.	Key
19F1120	MFT-50	50±10%	D
19F1121	MFT-100	100±10%	D
19F1122	MFT-500	500±20%	D
19F1123	MFT-1000	1000 GMV	D

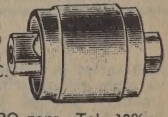
CERAMIC TRANSMITTING CAPACITORS

5000 WVDC. Tol. 10%. NPO temperature coefficients except (*) which are N750. Type 853—1/2" dia. x 7/16" L; Type 854—3/8" dia. x 3/8" L; Type 855—1/4" dia. x 11/32" L; 853A is screw type—9/16" dia. x 31/64" L.

WIRE LEAD

Stk. No.	Type	Mmf.	RF Load at 30MC	Key
19F268	855-3Z	3	1.8 amps	G
19F270	854-10Z	10	1.8 amps	G
19F271	855-10N*	10	3.2 amps	G
19F272	853-20Z	20	2.8 amps	G
19F274	853-40N*	40	5.6 amps	G

TRANSMITTING CAPACITOR TYPE 857



Axial screw terminals. Threaded to 1/4" with 10-32 thread. 15,000 VDC except (*) which work at 7,500 VDC. Negative 750 temperature coefficients, except (†), which are NPO zero. Tol. 10%. Size 1 9/32" by 1 37/64" long.

Stk. No.	Type	Mmf.	RF Load at 30MC	Key
19F454	857-25Z	25	12 amps	I
19F455	857-50Z	50	12 amps	I
19F456	857-100N†	100	14.4 amps	J
19F457	857-200N*	2000	18.2 amps	J

CERAMIC TRANSMITTING CAPACITORS

Type 850. 7500 VWDC except (*) 7500. 850S Tol.: ±T.C. Body 13/16" diameter x 5/8" long. Screw Terminals.

Stk. No.	Type	Mmf.	RF Load at 30MC	Key
19F248	850S-25Z	25	7 amps	H
19F254	850S-50Z	50	10 amps	H
19F250	850S-50N	50	8.8 amps	H
19F251	850S-75N	75	10 amps	H
19F252	850S-100N*	100	9.8 amps	H
19F253	858S-500‡ *	500	.....	H
19F249	858S-1000‡*	1000	.....	H

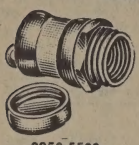
Johanson Variable Capacitors

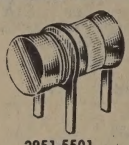
GENERAL SPECIFICATIONS

Working Voltage	250 VDC (Test Voltage 500 VDC)
Insulation Resistance	10^6 Megohms
Operating Temperature Range	—65°C to +125 C

All part numbers except those with a 7 or 9 prefix meet or exceed MIL-C-14409

HIGH Q VARIABLE AIR CAPACITORS


2950-5500

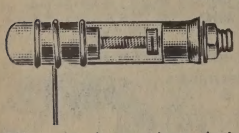

2951-5501

2954-5502

These variable air capacitors offer the user an extended capacitance range with exceptionally high Q, in miniature size. Designed for protection against shock, vibration, fungus, salt spray and humidity. The 5200, 5400 and 5500 series features one piece integral contact-rotor-mechanism which provides Qs previously unavailable in trimmer capacitors as well as critical tuning stability and extremely low dynamic noise.

Stk.No.	Type	QFactor @100 MHz	Capacitance Range	1-24	25-49	50-99	100-299
17F150	2950	>2000	0.8 pf.- 10.0 pf				
17F151	2951	>2000	0.8 pf - 10.0 pf	4.40	3.70	3.20	2.65
17F152	2954	>2000	0.8 pf - 10.0 pf				
17F153	5200	>5000	0.8 pf - 10.0 pf				
17F154	5201	>5000	0.8 pf - 10.0 pf	4.55	3.90	3.40	2.80
17F155	5202	>5000	0.8 pf - 10.0 pf				
17F156	3901	>1500	1.0 pf - 14.0 pf				
17F157	4480	>1500	1.0 pf - 14.0 pf	5.45	4.90	4.45	3.85
17F158	4880	>1500	1.0 pf - 14.0 pf				
17F159	5400	>3000	1.0 pf - 14.0 pf				
17F160	5401	>3000	1.0 pf - 14.0 pf	5.70	5.15	4.65	4.00
17F161	5402	>3000	1.0 pf - 14.0 pf				
17F162	3906	>1200	1.0 pf - 20.0 pf				
17F163	4690	>1200	1.0 pf - 20.0 pf	7.35	6.50	5.60	5.15
17F164	4802	>1200	1.0 pf - 20.0 pf				
17F165	5500	>1500	1.0 pf - 20.0 pf				
17F166	5501	>1500	1.0 pf - 20.0 pf	7.75	6.85	5.90	5.40
17F167	5502	>1500	1.0 pf - 20.0 pf				
17F168	3908	> 750	1.0 pf - 30.0 pf				
17F169	4551	> 750	1.0 pf - 30.0 pf	8.50	7.60	6.90	6.35
17F189	4803	> 750	1.0 pf - 30.0 pf				

AIR CAPACITORS



8050 series is a unique design concept of vertical mounting of variable air capacitors. Offer space saving advantages over the standard printed circuit units. Capacitors can be adjusted through the circuit board eliminating approach channels required in the standard type units. The overall height of the mounted unit allows this series of capacitor to be used on printed circuit boards mounted on half inch centers.

Stk. No.	Type	Q Factor @100 Mnz	Capacitance Range	1-24	25-49	50-99	100-299
17F190	8051	>5000	.5 pf- 3.5 pf	6.60	5.80	5.35	5.05
17F191	8052	>2000	1.0 pf-10.0 pf	4.60	4.05	3.70	3.30
17F192	8053	>1500	1.0 pf-14.0 pf	5.30	4.70	4.20	3.70

HIGH RF VOLTAGE Quartz Trimmer Capacitors

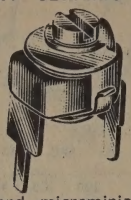
This series bridges the gap between the low power handling capabilities of conventional piston trimmer capacitors and the extremely high power capabilities of vacuum capacitors.

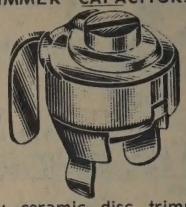
GENERAL SPECIFICATIONS

Voltage Rating	2500 VDC & 2500v peak RF @ 30 mc applied
Dielectric Strenth	10,000 VDC
Insulation Resistance .@ 25p C	10^6 megohms
Temperature Coefficient	0 ± 100 ppm/°C
Current at 30 mc	2 Amps

17F193	7168	>2000	0.5 pf - 5.0 pf	12.25	11.00	10.15	8.95
17F194	7585	>2000	0.8 pf - 10.0 pf	12.90	11.60	10.60	9.40

• NEW 9300 SERIES ROTARY CERAMIC DISC TRIMMER CAPACITORS


9212


9300

Miniature and microminiature rotary ceramic disc trimmer capacitors provide the circuit engineers features heretofore not available in units of such small size. Precision designed rotor plate incorporates specially formulated ceramic materials which provide long life and environmental stability. Is mechanically designed to provide even linear tuning as well as high resistance to shock and vibration. Size: All models except 9312 & 9313 .276 dia. x .315 deep. Models 9312 & 9313 .230 dia. x .315 deep. Weight: ½ oz.

Type	—Q Factor @10MHz	Capacitance Range	Color Code
9300	>200	1.7 pf- 6.0 pf NPO	Red
9301	>300	1.7 pf-10.0 pf +100	None
9302	>500	2.3 pf-20.0 pf —450	Blue
9303	>300	3.8 pf-30.0 pf —550	Orange
9304	>200	4.0 pf-40.0 pf —1400	Brown
9305	>200	4.5 pf-50.0 pf —1400	Green
9312	>300	2.8 pf-10.0 pf 350	None
9313	>300	3.2 pf-18.0 pf 550	Blue

Stk.No.	Type	@1MHz	PF	1-24	25-49	50-99	100-299
17F195	9300	1.7-6.0	200	.98	.90	.80	.60
17F196	9301	1.7-10.0	300	.98	.90	.80	.60
17F197	9302	2.3-20.0	500	.98	.90	.80	.60
17F198	9303	3.8-30.0	300	1.15	1.00	.90	.65
17F199	9304	4.0-40.0	200	1.25	1.10	1.00	.75
17F200	9305	4.5-50.0	200	1.35	1.15	1.05	.80
17F201	9312	2.8-10.0	300	1.80	1.60	1.40	.90
17F202	9313	3.2-18.0	300	1.90	1.70	1.50	.95

MICROCIRCUIT TRIMMER CAPACITORS

7200

7201

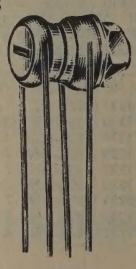
Series is the smallest device of this type available and is ideally suited for UHF oscillators, strip lines, balancing of semiconductors and microwave components as well as for trimming of small fixed capacitors. Electrically, they have a tuning ratio of 10:1 as well as high working voltage and Q's not previously available in such a small package.

Stk. No.	Type	Q Factor @100 MHz	Capacitance Range	1-24	25-49	50-99	100-299
17F203	7200	>500	0.1 pf - 1.3 pf	4.35	3.90	3.45	3.05
17F204	7201	>500	0.1 pf - 1.3 pf	4.60	4.10	3.65	3.20
17F208	7240	>2000	0.2 pf - 2.0 pf	5.05	4.50	4.15	3.70
17F209	7241	>2000	0.2 pf - 2.0 pf	5.30	4.70	4.30	3.85

GENERAL PURPOSE PISTON TRIMMER CAPACITORS

7330

7331


7332

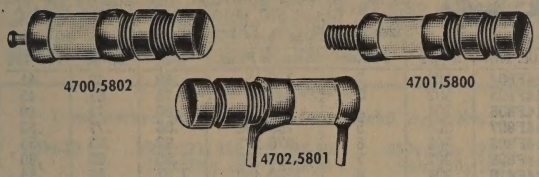
Series of variable capacitors is ideally suited for both commercial and military applications. Solid metal band design assures electrical and mechanical reliability far in excess of conventional trimmers. The three mounting configurations available in this series affords the circuit designer wide latitude in mechanical layout.

Working Voltage 500 VDC (Test 1000 VDC)

Stk. No.	Type	QFactor @1MHz	Capacitance Range	1-24	25-49	50-99	100-299
17F205	7330	>900	1.0 pf - 10.0 pf	3.90	3.35	3.20	3.00
17F206	7331	>900	1.5 pf - 10.0 pf	4.15	3.45	3.25	3.10
17F207	7332	>900	1.0 pf - 10.0 pf	4.35	3.70	3.45	3.25

Johanson Capacitors

SUBMINIATURE UHra HIGH Q VARIABLE AIR CAPACITORS

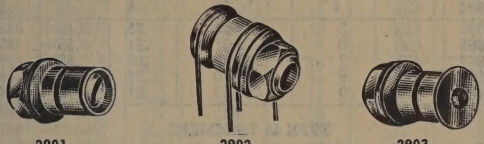


4700 series provides 10:1 capacitance ratio in microminiature size, extra fine tuning of <.35 pf per turn as well as high Q (> 1500 @ 500 M Hz). Their ultra rugged construction and fine tuning resolution assures reliability in the most critical applications.

5800 series incorporates the new patented contact mechanism which affords extremely high Q's, outstanding tuning stability and low dynamic noise.

Stk. No.	Type	Q Factor @ 100 MHz	Capacitance Range	1-24	25-49	50-99	100-299
17F170	4700	>5000	0.35 pf - 3.5 pf				
17F171	4701	>5000	0.35 pf - 3.5 pf	6.15	5.45	4.70	4.45
17F172	4702	>5000	0.35 pf - 3.5 pf				
17F173	5800	>10000	0.35 pf - 3.5 pf				
17F174	5801	>10000	0.35 pf - 3.5 pf	6.20	5.50	4.75	4.35
17F175	5802	>10000	0.35 pf - 3.5 pf				
17F210	5850	>7500	0.5 pf - 5.0 pf				
17F211	5851	>7500	0.5 pf - 5.0 pf	6.65	5.45	5.30	4.70
17F212	5852	>7500	0.5 pf - 5.0 pf				

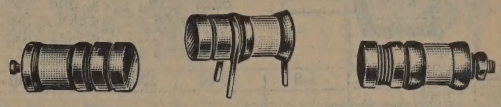
HIGH VOLTAGE VARIABLE AIR CAPACITORS



2900 series is rated at twice the voltage of standard variable air capacitors. . .working voltage is 500 VDC and test voltage is 1000 VDC. Because of their unique design the 2900 series provides greater reliability under voltage stress and vibration. This series is ideally suited to applications where small size and high working voltages are a design criteria.

Stk. No.	Type	Q Factor @ 100 MHz	Capacitance Range	Temperature Coefficient	1-24	25-49	50-99	100-299
17F175	2901	>3000	1.0 pf - 10.0 pf	0±20 ppm/°C				
17F176	2902	>3000	1.0 pf - 10.0 pf	0±20 ppm/°C	6.85	5.90	5.20	4.55
17F177	2903	>3000	1.0 pf - 10.0 pf	0±20 ppm/°C				

MINIATURE HIGH Q VOLTAGE AIR CAPACITORS

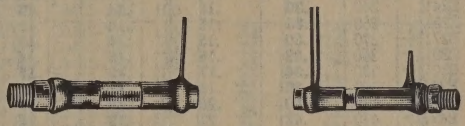


4600 series features in a miniature size high Q, rugged construction, high selectivity and high sensitivity. This series is ideal for both military and commercial applications where reliability and performance are critical.

5700 series is similar to the 4600 series but incorporates the new patented contact mechanism. This design affords Q's previously unavailable in trimmer capacitors as well as providing outstanding tuning stability and extremely low dynamic noise.

Stk. No.	Type	QFactor @ 100 MHz	Capacitance Range	Temperature Coefficient	1-24	25-49	50-99	100-299
17F179	4640	>5000	.4 pf - 6.0 pf	0±50 ppm/°C				
17F180	4642	>5000	.4 pf - 6.0 pf	0±50 ppm/°C	6.80	6.05	5.30	4.95
17F181	4643	>5000	.4 pf - 6.0 pf	0±50 ppm/°C				
17F182	5701	>10000	.4 pf - 6.0 pf	0±15 ppm/°C				
17F183	5702	>10000	.4 pf - 6.0 pf	0±15 ppm/°C	6.85	6.05	6.25	4.90
17F184	5703	>10000	.4 pf - 6.0 pf	0±15 ppm/°C				
17F213	5751	>7500	.8 pf -10.0 pf	0±50 ppm/°C				
17F214	5752	>7500	.8 pf -10.0 pf	0±50 ppm/°C	7.25	6.35	5.60	5.15
17F215	5757	>7500	.8 pf -10.0 pf	0±50 ppm/°C				

MINIATURE PISTON TRIMMER CAPACITORS



This series of capacitors are miniature versions of glass dielectric trimmers and are suited for a wide variety of industrial and military applications. The unique drive mechanism affords precision tuning and electrical stability. The two mounting styles and the exclusive round nut design aid the designer in high component packaging density.

Stk. No.	Type	QFactor @100 MHz	Capacitance Range	Temp. Coefficient	1-24	25-49	50-99	100-299
17F185	7209	>500	.5 pf - 7.5 pf	0±100 ppm/°C	4.25	3.50	2.95	2.60
17F186	7210	>500	.3 pf - 3.0 pf	0±100 ppm/°C	4.25	3.50	2.95	2.60
17F187	7211	>500	.5 pf - 7.5 pf	0±100 ppm/°C	4.40	3.65	3.10	2.70
17F188	7213	>500	.3 pf - 3.0 pf	0±100 ppm/°C	4.30	3.50	2.95	2.65

SPECIAL CAPACITOR SERVICE

- Close Tolerance Testing to 0.1%
- Parts Marking
- Matching Units
- Component Conditioning
- Cutting and Forming Leads
- Service Time - One Week
- Contact Your Nearest Newark Facility

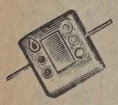
Capacitors ELMENCO

TYPE CM-15 MINIATURE SILVER MICAS

In low-loss phenolic cases, 9/32 by 1/2 by 3/16 in. Tolerance ±5%; ±2% and ±1% available on special order. 500 WVCD. *Closest tolerance ±.5 mmf. Wt., 1 oz.

Stk. No.	Mil. No.	Mmf.	1-9	10-90	100-490	500-990
14F650*	C010D	1	.24	.12	.11	.10
14F651*	C020D	2				
14F652*	C030D	3				
14F653*	C050D	5				
14F654	C100J	10				
14F655	C120J	12				
14F656	C150J	15				
14F658	C200J	20	.22	.11	.10	.09
14F659	C220J	22				
14F660	E240J	24				
14F662	E300J	30				
14F663	E330J	33				
14F665	E390J	39				
14F666	E430J	43				
14F667	E470J	47				
14F668	E500J	50				
14F669	E510J	51				
14F672	E680J	68	.22	.11	.10	.09
14F674	E820J	82				
14F675	E910J	91				
14F676	E101J	100				
14F678	E121J	120	.22	.11	.10	.09
14F679	E131J	130	.24	.12	.11	.10
14F680	E151J	150	.24	.12	.11	.10
14F682	E181J	180	.24	.12	.11	.10
14F683	E201J	200	.26	.13	.12	.11
14F684	E221J	220	.28	.14	.13	.12
14F685	E241J	240	.30	.15	.14	.13
14F686	E251J	250	.30	.15	.14	.13
14F687	E271J	270	.30	.15	.14	.13
14F688	E301J	300	.32	.16	.15	.14
14F689	E331J	330	.34	.17	.16	.15
14F691	E391J	390	.36	.18	.17	.16
14F692	E431J	430	.40	.20	.18	.17
14F693	E471J	470	.42	.21	.19	.18
14F694	E501J	500	.42	.21	.19	.18
14F695	E511J	510	.46	.23	.21	.20

MOLDED SILVERED MICA CAPACITORS



Manufactured in accordance with MIL-C-5 specifications and EIA Specification RS-153. Color coded in accordance with MIL-C-5. Temp. range: —55 to +85°C. Vibration frequency: 10-2000 hz. ±5% tolerance. CM-20: 2/32 x 7/16 x 7/32". CM30: 13/16 x 3/16 x 9/32".

SILVERED TYPE CM20 500 VDCW

Stk. No.	MIL No.	Mmf.	1-24	25-99	100-499
14F865	C101J	100	.25	.19	.14
14F871	C181J	180	.25	.19	.14
14F874	D241J	240	.25	.19	.14
14F875	D251J	250	.25	.19	.14
14F876	D271J	270	.25	.19	.14
14F877	D301J	300	.28	.20	.16
14F879	D361J	360	.28	.20	.16
14F880	D391J	390	.28	.20	.16
14F882	D471J	470	.31	.24	.19
14F883	D501J	500	.31	.24	.19
14F884	D511J	510	.31	.24	.19
14F886	D621J	620	.34	.26	.20
14F887	D681J	680	.34	.26	.20
14F888	D751J	750	.37	.28	.22
14F889	D821J	820	.37	.28	.22
14F890	D911J	910	.40	.32	.25
14F891	E102J	1000	.42	.34	.27
14F892	E112J	1100	.47	.36	.28
14F894	E132J	1300	.47	.36	.28
14F895	E152J	1500	.55	.44	.35
14F896	E162J	1600	.55	.44	.35
14F897	E182J	1800	.60	.48	.38
14F898	E202J	2000	.64	.51	.40

SILVERED TYPE CM30

Stk. No.	Mil. No.	Mmf.	1-24	25-99
14F911	E102J	1000	.43	.34
14F915	E152J	1500	.54	.43
14F919	E222J	2200	.69	.55
14F921	E252J	2500	.74	.59
14F922	E272J	2700	.74	.59
14F923	E302J	3000	.84	.67
14F924	E332J	3300	.90	.72
14F925	E362J	3600	.94	.75
14F926	E392J	3900	.99	.79
14F929	E502J	5000	1.20	.96
14F930	E512J	5100	1.20	.96

TYPE 30 MICA TRIMMERS

Padders use phosphor bronze adjusting plates which assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion, and completely enclosed. Rated 500 volts DC flash. 250 WVDC. Size: 7/8 x 15/16 in. Shpg. wt., 3 oz.

Stk. No.	Type	Plates	Range Mmf.	1-24	25-99	100-499
14F804	302	2	130-15	.69	.62	.41
14F805	303	3	240-65	.75	.67	.45
14F806	304	4	550-100	.80	.73	.48
14F807	305	5	760-190	.86	.77	.52
14F808	306	6	970-275	.92	.83	.55
14F809	307	7	1180-350	1.00	.90	.60
14F810	308	8	1390-450	1.07	.96	.64
14F811	309	9	1600-550	1.14	1.03	.68
14F812	310	10	1890-650	1.22	1.10	.73
14F813	311	11	2110-780	1.30	1.17	.78
14F815	313	13	2605-1150	1.44	1.30	.87
14F816	314	14	2830-1300	1.54	1.38	.92
14F817	315	15	3055-1400	1.64	1.48	.99

TYPE 40 TRIMMERS

Stk. No.	Type	Plts.	Range Mmf.	1-24	25-99	100-499
14F836	400	1 1/8	7-0.9	.36	.32	.21
14F837	402	2	20-1.5	.35	.32	.21
14F838	403	3	35-3	.42	.38	.25
14F839	404	4	60-8	.50	.45	.30

TYPE 42 TRIMMERS

Stk. No.	Type	Plts.	Range Mmf.	1-24	25-99	100-499
14F960	420	1 1/8	12-1	.35	.32	.21
14F961	421	1 3/4	25-2	.35	.32	.21
14F962	422	2	40-4	.35	.32	.21
14F963	423	3	100-7	.40	.36	.24
14F964	424	4	150-14	.48	.43	.29
14F965	425	5	200-24	.55	.49	.33
14F966	426	6	250-37	.61	.55	.37
14F967	427	7	300-55	.69	.62	.41
14F968	428	8	350-70	.74	.67	.45
14F969	429	9	400-90	.81	.73	.49

TYPE 46 TRIMMERS

Stk. No.	Type	Plts.	Range Mmf.	1-24	25-99	100-499
14F818	460	1 1/4	15-1.5	.35	.32	.21
14F819	461	1 3/4	30-2.7	.35	.32	.21
14F820	462	2	80-5	.35	.32	.21
14F821	463	3	180-9	.40	.36	.24
14F822	464	4	280-25	.48	.43	.29
14F823	465	5	380-50	.54	.49	.33
14F824	466	6	480-80	.60	.54	.36
14F825	467	7	580-110	.68	.61	.41
14F826	468	8	680-140	.75	.67	.45
14F827	469	9	780-170	.81	.73	.49

DUR-MICA KITS

Individual clear plastic boxes, labeled for easy handling.

Type CM-15. Kit # 1. Contains one each of 46 capacitors. Values: 1 mmf.—510 mmf. Shpg. wt. 1 1/4 lbs.
14F830. NET **48.00**

Type DM-15. Kit # 10. Five each of 51 capacitors. Values: 1 mmf.—820 mmf. Tol. ±5%. Shpg. wt., 1 1/2 lbs.
14F840. NET **61.20**

Newark's special capacitor service:

- close tolerance testing to 0.1%
- special parts marking
- matching units
- component conditioning
- special packaging
- cutting and forming of leads

Delivery takes one week

DIPPED-MICA CAPACITORS

The Dipped Mica is a silvered mica capacitor with a plastic coating. It combines excellence in stability, dielectric strength, "Q", dielectric constant, chemical inertness, moisture resistance and puncture resistance. Operating temperature range —55°C to 150°C. Standard tolerance ±5% except (*) Min. tolerance ±0.5 Pf. DM5 capacitors are stamped with capacitance values in pf. followed by a letter signifying capacitance tolerance. (J) means ±5%, while (A) signifies ±1% pf. D = ±.5 pf. All ELMENCO dipped mica capacitors meet or exceed requirements set forth in MIL-C-S specifications. Portions of the ELMENCO DM series are the specific values and case sizes tabulated in the MIL-C-5/18 detail specifications. All capacitors rated at 500 volts, except (†), 100 volts and (‡), 300 volts.

SIZE CHART (INCHES)

Dual-Marked With MIL and Commercial Type Nos.

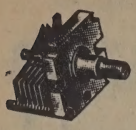
DM-10	.360x.330x.190 to .380x.380x.220	DM-19/ CMO6	.650x.520x.220 to .680x.550x.280
DM-15/ CMO5	.450x.360x.170 to .490x.420x.240	DM-30/ CMO7	.780x.870x.300 to .800x.890x.340

Stk. No.	Type	Pf.	1-9	10-90	100-490	500-990
14F1262	DM5-010D	1*	.38	.19	.17	.16
14F1263	DM5-020D	2*	.38	.19	.17	.16
14F1264	DM5-030D	3*	.38	.19	.17	.16
14F1265	DM5-040D	4*	.38	.19	.17	.16
14F1266	DM5-050D	5*	.38	.19	.17	.16
14F1267	DM5-060D	6	.40	.20	.18	.17
14F1268	DM5-070D	7	.40	.20	.18	.17
14F1269	DM5-080D	8	.40	.20	.18	.17
14F1270	DM5-100J	10‡	.40	.20	.18	.17
14F1271	DM5-120J	12‡	.42	.21	.19	.18
14F1272	DM5-150J	15‡	.42	.21	.19	.18
14F1273	DM5-180J	18‡	.42	.21	.19	.18
14F1274	DM5-200J	20‡	.28	.14	.13	.12
14F1275	DM5-220J	22‡	.30	.15	.14	.13
14F1276	DM5-240J	24‡	.30	.15	.14	.13
14F1277	DM5-270J	27‡	.30	.15	.14	.13
14F1278	DM5-300J	30‡	.30	.15	.14	.13
14F1279	DM5-330J	33‡	.32	.16	.14	.13
14F1280	DM5-360J	36‡	.34	.17	.15	.14
14F1281	DM5-390J	39‡	.34	.17	.15	.14
14F1282	DM5-430J	43‡	.34	.17	.15	.14
14F1283	DM5-470J	47‡	.34	.17	.15	.14
14F1284	DM5-500J	50‡	.34	.17	.15	.14
14F1285	DM5-510J	51‡	.36	.18	.16	.15
14F1286	DM5-560J	56‡	.38	.19	.17	.16
14F1287	DM5-620J	62‡	.40	.20	.18	.17
14F1288	DM5-680J	68‡	.42	.21	.19	.18
14F1289	DM5-750J	75‡	.42	.21	.19	.18
14F1291	DM5-910J	91‡	.50	.25	.23	.21
14F1292	DM5-101J	100‡	.52	.26	.24	.22
14F1294	DM5-121J	120‡	.42	.21	.19	.18
14F1295	DM5-131J	130‡	.50	.25	.23	.21
14F1296	DM5-151J	150‡	.56	.28	.25	.24
14F1297	DM5-161J	160‡	.58	.29	.26	.25
14F1298	DM5-181J	180‡	.64	.32	.29	.27
14F1151	DM10-020D	2*	.32	.16	.15	.14
14F1152	DM10-030D	3*	.32	.16	.15	.14
14F1153	DM10-050D	5*	.32	.16	.15	.14
14F1154	DM10-100J	10	.32	.16	.15	.14
14F1155	DM10-120J	12	.34	.17	.15	.14
14F1156	DM10-150J	15	.34	.17	.15	.14
14F1157	DM10-180J	18	.34	.17	.15	.14
14F1158	DM10-200J	20	.26	.13	.12	.11
14F1159	DM10-220J	22	.26	.13	.12	.11
14F1160	DM10-240J	24	.26	.13	.12	.11
14F1161	DM10-270J	27	.26	.13	.12	.11
14F1162	DM10-300J	30	.26	.13	.12	.11
14F1163	DM10-330J	33	.26	.13	.12	.11
14F1164	DM10-360J	36	.28	.14	.13	.12
14F1166	DM10-430J	43	.28	.14	.13	.12
14F1167	DM10-470J	47	.28	.14	.13	.12
14F1168	DM10-500J	50	.26	.13	.12	.11
14F1169	DM10-510J	51	.28	.14	.13	.12
14F1170	DM10-560J	56	.28	.14	.13	.12
14F1171	DM10-620J	62	.28	.14	.13	.12
14F1172	DM10-680J	68	.30	.15	.14	.12
14F1173	DM10-750J	75	.30	.15	.14	.12
14F1174	DM10-820J	82	.28	.14	.13	.12
14F1176	DM10-101J	100	.30	.15	.14	.13
14F1177	DM10-111J	110	.30	.15	.14	.13
14F1178	DM10-121J	120	.32	.16	.15	.14
14F1179	DM10-131J	130	.30	.15	.14	.13
14F1180	DM10-151J	150	.32	.16	.15	.14
14F1182	DM10-181J	180	.38	.19	.17	.16
14F1183	DM10-201J	200	.40	.20	.18	.17
14F1184	DM10-221J	220	.42	.21	.19	.18
14F1185	DM10-241J	240	.44	.22	.20	.19
14F1186	DM10-251J	250	.44	.22	.20	.19
14F1187	DM10-271J	270‡	.42	.21	.19	.18
14F1188	DM10-301J	300‡	.46	.23	.21	.20
14F1189	DM10-331J	330†	.44	.22	.20	.19
14F1190	DM10-361J	360†	.46	.23	.21	.20
14F1200	DM10-391J	390†	.50	.25	.23	.21

Stk. No.	Type	Pf.	1-9	10-90	100-490	500-990
14F549	DM15-010D	1*	.26	.13	.12	.11
14F550	DM15-020D	2*				
14F551	DM15-030D	3*				
14F552	DM15-050D	5*				
14F553	DM15-100J	10				
14F554	DM15-120J	12				
14F555	DM15-150J	15				
14F556	DM15-180J	18				
14F557	DM15-200J	20	.24	.12	.11	.10
14F558	DM15-220J	22				
14F559	DM15-240J	24				
14F560	DM15-270J	27				
14F561	DM15-300J	30				
14F562	DM15-330J	33				
14F563	DM15-360J	36				
14F564	DM15-390J	39				
14F565	DM15-430J	43				
14F566	DM15-470J	47				
14F567	DM15-500J	50				
14F568	DM15-510J	51				
14F569	DM15-560J	56				
14F570	DM15-620J	62	.24	.12	.11	.10
14F571	DM15-680J	68				
14F572	DM15-750J	75				
14F573	DM15-820J	82				
14F574	DM15-910J	91				
14F575	DM15-101J	100				
14F576	DM15-111J	110	.24	.12	.11	.10
14F577	DM15-121J	120	.24	.12	.11	.10
14F578	DM15-131J	130	.26	.13	.12	.11
14F579	DM15-151J	150	.26	.13	.12	.11
14F580	DM15-161J	160	.26	.13	.12	.11
14F581	DM15-181J	180	.26	.13	.12	.11
14F582	DM15-201J	200	.26	.13	.12	.11
14F583	DM15-221J	220	.28	.14	.13	.12
14F584	DM15-241J	240	.30	.15	.14	.13
14F585	DM15-251J	250	.30	.15	.14	.13
14F586	DM15-271J	270	.30	.15	.14	.13
14F587	DM15-301J	300	.32	.16	.15	.14
14F588	DM15-331J	330	.36	.18	.16	.15
14F589	DM15-361J	360	.36	.18	.16	.15
14F590	DM15-391J	390	.38	.19	.17	.16
14F591	DM15-431J	430	.40	.20	.18	.17
14F592	DM15-471J	470	.42	.21	.19	.18
14F593	DM15-501J	500	.42	.21	.19	.18
14F594	DM15-511J	510	.44	.22	.20	.19
14F595	DM15-561J‡	560	.44	.22	.20	.19
14F596	DM15-621J‡	620	.48	.24	.21	.20
14F597	DM15-681J‡	680	.52	.26	.23	.22
14F598	DM15-751J‡	750	.56	.28	.25	.23
14F599	DM15-821J‡	820	.60	.30	.27	.26
14F1116	DM15-911J†	910	.52	.26	.23	.22
14F1117	DM15-102J†	1000	.56	.28	.25	.24
14F458	DM19-221J	220	.22	.11	.10	.09
14F460	DM19-251J	250	.22	.11	.10	.09
14F461	DM19-271J	270	.26	.13	.12	.11
14F463	DM19-331J	330	.26	.13	.12	.11
14F464	DM19-361J	360	.28	.14	.13	.12
14F465	DM19-391J	390	.28	.14	.13	.12
14F467	DM19-471J	470	.30	.15	.14	.13
14F468	DM19-501J	500	.30	.15	.14	.13
14F470	DM19-561J	560	.30	.15	.14	.13
14F472	DM19-681J	680	.34	.17	.15	.14
14F474	DM19-821J	820	.38	.19	.18	.17
14F477	DM19-112J	1100	.46	.23	.21	.19
14F478	DM19-122J	1200	.48	.24	.22	.21
14F479	DM19-132J	1300	.50	.25	.24	.22
14F480	DM19-152J	1500	.56	.28	.27	.25
14F481	DM19-162J	1600	.56	.28	.27	.25
14F482	DM19-182J	1800	.60	.30	.29	.27
14F483	DM19-202J	2000	.66	.33	.31	.29
14F484	DM19-222J	2200	.72	.36	.34	.32
14F1201	DM19-242J	2400	.74	.37	.35	.33
14F1202	DM19-252J	2500	.78	.39	.37	.35
14F1203	DM19-272J	2700	.84	.42	.40	.37
14F1204	DM19-302J	3000	.92	.46	.43	.41
14F1205	DM19-332J	3300	.98	.49	.46	.43
14F1206	DM19-362J	3600	1.06	.53	.50	.47
14F1207	DM19-392J	3900	1.12	.56	.52	.49
14F1208	DM19-432J	4300	1.24	.62	.56	.54
14F1209	DM19-472J	4700	1.32	.66	.60	.59
14F1210	DM19-502J	5000	1.40	.70	.65	.63
14F1211	DM19-512J	5100	1.44	.72	.66	.64

Capacitors

E. F. JOHNSON



TYPE "L" CAPACITORS

The rotor bearing and stator support rods are soldered directly to the Steatite end frames, making the unit virtually vibration-proof. Threaded 3/8-32, mounting nut provided. Plate spacing .030". Shaft diameter: .250. shaft length: 25/32". Size: 1 3/8w.x1 3/8h. Av. shpg. wt. 6 oz.

Single Section—Single End Plate

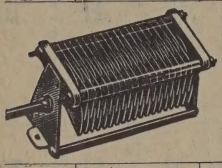
Stk.No.	Type	pf	Lgth.	1-9	10-49	50-99
41F176	167-0001-001	2.2-10	3/4"	2.50	2.25	2.00
41F177	167-0002-001	2.9-25	61/64"	2.65	2.40.	2.22
41F178	167-0003-001	4.0-50	1 1/4"	2.90	2.60	2.30
41F179	167-0004-001	5.2-75	1 9/16"	3.10	2.80	2.47

Single Section—Double End Plate

41F180	167-0011-001	6.8-99	2 1/32"	5.10	4.60	4.07
41F181	167-0012-001	11.6-202	2 21/64"	6.70	6.03	5.34

Butterfly

41F182	167-0021-001	2.3-10	55/64"	3.00	2.70	2.40
41F183	167-0022-001	3.7-25	1 1/4"	3.55	3.19	2.83
41F184	167-0023-001	5.9-50	1 3/4"	4.40	3.95	3.50

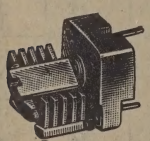


TYPE "E" CAPACITORS

Aluminum plates .032" thick with rounded edges—stainless steel shafts—heavy phosphor bronze contact springs—large 1/4" tie rods. Panel or chassis mounting. Shaft dia. 1/4". Shaft length: 5/8"; Size: 2 19/32x2 5/8". Av. shpg. wt. 1 lb.

Stk.No.	Type	pf	Pk.V.	Lgth.	1-9	10-49
41F130	154-0002-001	15-353	2000	3 31/32"	10.60	9.35
41F136	154-0009-001	20-251	3000	5 3/8"	11.50	10.20
41F137	154-0011-001	9-38	4500	2 3/4"	7.50	6.65
41F138	154-0012-001	11-53	4500	3 13/32"	8.00	7.10
41F139	154-0013-001	13-74	4500	4 1/32"	8.60	7.65
41F140	154-0014-001	16-101	4500	4 31/32"	9.30	8.25
41F141	154-0015-001	20-145	4500	6 17/32"	10.90	9.65
41F142	154-0016-001	32-241	4500	10"	14.00	12.40

TYPE "U" AIR VARIABLE CAPACITORS—SINGLE SECTION

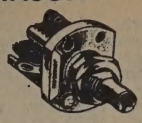


*Sub-miniature Type "U" air variable capacitors. Units offer high "Q" (greater than 1500 at 1 MHz), high torque (2 1/2 to 10 ounce inches), exceptionally low temperature coefficient (plus 45± 15 PPM/°C), and absolute freedom from moisture entrapment found in trimmer capacitors of the enclosed or solid. Dielectric type. Lengths shown are ±1/32".

PRINTED CIRCUIT MOUNTING

Stk.No.	Type	pf	Plates	Lgth.	1-49	50-99	100-499
41F215	189-0501-005	1.2- 4.2	4	27/64"	.64	.55	.47
41F216	189-0502-005	1.3- 6.7	6	15/32"	.66	.56	.49
41F218	189-0504-005	1.5-11.6	10	9/16"	.66	.56	.49
41F219	189-0505-005	1.7-14.1	12	39/64"	.68	.59	.51
41F220	189-0506-005	1.8-16.7	14	43/64"	.70	.61	.52
41F230	189-0507-005*	2.0-19.3	16	23/32"	.72	.62	.54

*500 V. peak, others are 650V.



JOHNSON MINIATURES TYPE "M"

With .188" dia. x 1/2" slotted shaft. 1/4" mounting bushing. Steatite end frames. 3/4"Hx5/8"W. Shpg. wt. 4 oz.

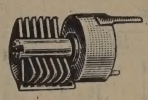
SINGLE TYPE

Stk. No.	Type	pf	Depth	1-9	10-49	50-99
41F200	160-0102-001	1.5- 5.0	45/64"	.95	.86	.76
41F201	160-0104-001	1.8- 8.7	13/16"	1.00	.90	.80
41F202	160-0107-001	2.3-14.2	1"	1.10	.99	.88
41F203	160-0110-001	2.7-19.6	1 11/64"	1.15	1.04	.92

BUTTERFLY TYPE

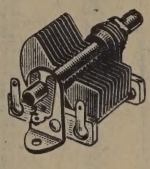
41F209	160-0205-001	1.8- 5.1	13/16"	1.40	1.26	1.12
41F210	160-0208-001	2.2- 8.0	1"	1.55	1.40	1.23
41F211	160-0211-001	2.7-10.8	1 11/64"	1.70	1.53	1.36

TYPE T VARIABLE CAPACITOR



Smaller size, machined, plate type, single section, printed circuit, trimmer capacitor. Mounts interchangeably with 3/8" dia. printed circuit type ceramic disc trimmers. Electrically stable—TC plus 30±15PPM/°C. "Q" greater than 1500 at 1 MHz. Peak voltage 250 VDC.

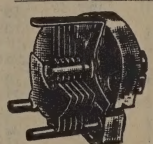
Stk.No.	Type	pf	Lgth.	1-49	50-99	100-499
41F241	187-0103-005	1.3-5.4	15/32"	.66	.60	.54
41F242	187-0106-005	1.7-11.0		.70	.64	.58
41F243	187-0109-005	1.9-15.7		.78	.71	.64



TYPE "R" CAPACITORS

Featuring extra heavy steatite support insulators and .023" thick brass plates. All metal parts are heavy nickel plated for corrosion resistance. Plate spacing .024" bearing threaded 3/8"-32. Heavy brass end frames provide superior rigidity. Double bearing construction and silver plated beryllium copper wiring contacts provide smooth, reliable performance. Av. shp. 6 oz.

Stk.No.	Type	pf	Lgth.	1-9	10-49	50-99
41F191	149-0001-001	5-20	17/32"	3.20	2.88	2.55
41F192	149-0002-001	6-35	17/32"	3.35	3.00	2.67
41F195	149-0005-001	7.1-102	1 13/32"	3.70	3.32	2.95
41F196	149-0006-001	8.0-140	1 19/32"	4.00	3.60	3.20



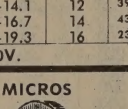
TYPE "K" CAPACITORS

Features DC200 impregnated steatite end frames, notched stator terminals and extra rigid soldered plate construction. Square mounting studs tapped 4-40 on 21/32" centers. Plates are brass, nickel plated. Range is in mmf per section. Plate spacing is .015". Peak voltage rating 1,000 volts. Size: 1 5/16w.x1 7/32h. Av. shpg. 4 oz.

Stk.No.	Type	pf	Lgth.	1-9	10-49	50-99
41F168	158-0001-001	2.3-10	7/8"	1.40	1.26	1.11
41F169	158-0002-001	2.7-26	1"	1.45	1.30	1.16
41F170	158-0003-001	3.4-55	1 3/16"	1.55	1.39	1.24
41F171	158-0004-001	4.0-78	1 3/8"	1.65	1.48	1.32
41F172	158-0005-001	4.7-107	1 5/8"	1.85	1.66	1.47

HAMMARLUND

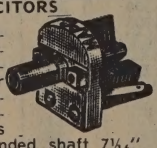
HAMMARLUND APC MICROS



Air-dielectric capacitors. Steatite base. Air gap .015". Will fit 1 1/4" diameter coil frames. Screwdriver adj. Wt., 4 oz.

Stk.No.	Type	Range-mmf	NET
41F326	APC-25	3.0-25	1.25
41F327	APC-50	3.9-50	1.35
41F330	APC-140	7.8-140	1.80

MAPC CAPACITORS



General purpose capacitors similar to APC series. MAPC series is provided with a hex collar on a slotted shaft for adjustment of the rotor positions. The MAPC "B" is furnished with an extended shaft 7 1/16" long. Silicon treated steatite bases and all brass nickel plated metal parts. Shpg. Wt. 4 oz.

41F343	MAPC-15	2.3-15	1.10
41F344	MAPC-25	2.6-25	1.15
41F346	MAPC-50	3.2-50	1.25
41F348	MAPC-100	4.5-100	1.45

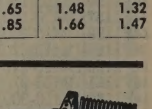
MC MIDGET CAPACITORS

Steatite-insulated condensers with plated brass plates. Double-bearing design. 1/4" shaft. Single-spaced types .0245". Capacity increases clockwise. *Straight line capacitance characteristics. Others have midline characteristics. MCD types are splitstator. The suffix X indicates air gap of .0715". Shpg. wt., 10 oz.

SINGLE-SPACED MIDGETS

Stk.No.	Type	Range-mmf	NET
41F300	*MC-20-S	5.5-20	2.75
41F302	*MC-50-S	6.5-50	2.95
41F304	*MC-75-S	8.0-80	3.10
41F306	*MC-100-S	8.3-100	3.25
41F308	MC-140-M	9.0-140	3.50
41F309	*MC-140-S	10.0-140	3.50
41F310	MC-200-M	10.3-200	3.90
41F311	MC-250-M	12.0-250	4.25
41F312	MC-325-M	13.5-320	4.75
41F324	MCD-35-MX	6.0-31	9.10
41F325	*MCD-35-SX	6.8-31	8.75

HF MICROS



For tuning or trimming critical HF circuits. Nickel plated. Steatite insulation. H F D are split stator. *Double space. 6 oz.

Stk.No.	Type	Range-mmf	NET
41F331	HF-15	2.8-17.5	1.45
41F332	HF-35	3.2-36	1.55
41F333	HF-50	3.7-52	1.75
41F334	HF-100	5.3-102	2.00
41F335	HF-140	6.3-142	2.15
41F336	*HF-15-X	3.6-15	1.45
41F337	*HF-30-X	5.2-30	1.85

VHF TRIMMERS

Type MAC. Nickel plated. Steatite insulation. Screwdriver adjustment. Air gap: 00.017. These capacitors are tested at 1240 volts peak, 60 cycles. Have straight line capacitance characteristics. Shpg. wt., 7 oz.

41F349	MAC-5	1.3-5.4	.90
41F350	MAC-10	1.5-9.6	.95
41F351	MAC-15	1.9-15.8	1.00
41F352	MAC-20	2.2-21.5	1.10

Ceramic Capacitors NYTRONICS

"DECI-CAP"

Epoxy-molded subminiature ceramic capacitor. Operating range: —55°C to +125°C. High density cordwood packaging. Capacitance range: 4.7-27,000 pf. Size: all 0.100" dia. x 0.250" l. (¼ watt resistor). Tolerance: ±10%. Working voltage 4.7-470 pf: 200 volts DC. 560 pf to 27,000 pf: 100 volts DC. Meets MIL-C-11015C.

Stk. No.	Type	PF	1-24	25-49	50-99	100-249	250-499	500-999
35F1700	DC-047	4.7						
35F1701	DC-056	5.6						
35F1702	DC-068	6.8						
35F1703	DC-082	8.2						
35F1704	DC-100	10						
35F1705	DC-120	12						
35F1706	DC-150	15						
35F1707	DC-180	18						
35F1708	DC-220	22						
35F1709	DC-270	27						
35F1710	DC-330	33						
35F1711	DC-390	39	.53	.42	.36	.33	.31	.29
35F1712	DC-470	47						
35F1713	DC-560	56						
35F1714	DC-680	68						
35F1715	DC-820	82						
35F1716	DC-101	100						
35F1717	DC-121	120						
35F1718	DC-151	150						
35F1719	DC-181	180						
35F1720	DC-221	220						
35F1721	DC-271	270						
35F1722	DC-331	330						
35F1723	DC-391	390	.53	.42	.36	.33	.31	.29
35F1724	DC-471	470	.53	.42	.36	.33	.31	.29
35F1725	DC-561	560	.90	.71	.62	.56	.52	.48
35F1726	DC-681	680	.90	.71	.62	.56	.52	.48
35F1727	DC-821	820	.90	.71	.62	.56	.52	.48
35F1728	DC-102	1000	1.22	.97	.84	.76	.71	.66
35F1729	DC-122	1200	1.34	1.07	.93	.84	.78	.73
35F1730	DC-152	1500	1.37	1.09	.95	.87	.80	.74
35F1731	DC-182	1800	1.51	1.22	1.05	.96	.89	.82
35F1732	DC-222	2200	1.53	1.23	1.07	.97	.90	.83
35F1733	DC-272	2700	1.70	1.36	1.18	1.08	1.00	.90
35F1734	DC-332	3300	1.79	1.43	1.25	1.13	1.04	.97
35F1735	DC-392	3900	1.87	1.50	1.30	1.18	1.09	1.02
35F1736	DC-472	4700	1.93	1.56	1.34	1.22	1.12	1.05
35F1737	DC-562	5600	2.18	1.74	1.51	1.38	1.28	1.18
35F1738	DC-682	6800	2.40	1.93	1.67	1.52	1.40	1.31
35F1739	DC-822	8200	2.63	2.10	1.82	1.66	1.53	1.43
35F1740	DC-103	10000	2.89	2.32	2.01	1.83	1.69	1.58
35F1741	DC-123	12000	3.02	2.42	2.09	1.91	1.76	1.64
35F1742	DC-153	15000	3.30	2.64	2.29	2.08	1.93	1.79
35F1743	DC-183	18000	3.30	2.64	2.29	2.08	1.93	1.79
35F1744	DC-223	22000	3.35	2.69	2.33	2.12	1.96	1.82
35F1745	DC-273	27000	3.77	3.02	2.62	2.39	2.20	2.05

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HY-CAP

The HY-CAP is a high capacity ceramic capacitor. For design application in coupling, by-pass, and filter circuits where temperature stability and high capacitance are mandatory. Capacitance range is .01 mfd. to 2.5 mfd. Less than ±15% capacitance change from —55°C to +125°C. Working voltage is 100 Volts D.C. with no derating to 125°C. Life test is 1000 hours at 125° under twice rated voltage. Tol: ±20%. This ceramic capacitor meets the requirements of MIL-C-11015.

Stk. No.	Type HC	Mfd.	H. Max.	W. Max.	T Max.	1-24	25-49	50-99	100-249	250-499
35F1746	A-103-M	.01	0.175	0.225	0.110	1.43	1.14	1.00	.91	.84
35F1748	A-153-M	.015	0.175	0.225	0.110	1.78	1.42	1.24	1.12	1.04
35F1750	A-223-M	.022	0.175	0.225	0.110	2.16	1.73	1.50	1.37	1.27
35F1751	A-273-M	.027	0.175	0.225	0.110	2.59	2.07	1.80	1.64	1.51
35F1752	A-333-M	.033	0.175	0.225	0.110	2.91	2.33	2.03	1.84	1.71
35F1753	B-393-M	.039	0.310	0.325	0.150	3.31	2.65	2.30	2.09	1.94
35F1754	B-473-M	.047	0.310	0.325	0.150	3.49	2.79	2.43	2.20	2.04
35F1758	B-104-M	.100	0.310	0.325	0.150	4.51	3.61	3.13	2.85	2.67
35F1759	C-124-M	.12	0.310	0.325	0.150	4.53	3.63	3.15	2.86	2.66
35F1760	C-154-M	.15	0.355	0.670	0.150	4.62	3.70	3.21	2.93	2.71
35F1762	C-224-M	.22	0.355	0.670	0.150	5.09	4.07	3.54	3.21	2.98
35F1764	C-334-M	.33	0.355	0.670	0.150	6.09	4.54	3.94	3.59	3.33
35F1765	C-394-M	.39	0.355	0.670	0.150	6.09	4.54	3.94	3.59	3.33
35F1766	C-474-M	.47	0.355	0.670	0.150	6.59	5.27	4.58	4.17	3.86
35F1767	D-105-M	1.0	0.550	0.800	0.225	10.40	8.32	7.24	6.58	6.09

HIGH STABILITY CERAMIC MOLDED AND CHIP CAPACITORS

NYT-CAP. This ceramic capacitor has ultra-high stability. Capacitance range is 4.7 pf. to 4700pf. Working voltage is 200 Volts D.C. Miniature molded epoxy case suitable for high component density applications. For use in oscillators, filters, and other critical circuitry. Tolerance ±10%.

CERAMIC

CHIP

NYT-CHIP. Provides in slug form high stability and low loss features of the epoxy molded NYT-CAP. Compatible with integrated circuitry, thick and thin film circuitry, and printed circuitry. Capacitance range: 4.7pf to 4700pf. Tolerance: ±10% standard. 200 VDC rating. With wrap-around terminals.

NYT-CAP

Cap Range	Size	1-24	25-49	50-99	100-249	250-499	500-999
4.7-82pf	.1" dia.x.25 l.	1.45	1.17	1.01	.93	.85	.79
100-220pf	.1" dia.x.25 l.	1.53	1.24	1.07	.97	.90	.83
270-470pf	.35"x.25"x.1"	2.51	2.02	1.75	1.59	1.47	1.37
560-1000pf	.35"x.25"x.1"	3.45	2.76	2.39	2.18	2.01	1.87
1200-4700pf	.35"x.25"x.1"	4.33	3.47	3.01	2.74	2.53	2.36

Stk.No.	Type	pf	Stk.No.	Type	pf
35F1771	NC-047	4.7	35F1787	NC-101	100
35F1772	NC-056	5.6	35F1788	NC-121	120
35F1773	NC-068	6.8	35F1790	NC-181	180
35F1774	NC-082	8.2	35F1791	NC-221	220
35F1775	NC-100	10	35F1792	NC-271	270
35F1776	NC-120	12	35F1793	NC-331	330
35F1778	NC-180	18	35F1795	NC-471	470
35F1779	NC-220	22	35F1796	NC-561	560
35F1780	NC-270	27	35F1798	NC-821	820
35F1781	NC-330	33	35F1799	NC-102	1000
35F1782	NC-390	39	35F1800	NC-122	1200
35F1783	NC-470	47	35F1801	NC-152	1500
35F1784	NC-560	56	35F1802	NC-182	1800
35F1785	NC-680	68	35F1805	NC-332	3300
35F1786	NC-820	82			

NYT-CHIP

Cap Range	Size	1-24	25-49	50-99	100-249	250-499	500-999
4.7-82pf	.17"x.065"x.07"	1.40	1.12	.96	.88	.80	.74
100-220pf	.17"x.065"x.07"	1.48	1.18	1.02	.92	.84	.78
270-470pf	.28"x.195"x.07"	2.46	1.97	1.70	1.53	1.42	1.32
560-1000pf	.28"x195"x.07"	3.40	2.71	2.34	2.13	1.96	1.82
1200-4700pf	.28"x.195"x.07"	4.27	3.42	2.96	2.69	2.48	2.31

Stk.No.	Type	pf	Stk.No.	Type	pf
35F1814	NCU-150	15	35F1827	NCU-181	180
35F1815	NCU-180	18	35F1828	NCU-221	220
35F1816	NCU-220	22	35F1831	NCU-391	390
35F1817	NCU-270	27	35F1832	NCU-471	470
35F1818	NCU-330	33	35F1833	NCU-561	560
35F1819	NCU-390	39	35F1835	NCU-821	820
35F1820	NCU-470	47	35F1836	NCU-102	1000
35F1821	NCU-560	56	35F1840	NCU-222	2200
35F1822	NCU-680	68	35F1841	NCU-272	2700
35F1824	NCU-101	100	35F1842	NCU-332	3300
35F1825	NCU-121	120	35F1844	NCU-472	4700

Switch Application Information

Some Important Considerations Are:

A. LOAD REQUIREMENTS

1. Voltage (AC-DC), Current, Horsepower
2. Resistive, Inductive, Motor, Lamp, Rectifier, Dry Circuit

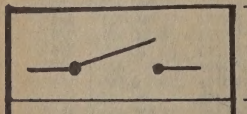
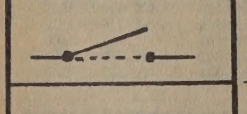
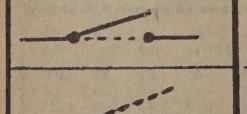
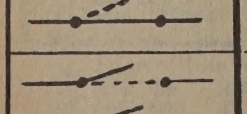
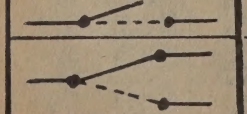
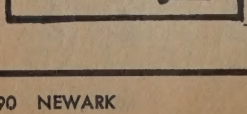
B. EXPECTED LIFE

1. Number of Operations
2. Duty Cycle — Intermittent or Prolonged.

C. ENVIRONMENTAL CONDITIONS

1. Vibration and Shock
2. Sand, Dust, and Other Contaminants
3. Temperature Extremes
4. Fungus
5. Salt Spray or Other Corrosive Atmospheres
6. Other Unusual Conditions of Service

Frequently Used Switch Terms

 Single Pole	Action interrupting current in a single conductor.
 Single Throw	A moving contact element completing a circuit in only one of its extreme positions.
 Normally Open	Circuit is non-functioning when switch is in "off" position.
 Normally Closed	Circuit is functioning when switch is not operated. Operation causes a break of the current.
 Double Pole	Switch that simultaneously makes or breaks current in two conductors.
 Double Throw	Switch that alternately completes a circuit at either of its extremes.

EASY INDEX TO SWITCHES

Newark stocks a wide variety of high quality switches, in depth, ready for immediate delivery to your installation. These switches meet all types of commercial, industrial and military requirements. Carefully selected by Newark's staff of marketing specialists, all switches stocked are produced to exacting specifications by leading manufacturers. All switches listed are in stock, in OEM quantities, at OEM prices. If you have a particular requirement, just call your nearest Newark facility for the best service anywhere. See back cover for your closest Newark facility.

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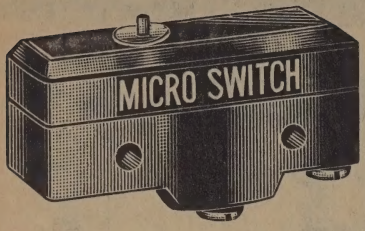
MICRO SWITCH Precision Switches

STANDARD BASIC INDUSTRIAL SWITCHES

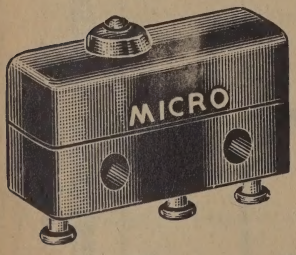


- U.L. and CSA Listed
- 20,000,000 Life Cycle
- High Temperature Construction
- Sealed Plunger and Cover

Type Z SPDT switches offer precision snap-action mechanism enclosed in molded plastic case. Designed for compactness, lightweight, accurate repeatability and long life. Molded terminals, enclosed mounting holes, and low moisture absorbing plastic for protection of switching mechanism. Sealed plunger and cover afford additional protection. Includes wide variety of design variations such as operating force as low as 4 oz. max.; sensitive differential travel of .0002" to .0003"; power load switching capability to 25 amps; motor handling capacity of 2 HP at 250 VAC; temperature tolerance to +180°F on standard construction; high temperature construction for up to +400°F; and alloy contacts for special applications. Type DT are DPDT and are interchangeable with Type Z. All have screw terminals except: *solder terminals; †indicates mounting holes accept pins or screws; §recommended for added overtravel.

Stock No.	Mfr's Type	Switch Type	Rating (Amps)	Operating Force	Pre-Travel	Actuator Type	Special Application	EACH 1-9	EACH 10-24	EACH 25-49
23F5039	BZ-2R-A2	SPDT	15	9-13 oz.	.015"	Pin Plunger	General	2.05	1.95	1.85
23F5040	BZ-2R24-A2	SPDT	15	9-13 oz.	.015"	Pin Plunger	To +250°F	2.25	2.14	2.03
23F5041	*BZ-RX	SPDT	15	7-9 oz.	.012"	Pin Plunger	Reset	3.15	3.00	2.84
23F5042	BA-3ST	SPDT	25	26-38 oz.	.065"	Pin Plunger	High DC	4.30	4.09	3.87
23F5043	§BZ-2RD-A2	SPDT	15	9-13 oz.	.015"	Plunger	Slow 20° Cam	2.55	2.42	2.30
23F5044	BA-2RB-A2	SPDT	20	14-22 oz.	.050"	Plunger	20 Amp Load	2.55	2.42	2.30
23F5045	§BZ-2RS-A2	SPDT	15	9-13 oz.	.015"	Plunger	In Line	2.55	2.42	2.30
23F5046	§BZ-2RQ1-A2	SPDT	15	9-13 oz.	.015"	Plunger	Slow 30° Cam	4.30	4.09	3.87
23F5047	§BZ-2RQ18-A2	SPDT	15	9-13 oz.	.015"	Roll. Plunger	Fast 30° Cam	7.40	7.03	6.66
23F5048	BZ-2RQ181-A2	SPDT	15	9-13 oz.	.015"	Roll. Plunger	90° to Axis	7.40	7.03	6.66
23F5099	BZ-2RW80-A2	SPDT	15	2.5 oz.	.....	2.5" Lever	.....	2.50	2.38	2.25
23F5050	BZ-2RW84-A2	SPDT	15	1 oz.	.328"	Lever	Lower Force	2.50	2.38	2.25
23F5051	BZ-2RW-A2	SPDT	15	1-2.5 oz.	.....	Lever	Repeat Oper.	2.50	2.38	2.25
23F5052	BZ-2RW899-A2	SPDT	15	2.5 oz.	.....	Lever	Adjustable	3.15	3.00	2.84
23F5053	BZ-2RW863-A2	SPDT	15	1 oz.	.750"	6" Lever	.....	2.70	2.57	2.43
23F5025	BZ-2RW8244-A2	SPDT	5	2.5 oz.	.....	Lever	To +400°F	3.15	3.00	2.84
23F5026	BZ-2RW822-A2	SPDT	15	6 oz.	.....	1.05" Lever	Roller	3.15	3.00	2.84
23F5027	BZ-2RW82224-A2	SPDT	15	6 oz.	.....	Lever	To +250°F	3.35	3.19	3.02
23F5028	BZ-2RW82299-A2	SPDT	15	6 oz.	.....	Lever	Adjustable	3.75	3.56	3.38
23F5029	BZ-2RW82-A2	SPDT	15	3.5 oz.	.....	1.90" Lever	Roller	3.15	3.00	2.84
23F5030	BZ-2RW826-A2	SPDT	15	6 oz.	.....	.37x.15" Roll.	1-Way	3.75	3.56	3.38
23F5031	BZ-2RW825-A2	SPDT	15	8 oz.	.....	.19x.19" Roll.	1-Way	3.75	3.56	3.38
23F5032	BZ-2RL-A2	SPDT	15	5 oz.	.....	Flex. Leaf	Stability	2.40	2.28	2.16
23F5033	BZ-2RL2-A2	SPDT	15	5 oz.	.....	Flex Leaf	Roller	3.00	2.95	2.70
23F5034	†DT-2R-A7	DPDT	10	12-20 oz.	.075"	Pin Plunger	.....	9.30	8.83	8.37
23F5035	DT-2RV-A7	DPDT	10	3.5-6 oz.	1"	Lever	.....	9.75	9.26	8.78
23F5036	DT-2RV3-A7	DPDT	10	4-7 oz.	.270"	Lever	Reversed	9.75	9.26	7.88
23F5037	DT-2RV212-A7	DPDT	10	9-15 oz.	.130"	Roll. Lever	Reversed	10.15	9.65	9.14
23F5038	DT-2RV216-A7	DPDT	10	2.5 lbs.	.040"	Roll. Lever	.....	10.35	9.83	9.32

SUBMINIATURE BASIC SWITCHES



- U.L. and CSA Listed
- Hi-Temp. Designs to +400°F
- Bifurcated Gold Contacts
- 10,000,000 Life Cycle

Miniature and subminiature SPDT basic switches combine precision operation and long life. Ideal for electronic and aerospace equipment, or application where size and weight are critical. Type 1SX Series (includes Type JS) are smallest Micro Switch snap-action switch. This series offers bifurcated gold contacts for reliability, low operating force to 3 oz. maximum, power load switching capabilities to 7 amps., and long mechanical life of 10,000,000 cycles. Type SM series offers bifurcated gold contacts, low operating force to 56 grams maximum, sensitive differential travel to .001" maximum, power load switching to 10 amps., motor load handling capacity to ¼ HP. Type V3 Series (included Type JS) features high electrical capacity and long life of 10,000,000 cycles. Also, low operating force to 50 grams, maximum, sensitive differential travel of .008" maximum, power load switching capabilities to 15 amps, and motor handling capacity of ½ HP. Terminals, all series: *pin, †quick-connect, ‡solder, §screw, #mounting holes for pin, screw.

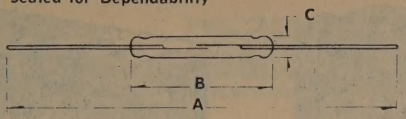
Stock No.	Mfr's Type	Switch Type	Rating (Amps)	Operating Force	Pre-Travel	Actuator Type	Special Application	EACH 1-9	EACH 10-24	EACH 25-49
23F5013	#1SX1-T	SPDT	7	5 oz.	.020"	Plunger	To 7A Load	2.35	2.23	2.12
23F5014	#2SX1-T	SPDT	7	3 oz.	.020"	Plunger	Lower Force	2.90	2.75	2.61
23F5015	#2ISX39-T	SPDT	7	5 oz.	.020"	Plunger	MIL-S-8805	2.45	2.33	2.21
23F5016	*JX-25	SPDT	5	1.5 oz.	.....	.65" Lever	Roller	1.80	1.71	1.62
23F5017	§JX-40	SPDT	5	7 oz.	.225"	.37" Leaf	.....	.30	.28	.27
23F5018	*JX-41	SPDT	5	6 oz.	.110"	.37" Rev. Leaf	.....	.30	.28	.27
23F5019	†11SM3-T	SPDT	5	5 oz.	.020"	Pin Plunger	To 250°F	1.25	1.19	1.13
23F5020	†21SM284	SPDT	5	3-5 oz.	.030"	Pin Plunger	MIL-S-8805	1.55	1.48	1.40
23F5021	†311SM1-T	SPDT	5	40 gm.	.085"	.285" Lever	.....	1.35	1.29	1.22
23F5022	†311SM2-T	SPDT	5	30 gm.	.120"	.565" Lever	.....	1.35	1.29	1.22
23F5023	†311SM4-T	SPDT	5	40 gm.	.085"	.251" Lever	Simulated Roll.	1.45	1.38	1.31
23F5024	†311SM5-T	SPDT	5	30 gm.	.120"	.535" Lever	Simulated Roll.	1.45	1.38	1.31
23F5000	†311SM6-T	SPDT	5	40 gm.	.085"	.251" Lever	Roller	1.60	1.52	1.44
23F5001	†JS-2	SPDT	5	10 oz.	.078"	.66" Leaf	.....	.26	.25	.24
23F5002	†JS-5	SPDT	5	10 oz.	.078"	.59" Leaf	Bronze Roll.	.64	.61	.58
23F5003	†JS-7	SPDT	5	10 oz.	.094"	.58" Leaf	Simulated Roll.	.32	.31	.29
23F5004	*JS-220	SPDT	5	1 oz.	.125"	1.03" Lever	.....	.69	.66	.62
23F5005	†JS-33	SPDT	5	18 oz.	.093"	.21" Leaf	Tandem Leaf	.40	.38	.36
23F5006	†JS-31	SPDT	5	40 oz.	.093"	.17" Leaf	Bronze Roll.	.99	.94	.89
23F5007	‡V3-1-D8	SPDT	10	6-14 oz.	.047"	Plunger	To 15A Load	.85	.81	.77
23F5008	§JV-1	SPDT	10	12 oz.	.047"	.84" Leaf	.....	.39	.37	.35
23F5009	§JV-7	SPDT	10	9 oz.	.062"	1.27" Leaf	.....	.61	.58	.55
23F5010	§JV-5	SPDT	10	12 oz.	.060"	.84" Leaf	Roller	.51	.49	.46
23F5011	§JV-20	SPDT	10	3 oz.	.188"	.750" Lever	Roller	1.00	.95	.90
23F5012	§JV-30	SPDT	10	12 oz.	.080"	1.81" Lever	1-Way Roll.	1.80	1.71	1.62

Magnetic Reed Switches

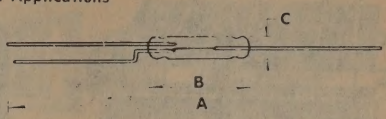
HAMLIN INC.

- Ultra Compact and Highly Sensitive with Rapid Cycling Rate
- Hermetically Sealed for Dependability
- Unaffected by Temperature or Pressure
- Idea for A Wide Variety of Systems and Instrument Applications

Type MRG-DT-SPDT Form C.



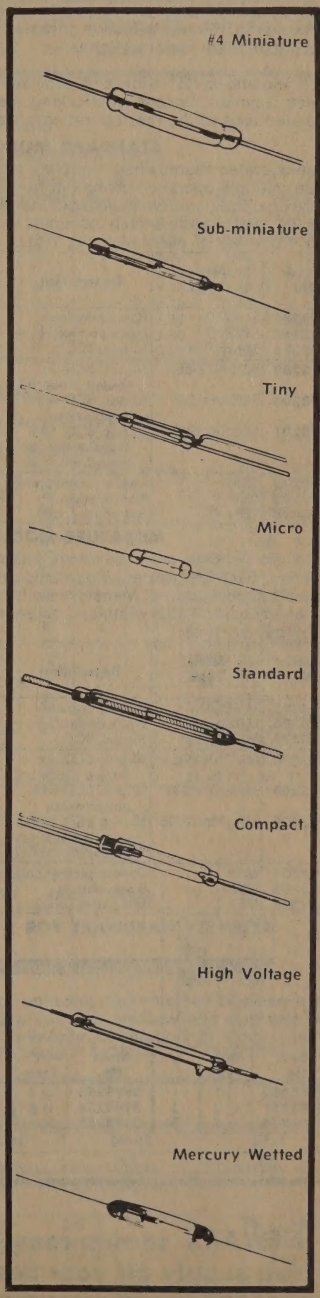
Type MRL-2-SPST Form A



Dry and mercury-wetted magnetic switches that are precision crafted for reliable operation under most critical conditions. Offer excellent flexibility in a broad range of applications. Hermetically sealed for safe, dependable use in any atmosphere—even under explosive conditions. Unaffected by high or low temperature extremes or pressure. Offer long life Compact size with high sensitivity and rapid cycling rate make these switches ideal for a wide variety of industrial uses. Excellent for use in position indicators, counting instruments, limiting switches, flow meters, communications instruments and reed relays. Actuating time: 1 millisecond or less. Dry reed switches have life expectancy of 50 million operations; mercury wetted switches, 1 billion operations. Contacts: Form A (SPST-N.O.) or C (SPDT). May be actuated by permanent or electro magnets. Permanent magnets sold below. See following chart for switch dimensions. Av. shpg. wt., 1 oz. each.

DIMENSION CHART FOR SWITCHES (*Oval Envelope)

SIZE CODE	1	2	3	4	5	6	7	8	9	10	11
A Overall Length—Nominal	2.000	2.000	2.010	2.125	2.125	2.250	2.250	3.375	3.375	3.250	3.465
B Glass Length—Maximum	.375	.500	.475	.560	.610	.800	.800	1.610	1.562	2.100	1.640
C Glass Diameter—Maximum	.090	.070	.110×.072*	.092	.130	.090	.130	.195	.218	.216	.212



MINIATURE MAGNETIC REED SWITCHES

Stock No.	Type	Size	MAXIMUM Cont. Ratg. Watts	Amps	DC Volts	Cont. Resis.	Amp. Turn Pull In	Use Mag.	1-24	25-99	100-999	1000-4999	5000-Up
33F1050	MRH-2-185	7	10	.500	28	.100	30±7.5	H-33	1.58	1.28	1.00	.75	.60
33F1051	MRR-2-185	7	10	.500	200	.100	30±7.5	H-33	1.15	.83	.66	.50	.35
33F1052	MRL-2-186	7	10	.500	100	.250	30±10	H-33	1.05	.70	.55	.35	.25
33F1053	MRH-15-185	7	10	.500	50	.150	30±7.5	H-33	2.10	1.80	1.70	1.33	.90
33F1054	MRMF-2-206	7	3	.010	28	.100	35±10	H-33	3.15	2.75	2.55	2.00	1.35
33F1055	MRR-5-235	7	10	.500	500	.100	40±7.5	H-33	2.10	1.85	1.70	1.33	.90

SUB-MINIATURE MAGNETIC REED SWITCHES

33F1056	MSRH-2-185	6	10	.500	28	.100	30±7.5	H-33	1.58	1.28	1.00	.75	.60
33F1057	MSRR-2-185	6	10	.500	200	.100	30±7.5	H-33	1.15	.83	.66	.50	.35
33F1058	MSRR-2CD-155	6	3	.500	200	.200	25±7.5	H-33	1.32	1.12	1.06	.83	.56
33F1059	MSRR-2WD-205	6	10	.500	200	.100	35±7.5	H-33	1.32	1.12	1.06	.83	.56
33F1060	MSRL-2-186	6	10	.500	100	.250	30±10	H-33	1.05	.70	.55	.35	.25

TINY MAGNETIC REED SWITCHES

33F1061	MTRR-2-185	4	10	.250	100	.150	30±7.5	H-33	1.32	.95	.75	.69	.56
33F1062	MTRF-2-216	4	3	.010	28	.150	37.5±10	H-33	3.15	2.75	2.55	2.00	1.35
33F1063	MRH-DT-175	5	3	.250	28	.150	27.5±7.5	H-33	5.25	4.50	4.25	3.33	2.25
33F1064	MRG-DT-175	5	3	.250	28	.150	27.5±7.5	H-33	4.20	3.00	2.40	2.25	1.80
33F1065	MRL-DT-186	5	3	.250	28	.500	30±10	H-33	3.15	2.20	2.00	1.75	1.35

MICRO AND MINI MAGNETIC REED SWITCHES

33F1066	MMRR-2-185	1	.3	.010	26	.200	30±7.5	H-31	1.84	1.31	1.05	.95	.79
33F1067	MINI-2-115	2	3	.110	28	.200	20±7.5	H-31	2.10	1.85	1.70	1.00	.60
33F1068	MINI-DT-125	3	.1	.010	10	.200	27.5±7.5	H-31	6.30	5.00	4.75	4.50	4.25

HIGH CURRENT MAGNETIC REED SWITCHES

33F1069	DRAC-5-999	11	700	3.0	240	—	250 Max.	H-34	5.25	4.60	4.10	3.60	3.10
33F1070	DRDC-6-999	11	100	3.0	110	—	250 Max.	H-34	5.25	4.60	4.10	3.60	3.10

STANDARD MAGNETIC REED SWITCHES

33F1071	DRG-2-425	10	15	1.0	250	.075	70±7.5	H-34	.79	.56	.45	.35	.30
33F1072	DRR-1-425	10	15	1.0	400	.060	70±7.5	H-34	.89	.64	.51	.39	.31
33F1073	DRS-2-425	10	25	1.0	250	.050	70±7.5	H-34	1.32	1.10	1.06	.83	.57
33F1074	DRR-5-425	10	25	1.0	1,000	.060	70±7.5	H-34	1.58	1.35	1.10	1.00	.70
33F1075	DRT-5-425	10	50	3.0	1,000	.100	70±7.5	H-34	2.10	1.50	1.20	1.10	.90
33F1076	DRS-5-425	10	50	3.0	500	.035	70±7.5	H-34	2.10	1.50	1.20	1.10	.90

COMPACT MAGNETIC REED SWITCHES

33F1077	SRR-2-425	8	15	1.0	400	.060	70±7.5	H-32	.89	.64	.51	.39	.31
33F1078	SRT-2-455	8	100	3.0	250	.500	75±7.5	H-32	2.63	2.25	2.12	1.67	1.10
33F1079	DRR-DT-455	9	3	.5	100	.075	72.5±7.5	H-32	2.10	1.70	1.33	1.20	.90
33F1080	DRR-DTH-445	9	10	.5	250	.075	72.5±7.5	H-32	2.63	1.88	1.50	1.35	1.10
33F1081	DRT-DTH-445	9	20	1.5	500	.150	72.5±7.5	H-34	4.20	3.65	3.40	2.66	1.60

HIGH VOLTAGE MAGNETIC REED SWITCHES

33F1082	MRO-2-206	7	1	.001	1,000	.100	35±10	H-33	6.30	4.50	3.60	3.00	3.00
33F1083	DRVT-5-658	10	50	3.0	3,500	.080	120±20	H-34	3.15	2.50	2.25	2.00	1.50
33F1084	DRVT-10-658	10	50	3.0	7,500	.080	120±20	H-34	4.20	3.00	2.40	2.25	2.00
33F1085	DRVT-15-979	10	50	3.0	12,500	.100	200 Max.	H-34	8.40	7.25	6.80	5.32	4.00
33F1086	DVRT-20-979	10	50	3.0	17,500	.100	200 Max.	H-34	12.60	11.00	10.20	7.98	6.00
33F1087	DRVT-25-979	10	50	3.0	20,000	.100	200 Max.	H-34	16.80	14.50	13.60	10.40	8.00

MERCURY-WETTED MAGNETIC REED SWITCHES

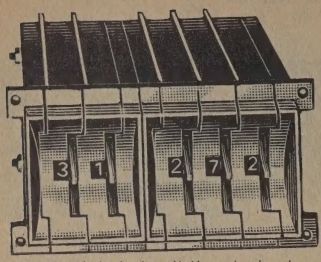
33F1088	MRC-3-387	7	28	1.0	100	.050	65±15	H-33	4.20	3.00	2.90	2.50	1.75
33F1089	HRC-1-535	10	50	3.0	400	.050	80±7.5	H-34	2.10	1.50	1.20	1.00	1.00

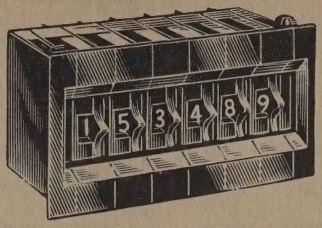
ALNICO V PERMANENT MAGNETS

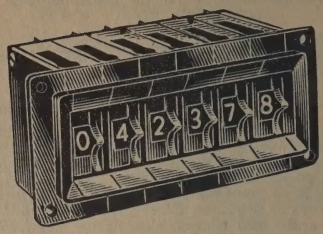
Stock No.	Magnet Type	Dimensions	1-24	25-99	100-999	1000-4999	5000 - Up
33F1090	H-31-604	1/16x1/16x1/2"	.30	.30	.30	.25	.20
33F1091	H-32-605	3/16x3/16x1"	.35	.35	.35	.30	.25
33F1092	H-33-606	1/8x1/8x3/4"	.30	.30	.30	.25	.20
33F1093	H-34-607	1/4x1/4x1"	.40	.40	.40	.35	.30

Inter-Market Switches

PRINTED CIRCUIT THUMBWHEEL SWITCHES







Low-cost printed circuit thumbwheel switches for industrial uses uses where adverse environmental conditions are not usually encountered. Permits selection of more functions in smaller panel space than older wafer switches.

Each module is ½" wide and provides numerical indication of switch function. Special interlocking feature and the use of two threaded rods at the rear permit constuction of complete module banks enabling the user to take advantage of maximum custom design flexibility. Divider plates and blank modules separate the banks into clearly defined sections. Current: 0.5 amp per switch. Voltage: 200 volts, maximum power of 24 watts with 12 watts energized output. Insulation resistance: 1000 megohms. Contact resistance: 0.10 ohm. Life: 1,000,000 detent operations. Available with 10-position decimal, BCD, or BCD-with-complements outputs. Semi gloss black body with white characters on black wheel.

STANDARD MODULE

Edge-operated thumbwheel switches provide low-cost highly versatile multiple-operation switching function. Switches have large white characters on black background. Standard size switch face is 1.78" high; each switch occupies 0.750" width and extends 2.56" from rear of panel. Av. wt., 1 oz.

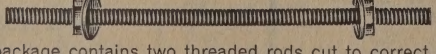
Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-249	250-499
39F3286	S110ND	10-pos. decimal	2.75	2.61	2.48	2.34
39F3287	S102ND	2-pos.decimal, +, −	3.25	3.09	2.93	2.79
39F3288	SB10N1248	10-pos. BCD	4.25	4.04	3.83	3.61
39F3289	SB10N1248E	10-pos. BCD, extended diode bd.	4.50	4.28	4.05	3.83
39F3290	SBC10N1248	10-pos. BCD with complements	4.75	4.51	4.28	4.04
39F3291	SBC10N1248E	10-pos. BCD, with complements, extended diode bd.	5.25	4.99	4.73	4.46
39F3292	SDP	Divider plates (pair)	5.75	5.46	5.18	4.89
39F3293	SBM	Blank module	5.75	5.46	5.18	4.89
39F3294	SEP	End plates (pair)	5.75	5.46	5.18	4.89

MINIATURE MODULES

Miniature switches are used where panel space restrictions are a problem. Switches are edge-operated and have white characters on a black background. Miniature switch face is .960" high; single switch occupies 0.500" width and extends 1.52" from rear of panel. Av. shpg. wt. ½ oz.

Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-249	250-499
39F3295	M110ND	10-pos. decimal	2.75	2.61	2.48	2.34
39F3296	M102ND	2-pos.decimal, +, −	3.25	3.09	2.93	2.76
39F3297	MB10N1248	10-pos. BCD	3.50	3.33	3.15	2.98
39F3298	MB10N1248E	10-pos. BCD, extended diode bd.	4.00	3.80	3.60	3.40
39F3299	MBC10N1248	10-pos. BCD with complements	4.00	3.80	3.60	3.40
39F3300	MBC10N1248E	10-pos. BCD, with complements, extended diode bd.	4.50	4.28	4.05	3.83
39F3301	MDP	Divider plates (pair)	4.50	4.28	4.05	3.83
39F3302	MBM	Blank module	4.50	4.28	4.05	3.83
39F3303	MEP	End plates (pair)	4.50	4.28	4.05	3.83

ASSEMBLY HARDWARE FOR S AND M TYPES



Each package contains two threaded rods cut to correct length and four nuts and washers for quick assembly of modules. *Indicates number of modules for assembly.

Stock No.	Mfr's Type	*	Stock No.	Mfr's Type	*	Stock No.	Mfr's Type	*
39F3250	H-1	1	39F3253	H-4	4	39F3256	H-7	7
39F3251	H-2	2	39F3254	H-5	5	39F3257	H-8	8
39F3252	H-3	3	39F3255	H-6	6	39F3258	H-9	9

1-24	25-99	100-249	250-499
.75	.72	.68	.60

INTERMEDIATE FRONT MOUNT MODULE

Intermediate size switch mounts from front of panel with clips requiring no mounting hardware. Have large numerals white on black background. Face height (including flange) 2.125", requires panel cutout 1.925" high. Switch is .500" wide and extends 1.824" from front of panel. Wt., 1 oz.

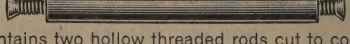
Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-249	250-499
39F3259	IF110ND	10-pos. decimal	2.75	2.61	2.48	2.34
39F3260	IF102ND	2-pos.decimal, +, −	3.25	3.09	2.93	2.76
39F3261	IFB10N1248	10-pos. BCD	3.75	3.56	3.38	3.19
39F3262	IFB10N1248E	10-pos. BCD, extended diode bd.	5.00	4.75	4.50	4.25
39F3263	IFBC10N1248	10-pos. BCD with complements	3.75	3.56	3.38	3.19
39F3264	IFBC10N1248E	10-pos. BCD, with complements, extended diode bd.	5.00	4.75	4.50	4.25
39F3266	IFHB	Blank module	.75	.71	.68	.65
39F3267	IFEP	End plates (pair)	1.50	1.43	1.35	1.28

INTERMEDIATE REAR MOUNT MODULE

Module mounts from rear. End plates have mounting screw holes pre-drilled. Large numerals are white on black background. Face height 1.350" (panel cut-out approx. 1.355"). Switch width is .500" and extends 2.080" from rear of panel. Av. shpg. wt., 1 oz.

Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-249	250-499
39F3268	IR110ND	10-pos. decimal	2.75	2.61	2.48	2.34
39F3269	IR102ND	2-pos.decimal, +, −	3.25	3.09	2.93	2.76
39F3270	IRB10N1248	10-pos. BCD	3.75	3.56	3.38	3.19
39F3271	IRB10N1248E	10-pos. BCD, extended diode bd.	5.00	4.75	4.50	4.25
39F3272	IRBC10N1248	10-pos. BCD with complements	3.75	3.56	3.38	3.19
39F3273	IRBC10N1248E	10-pos. BCD, with complements, extended diode bd.	5.00	4.75	4.50	4.25
39F3275	IRHB	Blank module	.75	.71	.68	.65
39F3276	IREP	End plates (pair)	.75	.71	.68	.65

ASSEMBLY HARDWARE FOR IF AND IR TYPES



Package contains two hollow threaded rods cut to correct length and four screws. *In table indicates number of modules that can be assembled.

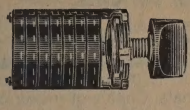
Stock No.	Mfr's Type	*	Stock No.	Mfr's Type	*	Stock No.	Mfr's Type	*
39F3277	IH-1	1	39F3280	IH-4	4	39F3283	IH-7	7
39F3278	IH-2	2	39F3281	IH-5	5	39F3284	IH-8	8
39F3279	IH-3	3	39F3282	IH-6	6	39F3285	IH-9	9

1-24	25-99	100-249	250-499
1.50	1.43	1.35	1.28

ATTENTION INDUSTRIAL BUYERS

NEWARK carries complete lines of the top quality electronic equipment. Newark can supply all your needs, whether or not they are listed in this catalog.

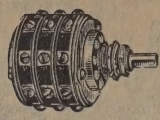
Shallcross Rotary Switches



SERIES 1

SERIES 2

SERIES 4



MIL-S-6807

Shallcross series 1-2-4 are manufactured to MIL-S-3786 specifications and are available with military stamping on special order. Series one is 1" in diameter; two is 1¾" sq.; and four is 2½" sq. All have 5/16" bushing length, 1" shaft and adjustable stops. Contacts are constructed of solid silver alloy. Indexing provided by dual balance balls riding hill-and-dale type detent with special lubricant applied to all friction points. Position stops can be adjusted to alter the number of positions available. Additional decks configurations, shaft sizes, bushings, flat angles, seals, gold plating, MIL-S-3786 testing are available on special order.

STANDARD RATING TABLE

Rating	120 Vac.	Life	30 VDC	Life	Maximum Allowable Contact Resistance
Series 1	350 MA	25,000	1000 MA	25,000	.0045 ohm @ 15 VA
Series 2	2A	10,000	2A	20,000	.010 ohm @ 240 VA
Series 3	2A	5,000	2A	20,000	.010 ohm @ 240 VA

SERIES 1 MIL-S-3786/SR28 — ONE INCH PRECISION ROTARY SWITCHES

SHORTING TYPES

Shorting Types Stk. No.	Mfr's Type	Total Poles	Pos. Poles	No. of Sec.	1-9	10-24	25-49
23F1000	1J00A12-1	1	2-12	2	6.10	5.10	4.40
23F1001	1J00A12-2	2	2-12	4	9.10	7.60	6.60
23F1002	1J00A12-3	3	2-12	6	12.10	10.10	8.80
23F1003	1J02A12-1	1	2-12	2	6.10	5.10	4.40
23F1004	1J02A12-2	2	2-12	4	9.10	7.60	6.60
23F1005	1J02A12-3	3	2-12	6	12.10	10.10	8.80
23F1006	1J04A6-1	1	2-6	1	5.20	4.40	3.80
23F1007	1J04A6-2	2	2-6	2	7.00	5.80	5.10
23F1008	1J04A6-3	3	2-6	3	8.70	7.30	6.40

NON SHORTING TYPES

Non-Shorting Types Stk. No.	Mfr's Type	Total Poles	Pos/ Poles	No. of Sec.	1-9	10-24	25-49
23F1015	1J54A6-1	1	2-6	1	5.20	4.40	3.80
23F1016	1J54A6-2	2	2-6	2	7.00	5.80	5.10
23F1017	1J54A6-3	3	2-6	3	8.70	7.30	6.40
23F1012	1J52A12-1	1	2-12	2	6.10	5.10	4.40
23F1013	1J52A12-2	2	2-12	4	9.10	7.60	6.60
23F1014	1J52A12-3	3	2-12	6	12.10	10.10	8.80
23F1009	1J50A12-1	1	2-12	2	6.10	5.10	4.40
23F1010	1J50A12-2	2	2-12	4	9.10	7.60	6.60
23F1011	1J50A12-3	3	2-12	6	12.10	10.10	8.80

SERIES 2 MIL-S-3786/SR14 — 1¾ INCH PRECISION ROTARY SWITCHES

SHORTING TYPES

Shorting Types Stock No.	Type	Max. Pos.	Index Deg.	Poles Deck	Decks	1-9	10-24	25-49
23F1027	2E00A24-1	24	15	1	1	12.70	10.80	9.40
23F1030	2E06A11-1	11	15	2	1	13.00	11.10	9.60
23F1033	2E18A5-1	5	15	4	1	13.60	11.60	10.10
23F1018	2C00A32-1	32	11¼	1	1	12.70	10.80	9.40
23F1021	2C06A15-1	15	11¼	2	1	13.00	11.10	9.60
23F1024	2C18A7-1	7	11¼	4	1	13.60	11.60	10.10
23F1028	2E00A24-2	24	15	1	2	18.70	16.00	13.90
23F1031	2E06A11-2	11	15	2	2	19.00	16.20	14.10
23F1034	2E18A5-2	5	15	4	2	21.50	18.40	15.90
23F1019	2C00A32-2	32	11¼	1	2	18.70	16.00	13.90
23F1022	2C06A15-2	15	11¼	2	2	19.00	16.20	14.10
23F1025	2C18A7-2	7	11¼	4	2	21.50	18.40	15.90
23F1029	2E00A24-3	24	15	1	3	24.80	21.20	18.40
23F1032	2E06A11-3	11	15	2	3	25.10	21.40	18.60
23F1035	2E18A5-3	5	15	4	3	29.40	25.10	21.80
23F1020	2C00A32-3	32	11¼	1	3	24.80	21.20	18.40
23F1023	2C06A15-3	15	11¼	2	3	25.10	21.40	18.60
23F1026	2C18A7-3	7	11¼	4	3	29.40	25.10	21.80

NON-SHORTING TYPES

Non-Shorting Types Stock No.	Type	Max Pos.	Index Deg.	Poles Deck	Decks	1-9	10-24	25-49
23F1045	2J50A12-1	12	30	1	1	12.70	10.80	9.40
23F1048	2J56A6-1	6	30	2	1	13.00	11.10	9.60
23F1051	2J68A3-1	3	30	4	1	13.60	11.60	10.10
23F1036	2H50A16-1	16	22½	1	1	12.70	10.80	9.40
23F1039	2H56A8-1	8	22½	2	1	13.00	11.10	9.60
23F1042	2H68A4-1	4	22½	4	1	13.60	11.60	10.10
23F1046	2J50A12-2	12	30	1	2	18.70	16.00	13.90
23F1049	2J56A6-2	6	30	2	2	19.00	16.20	14.10
23F1052	2J68A3-2	3	30	4	2	21.50	18.40	15.90
23F1037	2H50A16-2	16	22½	1	2	18.70	16.00	13.90
23F1040	2H56A8-2	8	22½	2	2	19.00	16.20	14.10
23F1043	2H68A4-2	4	22½	4	2	21.50	18.40	15.90
23F1047	2J50A12-3	12	30	1	3	24.80	21.20	18.40
23F1050	2J56A6-3	6	30	2	3	25.10	21.40	18.60
23F1053	2J68A3-3	3	30	4	3	29.40	25.10	21.80
23F1038	2H50A16-3	16	22½	1	3	24.80	21.20	18.40
23F1041	2H56A8-3	8	22½	2	3	25.10	21.40	18.60
23F1044	2H68A4-3	4	22½	4	3	29.40	25.10	21.80

SERIES 4 MIL-S-3786/SR15 — 2½ INCH PRECISION SQUARE ROTARY SWITCHES

SHORTING TYPES

Shorting Types Stk. No.	Mfr's Type	Max. Pos.	Poles Deck	Decks	1-9	10-24	25-49
23F1054	4A00A48-1	48	1	1	19.50	16.60	14.40
23F1057	4A06A23-1	23	2	1	19.80	16.90	14.70
23F1060	4A18A11-1	11	4	1	20.40	17.40	15.10
23F1055	4A00A48-2	48	1	2	27.90	23.80	20.70
23F1059	4A06A23-2	23	2	2	28.60	24.50	21.20
23F1061	4A18A11-2	11	4	2	31.30	26.70	23.20
23F1056	4A00A48-3	48	1	3	36.20	31.00	26.90
23F1059	4A06A23-3	23	2	3	37.30	31.90	27.70
23F1062	4A18A11-3	11	4	3	42.30	36.10	31.30

NON SHORTING TYPES

Non-Shorting Types Stk. No.	Mfr's Type	Max. Pos.	Poles Deck	Decks	1-9	10-24	25-49
23F1063	4E50A24-1	24	1	1	19.50	16.60	14.40
23F1066	4E56A12-1	12	2	1	19.80	16.90	14.70
23F1069	4E68A6-1	6	4	1	20.40	17.40	15.10
23F1064	4E50A24-2	24	1	2	27.90	23.80	20.70
23F1067	4E56A12-2	12	2	2	28.60	24.50	21.20
23F1070	4E68A6-2	6	4	2	31.30	26.70	23.20
23F1065	4E50A24-3	24	1	3	36.20	31.00	26.90
23F1068	4E56A12-3	12	2	3	37.30	31.90	27.70
23F1071	4E68A6-3	6	4	3	42.30	36.10	31.30

FREE! WRITE FOR SHALLCROSS CATALOG STOCK NO. 23F1072

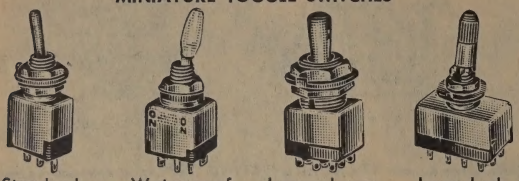
MIL-S-6807 POWER ROTARY SWITCHES

These switches feature an adjustable index and continuous rotation by omitting the index screws. Rated 5 amps @ 28 volts DC and 115 volts AC. All switches are non-shorting and have 8 positions. All have screw terminals, 1 17/32" shaft, 15/32" bushing, nex nuts, locking ring, and washer. Average Shpg. Wt., 4 oz.

Stock No.	Type	MS No.	Sec.	Action	1-24	25-49	50-99	100-UP
23F544	7261K14	25002-1	1	SP	6.92	6.39	5.33	4.26
23F545	7262K14	25002-2	2	DP	10.53	9.72	8.10	6.48
23F546	7263K13	25002-3	3	3P	14.10	13.02	10.85	8.68
23F547	7264K10	25002-4	4	4P	17.68	16.32	13.60	10.88
23F548	7265K10	25002-5	5	5P	21.25	19.62	16.35	13.08
23F549	7266K6	25002-6	6	6P	25.02	23.10	19.25	15.40

Cutler-Hammer Miniature Switches

MINIATURE TOGGLE SWITCHES



Standard Single Pole | Waterproof Double Pole | Larger Lever Three Pole | Lever Lock Four Pole

Miniature toggle switches. Maintained and momentary center "Off" devices rated 5 amps @ 125VAC and 28 VDC. Without center "Off" units rated 10 amps @ 125VAC; 5 amps @ 28VDC maintained—5 amps @ 125VAC and 28VDC momentary. Features include a .413" high lever, ¼-40 dia. bushing, solder lug terminals. Hardware for complete toggle line furnished unassembled.

Stock No.	Type	Action	1-24	25-99	100-499	500-999
29F2274	SF1SBX191	SPDT On-Off-On	1.78	1.19	1.07	.89
29F2275	SF1SCY191	SPDT On-None-On	1.52	1.02	.91	.76
29F2276	SF1SFX191	SPDT On-Off-On*	1.78	1.19	1.07	.89
29F2277	SF1SGX191	SPDT On-None-On*	1.78	1.19	1.07	.89
29F2278	SF1SHX191	SPDT On*-Off-On*	1.78	1.19	1.07	.89
29F2279	SF2SBX191	DPDT On-Off-On	2.35	1.57	1.41	1.18
29F2280	SF2SCY191	DPDT On-None-On	1.98	1.33	1.19	1.00
29F2281	SF2SFX191	DPDT On-Off-On*	2.35	1.57	1.41	1.18
29F2282	SF2SGX191	DPDT On-None-On*	2.35	1.57	1.41	1.18
29F2283	SF2SHX191	DPDT On*-Off-On*	2.35	1.57	1.41	1.18
29F2284	SF3SBX191	3PDT On-Off-On	3.78	2.53	2.27	1.89
29F2285	SF3SCY191	3PDT On-None-On	3.55	2.38	2.13	1.78
29F2286	SF3SFX191	3PDT On-Off-On*	3.78	2.53	2.27	1.89
29F2287	SF3SGX191	3PDT On-None-On*	3.78	2.53	2.27	1.89
29F2288	SF3SHX191	3PDT On*-Off-On*	3.78	2.53	2.27	1.89
29F2289	SF4SBX191	4PDT On-Off-On	4.90	3.28	2.94	2.45
29F2290	SF4SCY191	4PDT On-None-On	4.45	2.98	2.67	2.23
29F2291	SF4SFX191	4PDT On-Off-On*	4.90	3.28	2.94	2.45
29F2292	SF4SGX191	4PDT On-None-On*	4.90	3.28	2.94	2.45
29F2293	SF4SHX191	4PDT On*-Off-On*	4.90	3.28	2.94	2.45
29F2294	SF1SCY191-1	SDPT On-None-On	1.57	1.06	.95	.79
29F2295	SF2SCY191-1†	DPDT On-None-On	2.03	1.36	1.22	1.02

†with white caps *momentary contact

WATERPROOF MINIATURE TOGGLE SWITCHES

Double seal design. Internal neoprene "O" ring seal restricts entrance of moisture into switch base. Withstands a 3.3 foot head of water for 15 minutes at temperatures from 25° to 65° C. Additional "O" ring bushing seal mounts under facenut for panel seal. ¼-40 flatted bushing prevents switch rotation.

Stock No.	Type	Action	1-24	25-99	100-499	500-999
29F2250	SF1WBX191	SPDT On-Off-On	2.55	1.71	1.53	1.28
29F2251	SF1WCY191	SPDT On-None-On	1.95	1.31	1.17	.98
29F2252	SF2WBX191	DPDT On-Off-On	3.15	2.11	1.89	1.48
29F2253	SF2WCY191	DPDT On-None-On	2.55	1.71	1.53	1.28
29F2254	SF3WBX191	3PDT On-Off-On	4.75	3.18	2.85	2.38
29F2255	SF3WCY191	3PDT On-None-On	4.25	2.85	2.56	2.13
29F2256	SF4WBX191	4PDT On-Off-On	5.95	3.99	3.57	2.98
29F2257	SF4WCY191	4PDT On-None-On	5.35	3.58	3.21	2.68

LARGE LEVER—LARGE BUSHING MINIATURE SWITCHES

Large lever and bushing design combines space-saving behind-the-panel compactness and regular size front-of-panel appearance. Design features .453" high lever and 15/32" bushing.

Stock No.	Type	Action	1-24	25-99	100-499	†500-999
29F2258	SF1GBX191	SPDT On-Off-On	2.75	1.84	1.65	1.38
29F2259	SF1GCY191	SPDT On-None-On	2.15	1.44	1.29	1.08
29F2260	SF2GBX191	DPDT On-Off-On	3.35	2.24	2.01	1.68
29F2261	SF2GCY191	DPDT On-None-On	2.75	1.84	1.65	1.38
29F2262	SF3GBX191	3PDT On-Off-On	4.98	3.33	2.99	2.49
29F2263	SF3GCY191	3PDT On-None-On	4.45	2.98	2.67	2.23
29F2264	SF4GBX191	4PDT On-Off-On	6.15	4.11	3.69	3.08
29F2265	SF4GCY191	4PDT On-None-On	5.55	3.72	3.34	2.78

LEVER-LOCK MINIATURE SWITCHES

Self-locking lever mechanism for the critical or hazardous application. Spring-loaded design provides excellent means for safeguarding against accidental operation. Silver cap is standard.

Stock No.	Type	Action	1-24	25-99	100-499	500-999
29F2266	SF1LBX183-7	SPDT On-Off-On	3.30	2.41	2.16	1.80
29F2267	SF1LCY173-7	SPDT On-None-On	3.00	2.21	1.98	1.65
29F2268	SF2LBX183-7	DPDT On-Off-On	3.80	2.55	2.28	1.90
29F2269	SF2LCY173-7	DPDT On-None-On	3.50	2.35	2.10	1.75
29F2270	SF3LBX183-7	3PDT On-Off-On	5.30	3.52	3.30	2.65
29F2271	SF3LCY173-7	3PDT On-None-On	5.00	3.35	3.00	2.50
29F2272	SF4LBX183-7	4PDT On-Off-On	6.50	5.55	3.90	3.25
29F2273	SF4LCY173-7	4PDT On-None-On	5.90	3.95	3.54	2.95

MINIATURE ROCKETTE SWITCHES

Compact Rockette switches. Snap-in mounting. Rated 5 amps @ 125VAC and 28VDC except On-None-On circuit rated 6 amps @ 125VAC only. Designed for mounting in panels ranging from .040" to .150" thick panel cut-out .610"x.515". Solder lug terminals. Choice of rocker colors.

Stock No.	Type	Action	Color	1-24	25-99	100-499	500-999
29F2218	SC4BX181	DPDT On-Off-On	White				
29F2219	SC4BX182	DPDT On-Off-On	Red				
29F2220	SC4BX185	DPDT On-Off-On	Black				
29F2221	SC4CW181	DPDT On-None-On	White				
29F2222	SC4CW182	DPDT On-None-On	Red				
29F2223	SC4CW185	DPDT On-None-On	Black				
29F2224	SC4FX181	DPDT On-Off-On*	White	2.92	1.96	1.75	1.46
29F2225	SC4FX182	DPDT On-Off-On*	Red				
29F2226	SC4FX185	DPDT On-Off-On*	Black				
29F2227	SC4GX181	DPDT On-None-On*	White				
29F2228	SC4GX182	DPDT On-None-On*	Red				
29F2229	SC4GX185	DPDT On-None-On*	Black				
29F2230	SC4HX181	DPDT On*-Off-On*	White				
29F2231	SC4HX182	DPDT On*-Off-On*	Red				
29F2232	SC4HX185	DPDT On*-Off-On*	Black				

MINIATURE PUSHBUTTON SWITCHES

Momentary and alternate action designs. Rated 5 amps @ 125VAC and 28VDC. Positive detent. Solder lug terminals. ¼-40 bushing size. Hardware—internal tooth lockwasher, locking ring, hex facenut—supplied unassembled. Screw-on caps (.315" dia.) are required below—choice of colors available.

Stock No.	Type	Action	1-24	25-99	100-499	500-999
29F2245	SA21SDX11	SPDT—Momentary	2.10	1.41	1.26	1.05
29F2246	SA21SEX11	SPDT—Push On/Push Off	2.10	1.41	1.26	1.05
29F2247	SA22SDX11	DPDT—Momentary	2.90	2.14	1.74	1.45
29F2248	SA22SEX11	DPDT—Push On/Push Off	2.90	2.14	1.74	1.45
29F2249	SA24SDX11	4PDT—Momentary	5.40	3.62	3.24	2.70
29F2296	SA24SEX11	4PDT—Push on/Push Off	5.40	3.62	3.24	2.70

WATERPROOF MINIATURE PUSHBUTTON SWITCHES

Waterproof design features internal "O" ring seal and another external seal around bushing shoulder for behind-the-panel sealing. Surpasses a 3.3 foot head of water test for 30 minutes. Bushing flatted one-side prevents rotation after mounting. Hardware furnished unassembled. Screw-on decorator caps (.315" dia.) are required. Choice of cap colors are available. Note: Incomplete part you must select a cap below.

Stock No.	Type	Action	1-24	25-99	100-499	500-999
29F2200	SA21WDX1	SPDT—Momentary	2.50	1.67	1.50	1.25
29F2201	SA21WEX1	SPDT—Push On/Push Off	2.50	1.67	1.50	1.25
29F2202	SA22WDX1	DPDT—Momentary	3.40	2.28	2.04	1.70
29F2203	SA22WEX1	DPDT—Push On/Push Off	3.40	2.28	2.04	1.70
29F2204	SA24WDX1	4PDT—Momentary	5.90	3.95	3.54	2.95
29F2205	SA24WEX1	4PDT—Push On/Push Off	5.90	3.95	3.54	2.95

SCREW-ON PUSHBUTTON DECORATOR CAPS

Screw-on design. Required for pushbutton series switches above.

Stock No.	Type	Color	1-24	25-99	100-499	500-999
29F2206	SW53AA21	White	.05 each	.033 each	.03 each	.025 each
29F2207	SW53AA22	Red				
29F2208	SW53AA23	Black				
29F2209	SW53AA24	Blue				
29F2210	SW53AA25	Yellow				
29F2211	SW53AA26	Green				

ACCESSORY TOGGLE LEVER DECORATOR CAPS

Designer caps in variety of colors for visual coding critical functions or color-coordinating switch with equipment.

Stock No.	Small-Lever Type	Color	1-24	25-99	100-499
29F2212	SW49AA1	White	.04 each	.027 each	.024 each
29F2213	SW49AA2	Red			
29F2214	SW49AA3	Black			
29F2215	SW49AA4	Blue			
29F2216	SW49AA5	Yellow			
29F2217	SW49AA6	Green			

NEWARK—For All Your Electronic Needs

Cutler-Hammer Miniature Lighted Switches

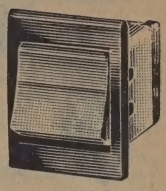
SELECTION SYSTEM FOR COMPOSITE ORDERING NUMBER

BASIC SWITCH TYPE	+	BULB VOLTAGE	+	ROCKER OR BUTTON COLOR	+	BEZEL OR CAP	=	COMPLETE ORDERING NUMBER
SC2BX	+	J1	+	91	+	—95	=	SC2BXJ191-95

MINIATURE ILLUMINATED ROCKETTE SWITCHES

Snap-in mounting. Rated 5 amps @ 125 VAC and 28 VDC. Solder lug terminals. Smooth, snap-in rocker caps of polycarbonate resin. Mount in panels from .040" to .150" thick. Requires a panel cut-out of .729"x.662".

Stock No.	Type	Action	Bulb Volt.	Bulb Type	Rocker Color	Rocker Type	Bezel Color	Bezel Type	1-24	25-99	100-499	500-999
29F2242	SC2BX	On-Off-On	6	E1			White	—91				
			14	M1	White	91	Red	—92	4.37	2.93	2.62	2.19
29F2243	SC2CX	On-None-On	18	J1	Red	92	Green	—93				
					Green	93	Gray	—95	4.37	2.93	2.62	2.19
29F2244	SC2GX	On*-None-On	28	L1	Amber	94	Black	—96	4.49	3.01	2.69	2.25

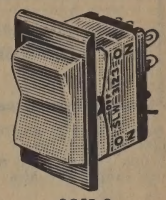


SC2P-3

SNAP-IN ILLUMINATED ROCKETTE SWITCHES

Full size, twin lamp design. 2PDT. Rated 10 amps @ 125 VAC; 6 amps @ 250 VDC; 5 amps @ 28 VDC. Two-piece rocker construction for front-of-panel bulb replacement. Bulb filter (colored) caps provide flexible lighting patterns and even light dispersion over entire rocker face when illuminated. Lamp circuits are electrically independent of switch circuit. Snap-in switch base mounts in panels ranging from .040" to .150" thick. Panel cut-out 1.300"x.780". Solder lug terminals.

Stock No.	Type	Action	2 Bulbs Volt.	2 Bulbs Type	Rocker Style	Rocker Type	Filter Caps Color	Filter Caps Type	Bezel Color	Bezel Type	1-24	25-99	100-499	500-999
			6	19			1 Red	—2						
							1 Green	—3	White	A1				
							1 Amber	—4						
29F2239	SC5DBP	On-Off-On	14	29	Smooth White	1	Green/Red	—5	Red	A2	7.25	4.86	4.35	3.63
							Red/Amber	—6						
			18	39	Smooth		Green/Amber	—7	Green	A3				
29F2240	SC5DCP	On-None-On			Transparent	2	No Caps	—9			6.70	4.49	4.02	3.35
					With Red		2 Red	—12	Amber	A4				
			28	59	and Green		2 Green	—13						
					Lenses		2 Amber	—14	Gray	A5				

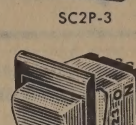


SC5P-2

ILLUMINATED PUSHBUTTON SWITCHES

SPDT design. Rated 5 amps @ 125 VAC and 28 VDC. Positive detent. Solder lug terminals. Independent lamp circuit. Snap-in bulbs replaceable from front-of-panel. Hardware furnished unassembled. Choice of operator styles and colors. Bushing 15/32"-32 dia.

Stock No.	Type	Action	Bulb Volt.	Bulb Type	Cap Style Style	Cap Style Type	Cap Color Color	Cap Color Type	1-24	25-99	100-499	500-999
			6	1	¾" Square	91	White	—1				
29F2237	SB1DDX	Momentary					Red	—2	4.95	3.29	2.97	2.48
			14	2	½" Round	92	Green	—3	4.95	3.29	2.97	2.48
29F2238	SB1DEX	Push On-Push Off	28	4	.340" Round	93	Amber	—4				



SB1P-2

ILLUMINATED PUSHBUTTON SUPERSTRUCTURE

One hole mounted. Rated 5 amps @ 125 VAC and 28 VDC. 2PDT and 4PDT. 15/32"-32 bushing dia. Electrically independent lamp circuit. Incandescent bulbs replaceable from front-of-panel. Positive detent. Solder lug terminals. Mounting hardware is furnished unassembled.

Stock No.	Type	Action	Bulb Volt.	Bulb Type	Pushbutton Cap Style	Pushbutton Cap Type	Pushbutton Cap Color	Pushbutton Cap Type	1-24	25-99	100-499	500-999
29F2233	SB2DDX	DPDT Momentary	6	1	.366" Round	91	White	—1	6.34	4.25	3.80	3.17
29F2234	SB2DEX	DPDT Push On/Push Off					Red	—2	6.34	4.25	3.80	3.17
29F2235	SB2FDX	4DPT Momentary	12	2			Green	—6	8.84	5.92	5.20	4.42
29F2236	SB2FEX	4PDT Push On/Push Off	24	4			Amber	—7	8.84	5.92	5.20	4.42

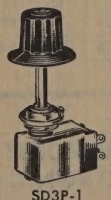
SB1P-3

SB1P-1

SD1P-3

MINIATURE ROTARY SWITCHES

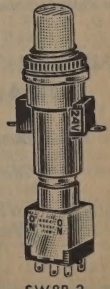
Round base designs feature adjustable stop which can be reset to reduce or limit switch positions, if required. Rectangular base units (all 2 position w/o Off) also available. Both types feature .126" dia. shafts, .786" standard lengths, silver contacts, solder lug terminals, black operating knobs. Hardware is furnished unassembled.



SD3P-1

Stock No.	Type	Amp Rating 125VAC	Amp Rating 28VDC	Action	Indexing	1-24	25-99	100-499	50-999
29F2297	SD1SET271-13*	3A	..	SP-6 Pos. w/o Off	60	4.35	2.91	2.61	2.18
29F2298	SD2SGR191-13*	2A	..	SP-8 Pos. w/o Off	45	4.35	2.91	2.61	2.18
29F2299	SD3DAY161-13	10A	4A	DP-2 Pos. w/o Off	100	3.45	2.31	2.07	1.73
29F2197	SD3DHW181-13	6A	4A	DP-2 Pos. w/o Off	50	3.60	2.41	2.16	1.80
29F2198	SD2DCR191-13*	2A	—	DP-4 Pos. w/o Off	45	4.35	2.91	2.61	2.18
29F2199	SD2FAR191-13*	2A	—	4P-2 Pos. w/o Off	45	4.35	2.91	2.61	2.18

*Round base units. All others rectangular



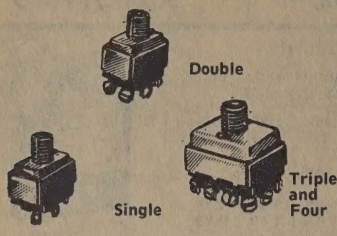
SW8P-2

Cutler-Hammer Switches

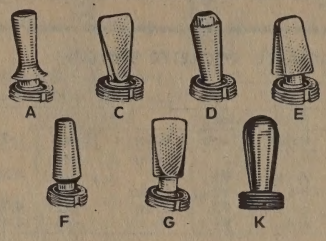
AC "DESIGNER LINE"

SELECTION TABLE FOR COMPOSITE ORDERING NUMBER

BASIC SWITCH



LEVER SHAPE SUFFIX NO. (Select One)



Lever Color

21. (White)
22. (Red)
23. (Gray)
24. (Green)
25. (Yellow)
26. (Blue)
27. (Black)

COMPLETE SWITCH

7562K53 BASIC SWITCH TYPE	+	C LEVER STYLE	+	23 COLOR	=	7562K53C23 COMPLETE ORDERING NUMBER

Note: You must make the complete ordering number when placing your order. Switches employ standard slow-make, slow-break rocker type mechanism with nylon toggles epoxied on to the metal actuator. One hole mounting, one hexagon locknut and one knurled furnished unassembled. Bushing is $1\frac{3}{32}$ and $1\frac{5}{32}$" long. Caution: These are assembled special order switches as per your requirements. **Caution** is advised in choosing correct part numbers.

SINGLE POLE

SCREW TERMINALS

Type	125 VAC	250 VAC	Key	1-24	25-49	50-99	100-499	500-Up
7590K73XXX	6A	3A	I	1.11	1.03	.86	.77	.684
7591K73XXX	6A	3A	II	1.30	1.20	1.00	.90	.80
7592K73XXX	6A	3A	III	1.30	1.20	1.00	.90	.80
7597K73XXX	6A	3A	V	1.67	1.54	1.29	1.16	1.03
7560K73XXX	15A	10A	I	1.30	1.20	1.00	.90	.80
7562K73XXX	15A	10A	II	1.58	1.46	1.22	1.09	.972
7564K73XXX	15A	10A	III	1.58	1.46	1.22	1.09	.972

SOLDER LUG TERMINALS

Type	125 VAC	250 VAC	Key	1-24	25-49	50-99	100-499	500 Up
7590K74XXX	6A	3A	I	.92	.85	.71	.64	.57
7591K74XXX	6A	3A	II	1.02	.94	.79	.71	.63
7592K74XXX	6A	3A	III	1.02	.94	.79	.71	.63
7597K74XXX	6A	3A	V	1.44	1.33	1.11	1.00	.89
7561K74XXX	15A	10A	I	1.11	1.03	.86	.77	.69
7563K74XXX	15A	10A	II	1.30	1.20	1.00	.90	.80
7565K74XXX	15A	10A	III	1.30	1.20	1.00	.90	.80

DOUBLE POLE

Type	125 VAC	250 VAC	Key	1-24	25-49	50-99	100-499	500-Up
7590K53XXX	6A	3A	I	1.34	1.24	1.03	.93	.824
7581K53XXX	6A	3A	II	1.53	1.41	1.18	1.06	.94
7592K53XXX	6A	3A	III	1.53	1.41	1.18	1.06	.94
7569K53XXX	15A	10A	V	2.26	2.08	1.74	1.56	1.39
7560K53XXX	15A	10A	I	1.53	1.41	1.18	1.06	.94
7562K53XXX	15A	10A	II	1.81	1.67	1.39	1.25	1.11
7564K53XXX	15A	10A	III	1.81	1.67	1.39	1.25	1.11

Type	125 VAC	250 VAC	KEY	1-24	25, 49	50, 99	100, 499	500-Up
7590K54XXX	6A	3A	I	1.15	1.06	.89	.80	.71
7591K54XXX	6A	3A	II	1.25	1.15	.96	.87	.77
7592K54XXX	6A	3A	III	1.25	1.15	.96	.87	.77
7569K54XXX	15A	10A	V	1.96	1.81	1.51	1.36	1.21
7561K54XXX	15A	10A	I	1.34	1.24	1.03	.93	.83
7563K54XXX	15A	10A	II	1.53	1.41	1.18	1.06	.94
7565K54XXX	15A	10A	III	1.53	1.41	1.18	1.86	.94

THREE POLE

Type	125 VAC	250 VAC	Key	1-24	25-49	50-99	100-499	500-Up
7690K73XXX	15A	10A	I	3.67	3.39	2.83	2.54	2.26
7692K73XXX	15A	10A	II	3.97	3.66	3.05	2.75	2.44
7694K73XXX	15A	10A	III	4.03	3.72	3.10	2.79	2.48

FOUR POLE

Type	125 VAC	250 VAC	Key	1-24	25-49	50-99	100-499	500-Up
7692K53XXX	15A	10A	II	4.78	4.41	3.68	3.31	2.94

NEWARK — YOUR ONE-POINT SOURCE FOR ALL YOUR ELECTRONIC NEEDS

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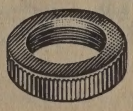
"DESIGNER LINE" FACE NUTS


Knurled

Bevel

Stk. No.	Type	Color	Style	1-24	25-49	50-99	100-499	500-Up
41F500	15-1048-3	Black	Knrl.	.13	.12	.10	.09	.08
41F501	15-1048-7	Cl. Alum.	Knrl.					
41F502	15-1048-12	Bronze	Knrl.					
41F503	15-1048-22	Avocado	Knrl.					
41F504	15-1049-3	Black	Bev.					
41F505	15-1049-7	Cl. Alum.	Bev.					
41F506	15-1049-12	Bronze	Bev.					
41F507	15-1049-22	Avocado	Bev.					

LEVER TRAVEL CHART

*Momentary

Key	Up Position	Center Position	Down Position (Keyway)
I	On	None	Off
II	On	Off	On
III	On	None	On
V	On*	Off	On*
VI	On	Off	On*
VII	On*	Off	On
VIII	Off	None	On
IX	On	On	On

Cutler-Hammer AC-DC Switches

AC-DC DESIGNER LINE

Lever C

Lever D

Designer line switches employ standard utility mechanism with addition of nylon toggles. Are available in eight styles, and in seven colors on special order. Standard levers C and D are listed below. All are double insulated and feature quick-make, quick-break contact mechanism. Nylon bushing in $^{15}/_{32}$-32, $^{11}/_{32}$ long. Furnished with all necessary mounting hardware. Designer line facenuts optional UL and CSA approved. Note: switches with other than standard bushing length ($^{11}/_{32}$), for dry circuit applications, with other than listed ampere ratings, terminations, descriptions and colors-available on request.

SPST

Stock No.	Type	125V AC-DC	250V AC-DC	Lever Color	1-24	25-49	50-99	100-499	500-Up
23F450	8381K21C	6A	3A	White	.79	.73	.61	.55	.488
23F455	8381K21D	6A	3A	White					
23F451	8381K22C	6A	3A	Red					
23F456	8381K22D	6A	3A	Red					
23F453	8381K24C	6A	3A	Green					
23F458	8381K24D	6A	3A	Green					
41F508	8381K25C	6A	3A	Yellow					
41F509	8381K25D	6A	3A	Yellow					
23F454	8381K27C	6A	3A	Black					
23F459	8381K27D	6A	3A	Black					

SPDT

Stock No.	Type	125V AC-DC	250V AC-DC	Lever Color	1-24	25-49	50-99	100-499	500-Up
23F465	8282K21C	3A	1A	White	.87	.80	.67	.60	.532
23F470	8282K21D	3A	1A	White					
23F466	8282K22C	3A	1A	Red					
23F471	8282K22D	3A	1A	Red					
23F468	8282K24C	3A	1A	Green					
23F473	8282K24D	3A	1A	Green					
41F510	8282K25C	3A	1A	Yellow					
41F511	8282K25D	3A	1A	Yellow					
23F469	8282K27C	3A	1A	Black					
23F474	8282K27D	3A	1A	Black					

DPST

Stock No.	Type	125V AC-DC	250V AC-DC	Lever Color	1-24	25-49	50-99	100-499	500-Up
23F480	8370K21C	6A	3A	White	1.26	1.16	.97	.87	.776
23F485	8370K21D	6A	3A	White					
23F481	8370K22C	6A	3A	Red					
23F486	8370K22D	6A	3A	Red					
23F483	8370K24C	6A	3A	Green					
23F488	8370K24D	6A	3A	Green					
41F512	8870K25C	6A	3A	Yellow					
41F513	8870K25D	6A	3A	Yellow					
23F484	8870K27C	6A	3A	Black					
23F489	8870K27D	6A	3A	Black					

DPDT

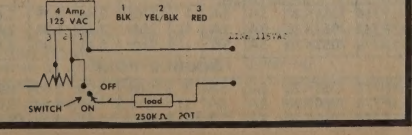
Stock No.	Type	125V AC-DC	250V AC-DC	Lever Color	1-24	25-49	50-99	100-499	500-Up
23F501	8373K21C	6A	3A	White	1.43	1.32	1.10	.99	.88
23F506	8373K21D	6A	3A	White					
23F502	8373K22C	6A	3A	Red					
23F507	8373K22D	6A	3A	Red					
23F504	8373K24C	6A	3A	Green					
23F509	8373K24D	6A	3A	Green					
41F514	8373K25C	6A	3A	Yellow					
41F515	8373K25D	6A	3A	Yellow					
23F505	8373K27C	6A	3A	Black					
23F510	8373K27D	6A	3A	Black					

SPEED CONTROL MODULE

Used in conjunction with an external 250K ohm variable resistor (to 22 ga. wire) and "on-off" switch. Module provides "stepless" ("off" to "full on") speed control of fractional H.P. universal motors. Mounting means: nest mounting. Electrical details: withstands inrush currents up to 21 amps. Rated: 125VAC 4 amps. Terminals: wire leads. Leads meet U.L. specifications. Mechanical details: static design.

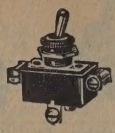
Stock No.	Type	1-24	25-49	50-99	100-249	500-999
23F778	8349K2	5.19	4.79	3.99	3.59	3.19

WIRING CONNECTION FOR SPEED CONTROL



AC-DC UTILITY AND HEAVY DUTY

8280



8365

8368

7320

Small and compact, designed for small motor loads and radio appliances. Employs quick-make, quick-break mechanism. Reduces pitting of contact surfaces due to high arcing on overload currents. Impossible to "tease" the switch due to over center spring construction. Enclosed in phenolic housing. Terminals are well separated to reduce possibility of electrical creepage and to facilitate wiring. Super structure and bushing are bright nickel plated. Standard and heavy duty employs some basic mechanism with large contact surfaces to reduce pitting.

SPST

Stock No.	Type	125V AC DC	250V AC DC	Bush Lt.	Term.	1-24	25-49	50-99	100-499	500-Up
23F219	8280K14	3A	3A	$^{1}/_{4}$	Sldr.	.70	.64	.54	.48	.428
23F385	8280K15	3A	3A	$^{11}/_{32}$	Sldr.	.70	.64	.54	.48	.428
23F220	8280K16	3A	3A	$^{15}/_{32}$	Sldr.	.70	.64	.54	.48	.428
23F391	8290K15	3A	3A	$^{11}/_{32}$	Wire	.84	.77	.65	.58	.516
23F335	8290K16	3A	3A	$^{15}/_{32}$	Wire	.84	.77	.65	.58	.516
23F336	8295K7	3A	3A	$^{11}/_{32}$	Scrw.	.84	.77	.65	.58	.516
23F337	8295K8	3A	3A	$^{15}/_{32}$	Scrw.	.84	.77	.65	.58	.516
41F520	8381K7	6A	3A	$^{11}/_{32}$	Sldr.	.80	.74	.62	.55	.49
23F221	8381K8	6A	3A	$^{15}/_{32}$	Sldr.	.80	.74	.62	.55	.49
41F521	8391K7	6A	3A	$^{11}/_{32}$	Wire	.94	.87	.73	.65	.58
23F338	8391K8	6A	3A	$^{15}/_{32}$	Wire	.94	.87	.73	.65	.58
41F522	8396K7	6A	3A	$^{11}/_{32}$	Scrw.	.94	.87	.73	.65	.58
23F228	8396K8	6A	3A	$^{15}/_{32}$	Scrw.	.94	.87	.73	.65	.58
41F523	7321K2	16A	8A	$^{11}/_{32}$	Scrw.	1.50	1.39	1.16	1.04	.93
23F252	7321K3	16A	8A	$^{15}/_{32}$	Scrw.	1.50	1.39	1.16	1.04	.92
41F524	7361K5	20A	10A	$^{15}/_{32}$	Scrw.	2.52	2.33	1.94	1.75	1.55
41F525	7403K2	20A	20A	$^{15}/_{32}$	Scrw.	3.35	3.09	2.58	2.32	2.06

SPDT

Stock No.	Type	125V AC DC	250V AC DC	Bush Lt.	Term.	1-24	25-49	50-99	100-499	500-Up
41F526	8282K12	3A	1A	$^{1}/_{4}$	Sldr.	.88	.81	.68	.61	.54
23F395	8282K13	3A	1A	$^{11}/_{32}$	Sldr.	.88	.81	.68	.61	.54
23F222	8282K14	3A	1A	$^{15}/_{32}$	Sldr.	.88	.81	.68	.61	.54
23F259	8284K14	3A	1A	$^{15}/_{32}$	Sldr.	.92	.85	.71	.64	.568

*2-circuit

DPST

Stock No.	Type	125V AC-DC	250V AC-DC	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F392	8360K6	3A	3A	$^{1}/_{4}$	Sldr.	1.25	1.16	.97	.87	.77
23F393	8360K8	3A	3A	$^{11}/_{32}$	Sldr.	1.25	1.16	.97	.87	.77
23F223	8360K7	3A	3A	$^{15}/_{32}$	Sldr.	1.25	1.16	.97	.87	.77
23F225	8370K8	6A	3A	$^{11}/_{32}$	Sldr.	1.35	1.24	1.04	.93	.823
23F227	8370K7	6A	3A	$^{15}/_{32}$	Sldr.	1.35	1.24	1.04	.93	.823
23F339	8372K7	6A	3A	$^{15}/_{32}$	Scrw.	1.64	1.52	1.27	1.14	1.01
23F250	7320K2	16A	8A	$^{11}/_{32}$	Scrw.	1.40	1.29	1.08	.97	.86
23F251	7320K3	16A	8A	$^{15}/_{32}$	Scrw.	1.40	1.29	1.08	.97	.86
23F270	7360K7	20A	10A	$^{11}/_{32}$	Scrw.	2.41	2.23	1.86	1.67	1.48
23F253	7360K8	20A	10A	$^{15}/_{32}$	Scrw.	2.41	2.23	1.86	1.67	1.48
41F527	7402K3	20A	22A	$^{11}/_{32}$	Scrw.	3.24	2.99	2.50	2.25	2.00
23F255	7402K4	20A	22A	$^{15}/_{32}$	Scrw	3.24	2.99	2.50	2.25	2.00

DPDT

Stock No.	Type	125V AC DC	250V AC DC	Bush Lt.	Term.	1-24	25-49	50-99	100-499	500-Up
23F394	8363K6	3A	3A	$^{1}/_{4}$	Sldr.	1.44	1.33	1.11	1.00	.888
23F209	8363K8	3A	3A	$^{11}/_{32}$	Sldr.	1.44	1.33	1.11	1.00	.888
23F224	8363K7	3A	3A	$^{15}/_{32}$	Sldr.	1.44	1.33	1.11	1.00	.888
23F275	8365K7	3A	3A	$^{15}/_{32}$	Scrw.	1.90	1.75	1.46	1.31	1.168
23F263	8373K8	6A	3A	$^{11}/_{32}$	Sldr.	1.55	1.43	1.19	1.07	.952
23F226	8373K7	6A	3A	$^{15}/_{32}$	Sldr.	1.55	1.43	1.19	1.07	.952
23F340	8375K7	6A	3A	$^{15}/_{32}$	Scrw.	1.99	1.84	1.53	1.38	1.22
41F528	8680K1	5A	5A	$^{11}/_{32}$	Scrw.	4.17	3.85	3.21	2.89	2.57
41F529	8680K2	5A	5A	$^{15}/_{32}$	Scrw.	4.17	3.85	3.21	2.89	2.57
41F530	8690K1	15A	10A	$^{11}/_{32}$	Scrw.	5.05	4.66	3.89	3.50	3.11
23F229	8690K2	15A	10A	$^{15}/_{32}$	Scrw.	5.05	4.66	3.89	3.50	3.11

DRY CIRCUIT

Circuits below 50 millivolts where contact resistance must not exceed 200 ohms or 10 millivolts at 50 ohms without unsatisfactory operation. Employ same AC-DC quick-make, quick-break mechanism with either coin silver or gold contacts and terminals. Switches use mechanical wiping contact mech-

ANICAL WIPING CONTACT MECHANISM

Stock No.	Type	125-250V AC-DC	Action	Term.	1-24	25-49	50-99	100-499	500-Up
41F516	8376K1	5—3A	DPST	Silv.	1.64	1.51	1.28	1.13	1.01
41F517	8376K2	5—3A	DPDT	Silv.	1.87	1.73	1.44	1.30	1.15
41F518	8377K1	5—3A	DPST	Gold	2.20	2.03	1.70	1.51	1.34
41F519	8377K2	5—3A	DPDT	Gold	2.45	2.26	1.88	1.69	1.51

Cutler-Hammer AC Switches

Single Pole

Double Pole

Triple Pole

Four Pole

General purpose light and heavy duty AC switches for power appliances. Employ slow make-slow break rocker type contact mechanism. Combination phenolic-metallic housing. All one hole mount type. One hexagon locknut and one knurled facenut furnished unassembled. Terminals in rear of base facilitate wiring and reduce possibility of electrical creepage. Visible metal parts are bright nickel plated (except for 8320 which is zinc with aluminum ball, U/L approved.

*See lever travel chart on facing page.

**Lever-Sealed Switches ‡Reversing Circuit.

SPST

Stk. No.	Type	125 VAC	250 VAC	*	Bush. Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F531	7580K5	6A	3A	I	11/32	Scrw	.73	.68	.57	.51	.45
23F341	7580K4	6A	3A	I	15/32	Scrw	.73	.68	.57	.51	.45
41F532	7580K7	6A	3A	I	11/32	Sldr	.63	.58	.49	.44	.39
23F342	7580K6	6A	3A	I	15/32	Sldr	.63	.58	.49	.44	.39
41F533	7580K8	6A	3A	I	15/32	Spde	.63	.58	.49	.44	.39
41F534	7506K4	.....	10A	VIII	15/32	Scrw	1.10	1.01	.85	.76	.68
23F233	7506K3	.....	10A	VIII	15/32	Scrw	.99	.92	.765	.688	.61
23F377	7500K13	15A	10A	I	11/32	Scrw	.84	.77	.65	.58	.52
23F247	7500K14	15A	10A	I	15/32	Scrw	.84	.77	.65	.58	.52
23F369	7501K12	15A	10A	I	11/32	Sldr	.73	.68	.57	.51	.45
23F230	7501K13	15A	10A	I	15/32	Sldr	.73	.68	.57	.51	.45
41F535	7501K15	15A	10A	I	15/32	Spade	.73	.68	.57	.51	.45
41F536	7500K20	15A	10A	I	15/32	Sldr	1.00	.92	.77	.69	.62

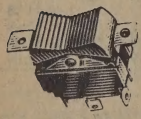
SPDT

23F343	7581K4	6A	3A	II	15/32	Scrw	.84	.77	.65	.58	.52
41F538	7581K7	6A	3A	II	11/32	Sldr	.68	.63	.53	.47	.42
23F344	7581K6	6A	3A	II	15/32	Sldr	.68	.63	.53	.47	.42
23F345	7582K4	6A	3A	III	15/32	Scrw	.84	.77	.645	.58	.516
23F346	7582K6	6A	3A	III	15/32	Sldr	.68	.63	.53	.47	.42
41F537	7509K5	.....	10A	V	15/32	Scrw	1.28	1.18	.99	.89	.79
23F383	7502K12	15A	10A	II	11/32	Scrw	.99	.91	.76	.68	.608
23F265	7502K13	15A	10A	II	15/32	Scrw	.99	.91	.76	.68	.608
41F539	7503K12	15A	10A	II	11/32	Sldr	.84	.78	.65	.58	.52
23F231	7503K13	15A	10A	II	15/32	Sldr	.84	.78	.65	.58	.52
41F540	7503K14	15A	10A	II	11/32	Spde	.84	.78	.65	.58	.52
41F541	7504K3	15A	10A	III	11/32	Scrw	.99	.91	.76	.68	.61
23F380	7504K4	15A	10A	III	15/32	Scrw	.99	.91	.76	.68	.67
41F542	7505K3	15A	10A	III	11/32	Sldr	.84	.78	.65	.58	.52
23F232	7505K4	15A	10A	III	15/32	Sldr	.84	.78	.65	.58	.52
41F543	7505K6	15A	10A	III	15/32	Spade	.84	.78	.65	.58	.52
41F544	7555K11	15A	10A	IX	15/32	Scrw	1.84	1.70	1.42	1.27	1.13

DPST

23F347	7590K4	6A	3A	I	15/32	Scrw	1.12	1.03	.86	.77	.69
41F545	7590K7	6A	3A	I	11/32	Sldr	.91	.84	.70	.63	.56
23F348	7590K6	6A	3A	I	15/32	Sldr	.91	.84	.70	.63	.56
41F546	7590K9	6A	3A	I	11/32	Spde	.91	.84	.70	.63	.56
41F547	7560K6	15A	10A	I	11/32	Scrw	1.33	1.22	1.02	.92	.82
23F267	7560K5	15A	10A	I	15/32	Scrw	1.33	1.22	1.02	.918	.816
23F268	7561K5	15A	10A	I	11/32	Sldr	1.12	1.03	.86	.77	.688
23F235	7561K4	15A	10A	I	15/32	Sldr	1.12	1.03	.86	.77	.688
23F381	7561K6	15A	10A	I	15/32	Spde	1.12	1.03	.86	.77	.688

ROCKETTE



Rockette switches offer unique low profile styling positive on-off operation, momentary and maintained contact action, and surrated surface. Employ standard slow-make, slow-break rocker type mechanism. All are rated 15A @ 125 VAC, and 10A @ 250 VAC. All have #6-32 tapped holes on 162 mounting centers.

*See level travel chart on facing page.

**Screw Terminals.

SINGLE POLE

Stk. No.	Type	*	Frm	No. of Rck	1-24	25-49	50-99	100-499	500-Up
23F365	8144K21A1M50**	I	A	1	.81	.75	.63	.56	.50
23F399	8144K21A1M52	I	A	1	.74	.68	.57	.51	.45
23F434	8144K20A1M52	II	A	1	.83	.76	.64	.57	.51
41F566	8144K22A1M52	III	A	1	.83	.76	.64	.57	.51
41F567	8146K20A1M52	V	A	1	.98	.90	.75	.68	.60

DOUBLE POLE

23F366	8142K21E6M50**	I	E	1	1.29	1.19	.99	.89	.79
23F436	8142K21E6M52	I	E	1	1.13	1.04	.87	.78	.696
23F438	8142K20E6M52	II	E	1	1.38	1.27	1.06	.95	.85
41F568	8142K22E6M52	III	E	1	1.38	1.27	1.06	.96	.85
41F569	8148K20E6M52	V	E	1	1.61	1.48	1.24	1.11	.99

● NEW LIGHTED ROCKET SWITCH

Identical in construction to standard "Rockette" line except they incorporate an integral light unit behind rocker which is internally wired to operate in conjunction with switch.

Stk. No.	Ch. No.	*	Bulb	1-24	25-49	50-99	100-499	500-999
23F279	8175K11E121T52	I	120VAC	1.95	1.78	1.49	1.34	1.191
23F280	8175K11E321T52	I	14VDC	1.95	1.78	1.49	1.34	1.191

DPDT

Stk. No.	Type	125 VAC	250 VAC	*	Bush. Lth.	Term	1-24	25-49	50-99	100-499	500-Up
23F349	7591K4	6A	3A	II	15/32	Scrw	1.33	1.22	1.02	.92	.816
23F374	7591K7	6A	3A	II	11/32	Sldr	1.02	.94	.79	.706	.628
23F356	7591K6	6A	3A	II	15/32	Sldr	1.02	.94	.79	.706	.628
23F357	7592K4	6A	3A	III	15/32	Scrw	1.33	1.11	1.02	.92	.82
41F550	7592K7	6A	3A	III	11/32	Sldr	1.02	.94	.79	.71	.63
23F358	7592K6	6A	3A	III	15/32	Sldr	1.02	.94	.79	.71	.63
23F376	7592K8	6A	3A	III	15/32	Spde	1.02	.94	.79	.71	.63
41F551	7562K5	15A	10A	II	11/32	Scrw	1.63	1.51	1.26	1.13	1.00
23F246	7562K4	15A	10A	II	15/32	Scrw	1.63	1.51	1.26	1.13	1.00
41F549	7562K23‡	15A	10A	II	.....	Scrw	1.75	1.61	1.35	1.21	1.08
41F552	7563K5	15A	10A	II	11/32	Sldr	1.33	1.22	1.02	.92	.82
23F237	7563K4	15A	10A	II	15/32	Sldr	1.33	1.22	1.02	.92	.82
41F553	7563K6	15A	10A	II	15/32	Spde	1.33	1.22	1.02	.92	.82
41F554	7564K7	15A	10A	III	11/32	Scrw	1.63	1.51	1.26	1.13	1.00
23F266	7564K6	15A	10A	III	15/32	Scrw	1.63	1.51	1.26	1.13	1.00
41F556	7564K23‡	15A	10A	III	.....	Scrw	1.75	1.61	1.35	1.21	1.08
41F555	7565K6	15A	10A	III	11/32	Sldr	1.33	1.22	1.02	.92	.82
23F236	7565K5	15A	10A	III	15/32	Sldr	1.33	1.22	1.02	.92	.82
23F382	7565K7	15A	10A	III	15/32	Spde	1.33	1.22	1.02	.92	.82
41F548	7569K1	15A	10A	V	15/32	Sldr	1.81	1.67	1.39	1.25	1.11

3PST

41F557	7600K3	15A	10A	I	Flush	Scrw	2.54	2.35	1.96	1.76	1.56
23F271	7610K2	15A	10A	I	15/32	Scrw	2.54	2.35	1.96	1.76	1.56
23F240	7611K2	15A	10A	I	15/32	Sldr	2.18	2.01	1.68	1.51	1.34
41F558	7611K4	15A	10A	I	15/32	Spade	2.18	2.01	1.68	1.51	1.34
41F559	8320K1	.....	20A	I	15/32	Scrw	4.64	4.28	3.57	3.21	2.86

3PDT

41F560	7602K2	15A	10A	II	Flush	Scrw	3.22	2.97	2.48	2.23	1.98
23F256	7612K2	15A	10A	II	15/32	Scrw	3.22	2.97	2.48	2.23	1.98
23F241	7613K2	15A	10A	II	15/32	Sldr	2.68	2.48	2.07	1.86	1.65
41F561	7613K4	15A	10A	II	15/32	Spde	2.68	2.48	2.07	1.86	1.65
23F257	7614K2	15A	10A	III	15/32	Scrw	3.22	2.97	2.48	2.23	1.98
23F243	7615K2	15A	10A	III	15/32	Sldr	2.68	2.48	2.07	1.86	1.65
23F276	7615K4	15A	10A	III	15/32	Spde	2.68	2.48	2.07	1.858	1.65

4PST

41F562	7690K8	15A	10A	I	15/32	Scrw	3.65	3.37	2.81	2.53	2.25
23F242	7691K14	15A	10A	I	15/32	Spde	3.29	3.04	2.53	2.28	2.02

4PDT

41F563	7692K13	15A	10A	II	15/32	Scrw	4.54	4.19	3.50	3.15	2.80
23F384	7693K2	15A	10A	II	15/32	Spde	4.01	3.70	3.09	2.78	2.47
41F564	7694K4	15A	10A	III	15/32	Scrw	4.54	4.19	3.50	3.15	2.80
41F565	7695K5	15A	10A	III	15/32	Spde	4.01	3.70	3.09	2.78	2.47

MINIATURE TOGGLE

Miniaturized AC toggle switches are ideal for use in solid state devices, and in miniaturized circuitry. Employ slow-make, slow-break type of mechanism. Switches have one hole mount with hexagon facenut, locknut, internal tooth lockwasher and locking ring are furnished unassembled. Solder lug terminals (.07 dia. holes) are made of solid silver. Visible metal parts are made of burnished nickel. Nominal rating: 5A @ 125 vac and 5A @ 28 vdc. Bushing length—¼". Lever extension—⅜", ½ L x ¼ W x 13/16 H. *See lever travel chart on facing page.

SINGLE POLE

Stk. No.	Type	125 VAC	28 VAC	*	Term	1-24	25-49	50-99	100-499	500-Up
23F766	7055K20	5A	5A	I	Sldr	3.46	3.19	2.66	2.394	2.128
23F767	7050K20	5A	5A	II	Sldr	3.67	3.39	2.83	2.543	2.260
23F770	7053K20	5A	5A	III	Sldr	3.67	3.39	2.83	2.543	3.67

DOUBLE POLE

23F772	7065K20	5A	5A	I	Sldr	4.28	3.95	3.29	2.961	2.632
23F773	7060K20	5A	5A	II	Sldr	4.70	4.34	3.62	3.26	2.90
23F776	7063K20	5A	5A	III	Sldr	4.70	4.34	3.62	3.26	2.90

Cutler Hammer Switches

ULTRA-MINIATURE PUSH-BUTTON

Mounting nut and shell are brass, nickel plated. Button cap is molded nylon. Gold plated terminals and wiping contacts are excellent for dry circuit operation. Voltage breakdowns: 1000 Vac. Insulation resistance: 200,000 meg-ohms. Contact resistance: 10 millohms (initial). Life expectancy 50,000 operation at rated load. Rated @ 125 VAC (resistive): ¾ amp N.O. and ½ amp. N.C.

SA1RV20

SW53AA1

SWITCH TABLE

Stk No.	Type	125 VAC	Action	Shaft Color	1-24	25-49	50-99	100-499	500-Up
41F574	SA1RV20	¾ A	N.O.	Red	.95	.87	.73	.65	.58
41F575	SA1BV20	¾ A	N.O.	Black					
41F576	SA1RW20	½ A	N.C.	Red					
41F577	SA1BW20	½ A	N.C.	Black					

BUTTON CAPS

Stk. No.	Type	Color	1-24	25-49	50-99	100-499	500-Up
	SW53AA1	Red	.13	.12	.10	.09	.08
41F579	SW53AA2	Black					
41F580	SW53AA3	Blue					
41F581	SW53AA5	Green					
41F582	SW53AA9	White					
41F583	SW53AA10	Yellow					

AC-DC PUSHBUTTONS

Features quick-make, quick-break, "tease-proof" mechanism. One hexagon locknut and one knurled facenut furnished unassembled. Visible metal parts made of bright nickel plated.

Stk. No.	Type	125V 150V	Switch Action	Term	1-24	25-49	50-99	100-499	500-Up
23F440	8411K7	¾-¼A	SPST-NC	Sldr	.40	.37	.31	.27	.24
23F261	8411K8	¾-¼A	SPST-NC	Scrw	.34	.32	.27	.24	.21
23F439	8411K12	¾-¼A	SPST-NO	Sldr	.53	.49	.41	.37	.33
23F260	8411K11	¾-¼A	SPST-NO	Sldr	.47	.44	.37	.33	.29
23F359	3411K13	¾-¼A	SPST-NO	Sldr	.47	.44	.37	.33	.29
23F363	7196K1	6-3A	SPST-NO	Scrw	1.55	1.43	1.20	1.08	.96
23F444	7190K1	6-3A	SPST-NO	Scrw	1.40	1.30	1.08	.97	.86
23F364	7208K4	6-3A	SPST	Scrw	1.20	1.10	.92	.83	.74
41F606	7199K2	6-3A	DPDT	Sldr	2.52	2.33	1.94	1.74	1.552
41F607	8410K2	¾-¼A	SPST-NC	Sldr	.52	.40	.40	.36	.32
41F608	8410K3	¾-¼A	SPST-NO	Sldr	.68	.63	.52	.468	.416

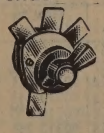
AC PUSHBUTTONS

Slow-make, slow-break contact mechanism. Momentary contacts, nylon or metal button. One hole mounting with one hexagon lock-nut and one knurled facenut furnished unassembled.

Stk. No.	Type	125V	250V	Action	Term	1-24	25-49	50-99	100-499	500-Up
23F441	8440K3	3A	...	SPST-NO	Scrw	1.11	1.03	.855	.768	.684
23F262	8440K2	3A	...	SPST-NO	Sldr.	.96	.89	.74	.666	.592
23F360	8442K4	6A	3	SPST-NO	Scrw.	1.06	.98	.82	.733	.65
23F443	8444K3	15A	10	SPST-NO	Scrw.	1.14	1.05	.88	.788	.70
23F361	8444K4	15A	10	SPST-NO	Scrw.	1.14	1.05	.88	.788	.70
41F609	8446K2	15A	10/5	SPDT-NO/NC	Scrw	1.30	1.20	1.10	.90	.80
23F362	8448K2	15A	10	DPST-NO	Scrw	1.63	1.51	1.26	1.13	1.00

ROTARY SWITCHES

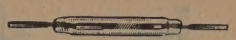
Ideal for use with fans, air conditioners, and other similar electrical uses. Types 7011K1 and 7012K4 are AC-DC and have screw terminal with a ⅜" stem. Types 8122K4 and 8123K4 are AC only and have solder lug terminals with a ⅜" stem. UL approved. Av. Shpg. wt. 6 oz.



Stk. No.	Type	Action	125V	250V	1-24	25-49	50-99	100-499	500-Up
23F796	7011K1	2 on, 1 off	5	2	1.48	1.36	1.14	1.02	.91
23F797	7012K4	3 on, 1 off	5	2	1.51	1.40	1.17	1.05	.93
23F798	8122K4	2 on, 1 off	3	...	.53	.49	.41	.369	.328
23F799	8123K4	3 on, 1 off	3	...	.58	.53	.45	.401	.356

POWER REED

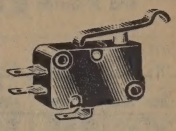
MIL-S-55433. 15A max. in rush Induct. break 3A @ 125vac; 10A @ 250vac; cont. current 3A @ 125vac, 2A @ 250vac N.O.



Stk.No.	Type	IN.	BR.	1-9	10-49	50-99	100-499	500-999
41F610	D30RS300	15A	3A	7.76	5.75	5.48	4.28	3.45

MINIATURE SNAP SWITCH

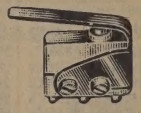
Miniature precision snap action switches. Stable, low wear, operating mechanism capable of providing reliable performance for 1 million operations. High repeat accuracy makes them ideal for limit, monitoring, and pilot applications. Two piece switch housing is constructed of phenolic and riveted together for mechanical strength. Raised bosses on mounting holes permit gang mounting adjacent to one another and establish proper spacing for electrical clearance and heat dissipation. S.L. straight lever; R.L. roller lever; S.R.L. simulated roller lever. 15 Amp. 125-250VAC.-10 amp. @ 28 VDC Temp. -100°F to +185°F. Size 1.094x.625x.400.



Stk. No.	Type SSIZET—	Micro Equiv.	Lever	Lgth	1-49	50-99	100-499	500-999
23F1132	10	V3-1	Scr. ton	.....	1.15	.84	.72	.63
23F1133	20	V3-19	Sol. ton.	.....	1.00	.73	.63	.55
23F1134	30	V3-1-D8	Quk. con.	.....	.85	.62	.54	.47
23F1135	30-2L1	V3L-1-D8	S.L.	.840"	1.00	.73	.63	.55
23F1136	30-2L2	V3L-2-D8	S.L.	1.40"	1.00	.73	.63	.55
23F1137	30-2L6	V3L-6-D8	S.L.	2.34"	1.00	.73	.63	.55
23F1138	30-2L24	V3L-14-D8	S.L.	2.75"	1.00	.73	.63	.55
23F1139	30-102L3	V3L-3-D8	R.L.	.81"	1.20	.88	.76	.66
23F1140	30-102L4	V3L-4-D8	R.L.	1.34"	1.20	.88	.76	.66
23F1141	30-12L5	V3L-5-D8	S.R.L.	1.28"	1.05	.77	.66	.58

SUB-MINIATURE SNAP SWITCH

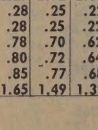
Sub-subminiature precision snap action switches, ideal for many electronic applications. Small in size, light in weight, rated electrically for 50,000 operations at rated load; mechanical life exceeds 1,000,000 operations. Electrical rating: 7 amps @ 125-250VAC, 25 amps surge; 1 amp @ 28VDC. All are SPDT with single turret terminals. Meas. .500x.380x.210 inch. Temp. -65°F to +265°F. Operating force of all switches is 5 oz. except the low force switches which are 3 oz. The release force is 1 oz. on all switches.



Stk.No.	Type	Micro Equiv.	Description	1-9	10-19	20-49	50-99
23F1142	SS10AT40	1SX1-T	Standard	2.25	2.03	1.80	1.58
23F1143	SS10FT40	2SX1-T	Low Force	2.80	2.52	2.24	1.96
23F1144	SS10DT40	1SX2-T	Low Diff.	3.15	2.83	2.52	2.20
23F1145	SS10KT40	3SX1-T	Gold	3.25	2.92	2.60	2.28
23F1146	SW54SA8380-1	JX40	Leaf	.28	.25	.22	.20
23F1147	SW54SA8380-2	JX41	Rev. Leaf	.28	.25	.22	.20
23F1148	SW54SA8380-3	JX45	Roll Leaf	.78	.70	.62	.55
23F1149	SW54SA8380-4	JX51	Rev. Roll. Lf.	.80	.72	.64	.56
23F1150	SW54SA8380-5	JX20	Lever	.85	.77	.68	.60
23F1151	SW54SA8380-6	JX25	Rev. Lever	1.65	1.49	1.32	1.16

HESITATION SWITCH

Three position center off, hesitation, positive stop, or positive off switches; restrict operation from one "on" position to the other "on" position without a stop in the center position. Use with reversing motors; prevent damage by high currents from reversing. A mechanical interlock in switch prohibits toggle action through center position until pressure is momentarily relieved from lever.



Stk.No.	Type	A.H.&H	Action	Bush Dia.	1-24	25-49	50-99	100-499	500-999
23F1152	799sK10		DPDT	15/32	10.02	6.01	5.01	4.51	4.08
23F1153	7992K20	80638-D	DPDT	¾	10.02	6.01	5.01	4.51	4.08
23F1154	7991K10		3PDT	15/32	12.51	7.51	6.26	5.62	5.00
23F1155	7991K20	80983	3PDT	¾	12.51	7.51	6.26	5.62	5.00
23F1156	7990K10		4PDT	15/32	14.02	8.41	7.01	6.31	5.61
23F1157	7990K20	80985	4PDT	¾	14.02	8.41	2.01	6.31	5.61

HARDWARE FOR ONE HOLE MOUNTING SWITCHES

827-228F3. ON-OFF Plate. Slot by off, vertical lettering, 480" hole dia. Burnish finish.
827-228F13. Same as above but with Horz. lettering.
827-228F16. Same as 827-228F3 but with HI-LO lettering.
29-761-3. 23/32" Locking Ring.
16-886. 19/32" Internal Tooth Lockwasher.

Stk. No.	Type	1-49	50-99	100-499	500-Up
23F248	827-228F3	.06	.05	.045	.04
23F516	827-228F13	.06	.05	.045	.04
23F517	827-228F16	.06	.05	.045	.04
23F518	29-761-3	.04	.035	.030	.025
23F519	16-886	.03	.025	.023	.02

Cutler-Hammer Military Switches

MIL-S-8834B POSITIVE ACTION

8836K1 8837K1

8838K1

Positive action switches are environmentally sealed and feature "tease proof" action. The toggle is linked directly to the movable contact member to insure positive make and break. Enclosed in combination nylon filled molding and stainless steel housing. Wiping action keeps contacts clean and smooth and insures low contact resistance for dry circuits. Rated at 25 amps @ 28VDC and 20 amps @ 115VAC resistive load.

ONE POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F650	8836K1	25306-212	A	8.45	7.80	6.50	5.20
23F658	8836K9	25306-222	B	8.13	7.50	6.25	5.20
23F653	8836K4	25306-232	C	8.45	7.80	6.50	5.20
23F655	8836K6	25306-242	D	8.45	7.80	6.50	5.20
23F1073	8836K2	25306-272	F	9.10	8.40	7.00	5.60
23F660	8836K11	25306-302	I	9.10	8.40	7.00	5.60

TWO POLE

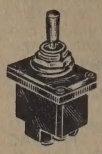
Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F661	8837K1	25307-212	A	12.35	11.40	9.50	7.60
23F669	8837K9	25307-222	B	11.54	10.65	8.89	7.10
23F664	8837K4	25307-232	C	12.35	11.40	9.50	7.60
23F666	8837K6	25307-242	D	11.93	11.01	9.18	7.34
23F1074	8837K5	25307-262	E	13.33	12.30	10.25	8.20
23F662	8837K2	25307-272	F	13.33	12.30	10.25	8.20
23F663	8837K3	25307-312	J	13.33	12.30	10.25	8.20
23F1075	8844K6	26413-E232	N	18.20	16.80	14.00	11.20

FOUR POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F672	8838K1	25308-212	A	25.25	23.31	19.43	15.54
23F680	8838K9	25308-222	B	23.63	21.81	18.18	14.54
23F675	8838K4	25308-232	C	25.25	23.31	19.43	15.54
23F676	8838K5	25308-262	D	26.65	24.60	20.50	16.40
23F1076	8845K6	24614-E232	N	33.80	31.20	26.00	20.80

MIL-S-3950C ENVIRONMENTALLY SEALED

8500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8505

The C-H brown base has patented sealing process. Molding material provides greater safety, higher ignition time, and increased arc resistance under contaminated conditions. Positive detent feel and reliable momentary return action. Improved dielectric capability. Simplified wiring and bussing, and offers excellent sealing in medium-range pricing. Rated: 20 amps @ 28VDC and 15 amps @ 115VAC resistive load.

ONE POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F1077	8500K1	24523-21	A	4.40	3.61	3.21	2.95
23F1078	8500K9	24523-22	B	4.40	3.61	3.21	2.95
23F1079	8500K4	24523-23	C	4.40	3.61	3.21	2.95
23F1080	8500K7	24523-28	K	5.10	4.18	3.72	3.42
23F1081	8500K2	24523-27	F	4.40	3.61	3.21	2.95
23F1082	8500K11	24523-30	I	4.40	3.61	3.21	2.95

TWO POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F1083	8501K1	24524-21	A	7.20	5.90	5.26	4.82
23F1084	8501K9	24524-22	B	7.20	5.90	5.26	4.82
23F1085	8501K4	24524-23	C	7.20	5.90	5.26	4.82
23F1086	8501K11	24524-30	I	7.20	5.90	5.26	4.82
23F1087	8501K5	24524-26	E	7.20	5.90	5.26	4.82
23F1088	8501K2	24524-27	F	7.20	5.90	5.26	4.82
23F1089	8501K3	24524-31	J	7.20	5.90	5.26	4.82
23F1090	8504K6	24659-23D	N	11.20	9.18	8.18	7.50

FOUR POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F1091	8502K1	24525-21	A	11.45	9.39	8.36	7.67
23F1092	8502K9	24525-22	B	11.45	9.39	8.36	7.67
23F1093	8502K4	24525-23	C	11.45	9.39	8.36	7.67
23F1094	8502K5	24525-26	D	11.45	9.39	8.36	7.67
23F1095	8502K2	24525-27	F	11.45	9.39	8.36	7.67
23F1096	8502K3	24525-31	J	11.45	9.39	8.36	7.67
23F1097	8505K6	24660-23D	N	15.40	12.63	11.24	10.32

MIL-S-8834B MINIATURE SMALL LEVER AND BUSHING

8866

8867

Miniature sized switches are completely "tease proof." Enclosed in nylon filled molding and stainless steel housing. Bushing size: ¼-40 thread. .170 long. Toggle size: 440 Mounting; one facenut, internal tooth lock washer and silicone "o" ring panel seal. Lever seal will withstand 15 foot of water pressure. Rating and description same as 8834B miniature large lever. Size: .75 x .56 x. 35.

ONE POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F327	8866K1	24655-211	A	5.04	4.65	3.88	3.10
23F330	8866K7	24655-221	B	5.04	4.65	3.88	3.10
23F329	8866K4	24655-231	C	5.04	4.65	3.88	3.10
23F448	8866K5	24655-241	D	5.69	5.25	4.38	3.50
23F328	8866K2	24655-271	F	5.69	5.25	4.38	3.50
23F449	8866K6	24655-281	L	5.69	5.25	4.38	3.50
23F447	8866K3	24655-311	J	5.69	5.25	4.38	3.50
23F494	8866K8	.....	K	6.01	5.55	4.63	3.70

TWO POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F331	8867K1	24656-211	A	6.31	4.85	5.82	3.88
23F334	8867K7	24656-221	B	6.31	4.85	5.82	3.88
23F333	8867K4	24656-231	C	6.31	4.85	5.82	3.88
23F499	8867K5	24656-241	D	7.35	6.78	5.65	4.52
23F332	8867K2	24656-271	F	7.35	6.78	5.65	4.52
23F497	8867K6	24656-281	L	7.35	6.78	5.65	4.52
23F495	8867K3	24656-311	J	7.35	6.78	5.65	4.52
23F498	8867K8		K	7.67	7.08	5.90	4.72

MIL-S-8834B MINIATURE LARGE LEVER

8868

8869

The mechanism on this line of switches is similar to the standard size positive action switches. Gold plated contacts make and break with a wiping action for good contacts on dry circuits. The gold plates terminals are "potted" to prevent the entrance of such contaminants as dust, solder flux and moisture. All levers are sealed. (SP .562 x .354 x .706) (DP .562 x .546 x .706) Rated 4 amps @ 28 VDC and 3 amps @ 115 V AC resistive load.

ONE-POLE

Stk. No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
23F781	8868K1	90310-211	A	5.14	4.74	3.95	3.16
23F274	8868K7	90310-221	B	5.14	4.74	3.95	3.16
23F784	8868K4	90310-231	C	5.14	4.74	3.95	3.16
23F785	8868K5	90310-241	D	5.79	5.34	4.45	3.56
23F782	8862K2	90310-271	F	5.79	5.34	4.45	3.56
23F786	8868K6	90310-281	L	5.79	5.34	4.45	3.56
23F783	8868K3	90310-311	J	5.79	5.34	4.45	3.56
23F787	8868K8	90310-321	K	6.11	5.64	4.70	3.76

TWO-POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F788	8869K1	90311-211	A	6.40	5.91	4.93	3.94
23F794	8869K7	90311-221	B	6.40	5.91	4.93	3.94
23F791	8869K4	90311-231	C	6.40	5.91	4.93	3.94
23F792	8869K5	90311-241	D	7.44	6.87	5.73	4.58
23F789	8869K2	90311-271	F	7.44	6.87	5.73	4.58
23F793	8869K6	90311-281	L	7.44	6.87	5.73	4.58
23F790	8869K3	90311-311	J	7.44	6.87	5.73	4.58
23F795	8869K8	90311-321	K	7.77	7.17	5.98	4.78

Cutler-Hammer Military Switches

MIL-S-3950C STANDARD LEVER-SEALED

8800

8820

7662

This line of switches employs a rocket type contact mechanism, has sealed levers, hot-tin dipped screw terminals (to facilitate soldering when used as lug). Lever lock prevents accidental operation. Rated: 28A@ 28VDC, 10A@ 115VAC.

ONE POLE

Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
23F307	8800K16	35058-21	A	1.85	1.71	1.43	1.14
23F300	8801K22	35058-22	B	1.56	1.44	1.20	.96
23F306	8810K15	35058-23	C	1.85	1.71	1.43	1.11
23F301	8801K23	35058-24	D	1.56	1.44	1.20	.96
23F309	8812K14	35058-27	F	2.02	1.86	1.55	1.24
23F305	8811K17	35058-30	I	1.69	1.56	1.30	1.04
41F644	8857K39	25125-A1	M	4.39	4.05	3.38	2.70
41F645	8857K44	25125-E3	N	4.39	4.05	3.38	2.70

TWO POLE

Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
23F316	8820K16	35059-21	A	2.37	2.19	1.83	1.46
23F311	8822K20	35059-22	B	2.02	1.86	1.55	1.24
23F315	8824K14	35059-23	C	2.37	2.19	1.83	1.46
23F312	8822K21	35059-24	D	2.08	1.92	1.60	1.28
41F646	8830K13	35059-26	E	2.93	2.70	2.25	1.80
23F317	8834K5	35059-27	F	2.80	2.58	2.15	1.72
41F647	8828K13	35059-29	H	2.73	2.52	2.10	1.68
23F318	8832K6	35059-31	J	2.80	2.58	2.15	1.72
41F648	8858K39	25126-A1	M	5.04	4.65	3.88	3.10
41F649	8858K44	25126-E3	N	5.04	4.65	3.88	3.10

FOUR POLE

Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
41F650	7662K7	25068-21	A	5.42	5.00	4.17	3.34
23F319	7664K5	25068-23	C	5.42	5.00	4.17	3.34
41F651	7660K13	25068-24	D	4.36	4.02	3.35	2.68
41F652	7674K5	25068-26	E	6.83	6.30	5.25	4.20
41F653	7672K5	25068-27	F	6.83	6.30	5.25	4.20
41F654	8859K44	25127-E3	N	8.19	7.56	6.30	5.04

JAN-S-23 UNSEALED

This is an original switch specification; latest specification is MIL-S-3950C; which should be used when possible. New numbers are shown in "Cross Ref." All have solder lug terminals and are not sealed (except* which are sealed)

ST-42

ST-52

ONE POLE

Stk. No.	Type	Jan #	Cross to MS 3950	Key	1-24	25-49	50-99	100-Up
23F277	8803K6	ST42A	35058-22	B	1.40	1.29	1.08	.86
23F200	8803K10*	ST42A	35058-22	B	1.46	1.35	1.13	.90
23F207	8819K5	ST42B	35058-29	H	1.43	1.32	1.10	.88
23F205	8816K5	ST42C	35058-30	I	1.46	1.35	1.13	.90
23F323	8817K5	ST42D	35058-23	C	1.43	1.32	1.10	.88
23F201	8816K9*	ST42D	35058-23	C	1.72	1.59	1.33	1.16
23F324	8802K6	ST42E	35058-21	A	1.43	1.32	1.10	.96
23F203	8805K9*	ST42F	35058-26	E	1.89	1.74	1.45	1.14
41F655	8818K5	ST42G	35058-27	F	1.56	1.44	1.20	.96
23F204	8818K9*	ST42G	35058-27	F	1.85	1.71	1.43	.88
23F208	8815K6	ST42H	35058-31	J	1.56	1.44	1.20	.96

TWO POLE

Stk. No.	Type	Jan #	Cross to MS 3950	Key	1-24	25-49	50-99	100-Up
23F326	8823K5	ST52K	35059-22	B	1.63	1.50	1.25	1.00
23F210	8823K6*	ST52K	35059-22	B	1.89	1.74	1.45	1.16
23F273	8825K5	ST52N	35059-23	C	1.79	1.65	1.38	1.10
23F211	8825K6*	ST52N	35059-23	C	2.15	1.98	1.65	1.32
23F325	8821K5	ST52P	35059-21	A	1.79	1.65	1.38	1.10
23F212	8821K6*	ST52P	35059-21	A	2.15	1.98	1.65	1.32
23F216	8831K5	ST52R	35059-26	E	2.24	2.07	1.73	1.38
23F217	8835K3	ST52S	35059-27	F	2.24	2.07	1.73	1.38
41F656	8835K4*	ST52S	35059-27	F	2.63	2.43	2.03	1.62
23F213	8833K3	ST52T	35059-31	J	2.24	2.07	1.73	1.38

AIRCRAFT SWITCH GUARDS

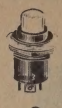
Stock No.	Type	Gov't MS No.	1-24	25-49	50-99	100-Up
23F140	8492K1	24417-1	1.07	.99	.83	.66
23F145	8497K1	25224-1	1.95	1.80	1.50	1.20

MIL-S-8805/3C

A

C

F


G

Momentary snap action pushbutton switches have wiping contacts (overtravel .012") mechanical life 250,000 operations. Rated: 10 amps @ 125vac. and 28 vdc resistive load. Case protects against dust, water, and other environmental conditions. High 120 gram contact pressure with low contact resistance; 41 lbs. operating force, choice of (cr) red or (cb) black button.

Stock No.	Switch Type	Gov't MS No.	Key	1-24	25-49	50-99	100-249
41F611	SA401CB2	25089-1C	SPNO	5.45	4.91	4.36	4.82
41F612	SA401CR2	25089-1CR	SPNO	5.45	4.91	4.36	4.82
41F613	SA403CB2	25089-3C	2CKT	5.45	4.91	4.36	3.82
41F614	SA403CR2	25089-3CR	2CKT	5.45	4.91	4.36	3.82
41F615	SA403FB2	25089-3F	2CKT	5.45	4.91	4.36	3.82
41F616	SA403FR2	25089-3FR	2CKT	5.45	4.91	4.36	3.82
41F617	SA403GB2	25089-3G	2CKT	5.45	4.91	4.36	3.82
41F618	SA403GR2	25089-3GR	2CKT	5.45	4.91	4.36	3.82
41F619	SA404AB2	25089-4A	SPNO3	5.45	4.91	4.36	3.82
41F620	SA404CB2	25089-4C	SPNO3	5.45	4.91	4.36	3.82
41F621	SA404CR2	25089-4CR	SPNO3	5.45	4.91	4.36	3.82
41F622	SA404FB2	25089-4F	SPNO3	5.45	4.91	4.36	3.82
41F623	SA404FR2	25089-4FR	SPNO3	5.45	4.91	4.36	3.82
41F624	SA404GB2	25089-4G	SPNO3	5.45	4.91	4.36	3.82
41F625	SA404GR2	25089-4GR	SPNO3	5.45	4.91	4.36	3.82
41F626	SA405CB2	25089-5C	SPNC3	5.45	4.91	4.36	3.82
41F627	SA405GB2	25089-5G	SPNC3	5.45	4.91	4.36	3.82
41F628	SA405GR2	25089-5GR	SPNC3	5.45	4.91	4.36	3.82

PUSH BUTTON CODE

2 CKT Indicator SPNOS Indicator

MILITARY SWITCH SEALS MIL-B-5423

A

B

C

D

Grey silicone rubber seals transform switches into watertight, dust proof devices. Install easily to provide vibration resistant seal. Operating temperatures: —160° to +500°F (commercial version similar except made of black neoprene).

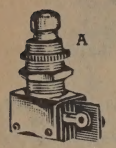
Stk. No.	Type	Size	MIL-B-5423	1-99	100-499	500-999	1000-2499
41F629	SW1AN1030	15/32-32	1-A1	.75	.58	.52	.47
41F630	SW1BN1030	15/32-32	2-A3	.75	.58	.52	.47
41F631	SW1LN5030	1/4-40	5-A71	1.05	.84	.75	.68
41F632	SW1BN5032	1/4-40	11-A8	1.05	.84	.75	.68
41F633	SW1AN3030	15/32-32-5/16	7-B21	.65	.51	.47	.43
41F634	SW1NC3030	15/32-32-7/16	7-B22	.65	.51	.47	.43
41F635	SW1AN9060-14	15/32-32	9-C6	1.20	.96	.84	.74
41F636	SW1AN9030-14	3/8-32	9-C2	1.29	1.15	1.00	.87
41F637	SW1AN9040-18	1/4-32	9-C4	.65	.51	.47	.43
41F638	SW1RN1030-2	15/32-32	RF1	2.79	2.57	2.32	2.02
41F639	SW1RC3030-1	15/32-32	RF1	1.99	1.81	1.57	1.36
41F640	SW1RN9030-14	3/8-32	RF1	1.29	1.15	1.00	.87
41F641	SW1AN1111-4	15/32-32	. . . . .	.46	.36	.26	.22
41F642	SW1AN1211-5	3/8-32	. . . . .	.46	.36	.26	.22
41F643	SW1AN1312-7	3/8-32	. . . . .	.46	.36	.26	.22

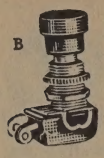
LEVER TRAVEL CHART

Key	Up Position	Center Position	Down Position (Keyway)
A	ON	OFF	ON
B	ON	NONE	OFF
C	ON	NONE	ON
D	ON	OFF	NONE
E	ON	NONE	ON*
F	ON*	OFF	ON*
G	ON*	OFF	ON
H	ON	NONE	OFF*
I	OFF	NONE	ON*
J	ON	OFF	ON*
K	NONE	ON	ON*
L	NONE	OFF	ON*
M	ON—>	<—OFF—>	<—ON
N	ON—>	NONE	<—ON

*Momentary —> Direction in which lever is locked

Arrow Hart Switches

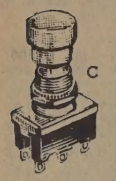


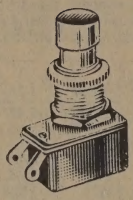


MOMENTARY PUSH SWITCHES SLOW MAKE & BREAK MIDGET SIZE

Long life expectancy, reliable butt type contacts for use with AC only. UL Listed

Stock No.	Type	Fig.	Action	Rating 120V	Rating 250V	HP	Cap	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-497	500-Up
23F042	3391-GL	A	SPST-NO	1	..	....	Blk.	9/16	Lug	.98	.90	.75	.675	.60
23F043	3391-GLR	A	SPST-NO	1	..	....	Red	9/16	Lug	.98	.90	.75	.675	.60
23F029	3392	A	2-CIR-NC	1	..	....	Nkl.	9/16	Lug	.96	.89	.735	.66	.588
23F044	3392-AE	A	2-CIR-NC	1	..	....	Blk.	9/16	Lug	1.19	1.10	.92	.82	.73
23F118	80511-E	B	SPST-NO	3	..	....	Nkl.	9/16	Lug	.49	.46	.38	.342	.304
23F119	80541-E	B	SPST-NO	3	..	....	Blk.	9/16	Lug	.98	.90	.75	.675	.60
23F120	80541-ER	B	SPST-NO	3	..	....	Red	9/16	Lug	.98	.90	.75	.675	.60
23F115	80511	B	SPST-NC	3	..	1/10	Nkl.	9/16	Lug	.49	.46	.38	.32	.304
23F116	80541	B	SPST-NC	3	..	1/10	Blk.	9/16	Lug	.98	.90	.75	.675	.60
23F117	80541-R	B	SPST-NC	3	..	1/10	Red	9/16	Lug	.98	.90	.75	.675	.60





MIDGET WIPING ACTION MOMENTARY PUSH SWITCHES

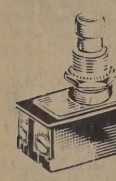
Ideal for electronics and other applications demanding small size. Excellent performance and dependability. All current carrying parts silver plated. U. L. listed.

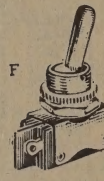
23F050	83090	C	SPST-NO	3	1	....	Nkl.	1/2	Lug	1.43	1.32	1.10	.99	.88
23F051	83090-CB	C	SPST-NO	3	1	....	Blk.	1/2	Lug	1.65	1.52	1.27	1.14	1.016
23F052	83090-CR	C	SPST-NO	3	1	....	Red	1/2	Lug	1.65	1.52	1.27	1.14	1.016
23F053	83094-C	C	DPDT	3	1	....	Nkl	1/2	Lug	2.13	1.96	1.635	1.47	1.308
23F061	83094-CB	C	DPDT	3	1	....	Blk.	1/2	Lug	2.35	2.17	1.805	1.62	1.44
23F062	83094-CR	C	DPDT	3	1	....	Red	1/2	Lug	2.35	2.17	1.805	1.62	1.44

HEAVY DUTY MOMENTARY PUSH SWITCHES

One Horse power rated for industrial applications. UL Listed.

23F036	80630	E	DPST-NO	12	6	1	Nkl.	7/16	Scrw	2.05	1.90	1.58	1.42	1.26

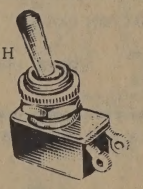




DOUBLE ACTION PUSH SWITCHES

Combines the assets of a snap action mechanism with highly reliable push-push type actuation.

23F114	82403	D	SPST	6	3	....	Nkl.	9/16	Lug	1.05	.97	.81	.72	.64
23F054	80863	E	DPST	12	6	1	Nkl.	9/16	Scrw	2.14	1.97	1.645	1.48	1.316



SNAP ACTION TOGGLE CANOPY SWITCHES

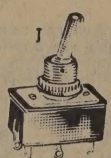
Providing long life at low cost. Ideal for light duty applications U. L. listed.

Stock No.	Type	Fig.	Positive Action (*momentary)	Rating 125V	Rating 250V	HP	Lever Type	Sleeve Length	Term Type	1-24	25-49	50-99	100-499	500-Up
23F021	20994-CS	F	SPST-ON-OFF	6	3	..	Ball	15/32	Lug	.69	.64	.53	.487	.42
23F013	20994-LH	F	SPST-ON-OFF	6	3	..	Bat	15/32	Lug	.69	.64	.53	.487	.42
23F064	20994-BF	F	SPST-ON-OFF	6	3	..	Ball	13/32	Lug	.69	.64	.53	.487	.42
23F125	20994-NV	F	SPST-ON-OFF	6	3	..	Bat	13/32	Lug	.62	.58	.48	.432	.384
23F024	21350-BF	F	SPDT-ON-ON	3	1	..	Ball	15/32	Lug	.87	.80	.67	.60	.54
23F011	21350-EH	F	SPDT-ON-ON	3	1	..	Bat	15/32	Lug	.85	.79	.66	.59	.52
23F025	20902-N	G	DPST-ON-OFF	3	1	..	Ball	15/32	Lug	1.25	1.16	.965	.87	.77
23F012	20902-CX	G	DPST-ON-OFF	3	1	..	Bat	15/32	Lug	1.25	1.16	.965	.87	.77
23F015	20905-FR	G	DPDT-ON-ON	3	1	..	Bat	15/32	Lug	1.31	1.21	1.01	.905	.804
23F028	20905-BX	G	DPDT-ON-ON	3	1	..	Ball	15/32	Lug	1.44	1.34	1.11	.99	.88
23F126	20905-AN	G	DPDT-ON-ON	3	1	..	Bat	13/32	Lug	1.44	1.34	1.11	.99	.88
23F059	21827-GA	G	SPDT-ON-ON *NC	3	1	..	Bat	15/32	Lug	1.29	1.19	.99	.88	.79
23F058	21858-X	G	SPDT-ON-ON *NC	3	1	..	Bat	15/32	Lug	1.85	1.71	1.43	1.28	1.14

MIDGET SNAP ACTION TOGGLE POWER SWITCH

Quick make & break mechanism provides high rating, small size. Ideal appliance control U. L. listed.

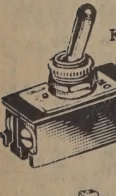
23F065	80994-BD	H	SPST-ON-OFF	3	..	....	Bat	15/32	Lug	.69	.64	.550	.447	.424
23F066	80994-BA	H	SPST-ON-OFF	3	..	....	Ball	15/32	Lug	.69	.64	.550	.447	.424

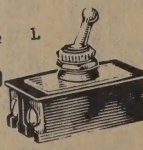


MIDGET WIPING ACTION TOGGLE SNAP SWITCH

For electronic applications demanding small size, highly dependable performance U. L. listed.

60F2322	83050	I	SPST-ON-OFF	3	1	....	Bat	15/32	Lug	.91	.84	.70	.63	.56
60F2326	83070	I	SPST-OFF-ON*	3	1	....	Bat	15/32	Lug	1.25	1.16	.965	.869	.77
60F2323	83052	I	SPDT-ON-ON	3	1	....	Bat	15/32	Lug	1.09	1.00	.835	.75	.668
60F2327	83072	I	SPDT-ON-ON*	3	1	....	Bat	15/32	Lug	1.43	1.32	1.10	.99	.88
60F2324	83053	I	DPST-ON-OFF	3	1	....	Bat	15/32	Lug	1.35	1.24	1.04	.93	.828
60F2328	83073	I	DPST-OFF-ON*	3	1	....	Bat	15/32	Lug	1.68	1.55	1.30	1.165	1.036
60F2325	83054	I	DPDT-ON-ON	3	1	....	Bat	15/32	Lug	1.55	1.43	1.19	1.07	.95
60F2329	83074	I	DPDT-ON-ON*	3	1	....	Bat	15/32	Lug	1.89	1.74	1.45	1.305	1.16

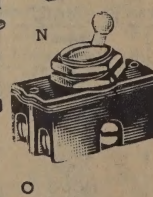




INTERMEDIATE SIZE TOGGLE TWO POSITION SNAP ACTION SWITCH

Silver plated wiping action contacts for low contact resistance applications UL Listed

23F006	81015-AW	J	SPST-ON-OFF	6	3	....	Bat	15/32	Lug	.91	.84	.70	.63	.56
23F002	81045-FB	J	SPST-OFF-ON*	6	3	....	Bat	15/32	Lug	1.44	1.33	1.11	.999	.888
23F007	81021-AV	J	SPDT-ON-ON	6	1	....	Bat	15/32	Lug	1.18	1.09	.91	.819	.728
23F004	81051-G	J	SPDT-ON-ON*	6	1	....	Bat	15/32	Lug	1.57	1.45	1.21	1.089	.968
23F008	81024-GB	J	DPST-OFF-ON	6	3	....	Bat	15/32	Lug	1.35	1.24	1.04	.93	.828
23F003	81054-H	J	DPST-OFF-ON*	6	3	....	Bat	15/32	Lug	1.89	1.74	1.45	1.31	1.16
23F009	81027-CE	J	DPDT-ON-ON	6	3	....	Bat	15/32	Lug	1.55	1.43	1.19	1.07	.95
23F005	81057-N	J	DPDT-ON-ON*	6	3	....	Bat	15/32	Lug	2.28	2.10	1.75	1.578	1.40

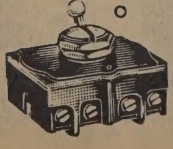


STANDARD DUTY TOGGLE—QUICK MAKE & BREAK SWITCH

Non-teasable action providing control available for motor loads up to 2 H. P. U. L. listed.

23F035	80600	L	DPST-ON-OFF	16	8	1	Ball	5/16	Scrw.	1.38	1.28	1.07	.96	.85
23F039	80600-B	L	DPST-ON-OFF	16	8	1	Ball	15/32	Scrw.	1.38	1.28	1.07	.96	.85
23F048	80600-BJ	K	DPST-ON-OFF	16	8	1	Bat	15/32	Scrw.	1.38	1.28	1.065	.959	.85
23F041	80602	L	DPST-ON-OFF	16	8	1	Ball	15/32	Scrw.	2.41	2.23	1.86	1.669	1.48
23F016	80602-C	L	DPST-ON-OFF	15	10	1½	Ball	15/32	Scrw.	2.41	2.23	1.85	1.70	1.35
23F047	80602-CA	K	DPST-ON-OFF	15	10	1½	Bat	15/32	Scrw.	2.41	2.23	1.86	1.67	1.48

Stk. No.	Type	Fig.	Action	230V	600V	HP	Cap	Sleeve	Term	1-24	25-49	50-99	100-499	500-Up
23F017	80093	M	DPST-ON-OFF	30	20	2	Square	....	Scrw.	3.61	3.21	2.81	2.41	2.21
23F018	80404	M	3PST-ON-OFF	30	20	2	Square	....	Scrw.	10.57	9.39	8.22	7.05	6.46



HEAVY DUTY TOGGLE—POSITIVE ACTION 3 POSITION SWITCH

Switch presents a foolproof answer to control problems requiring a positive stop at center position (OFF) U.L. listed.

23F020	80421	N	DPST-ON-OFF	20	20	1½	....	11/32	Scrw.	3.24	2.99	2.49	2.24	1.99
23F060	80638-D	N	DPDT-ON-OFF-ON	10	5	¾	Ball	13/32	Scrw.	4.42	4.08	3.40	3.06	2.72
23F019	80983	O	3PDT-ON-OFF-ON	10	5	½	Ball	13/32	Scrw.	6.83	6.30	5.22	4.73	4.20
23F000	80985	O	4PDT-ON-OFF-ON	10	5	½	Ball	13/32	Scrw.	9.11	8.41	7.01	6.30	5.60

AIR CRAFT TYPE AC ONLY TOGGLE SWITCH

Butt type contacts. All have bat handles. U.L. listed.

Stock No.	Type	Fig.	Action	Rating 125V	Rating 250V	HP	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
23F106	82600	A	SPST-ON-OFF	15	10	¾	15/32	scrw	.83	.76	.64	.57	.508
60F2300	82601	A	SPST-ON-OFF	15	10	¾	15/32	lug	.72	.67	.56	.499	.444
60F2305	83004	A	SPDT-ON-ON	15	10	¾	15/32	scrw	.99	.91	.76	.68	.61
60F2308	82605	A	SPDT-ON-ON	15	10	¾	15/32	lug	.83	.76	.64	.57	.508
23F107	82602	A	SPDT-ON-OFF-ON	15	10	¾	15/32	scrw	.99	.91	.76	.68	.61
60F2304	82603	A	SPDT-ON-OFF-ON	15	10	¾	15/32	lug	.83	.76	.64	.57	.508
60F3450	82606	B	DPST-ON-OFF	15	10	¾	15/32	scrw	1.33	1.22	1.02	.918	.861
60F2302	82607	B	DPST-ON-OFF	15	10	¾	15/32	lug	1.12	1.03	.86	.77	.688
60F3451	82610	B	DPDT-ON-ON	15	10	¾	15/32	scrw	1.63	1.51	1.26	1.129	1.00
60F2310	82611	B	DPDT-ON-ON	15	10	¾	15/32	lug	1.33	1.22	1.02	.918	.816
23F108	82608	B	DPDT-ON-OFF-ON	15	10	¾	15/32	scrw	1.63	1.51	1.26	1.129	1.00
60F2306	82609	B	DPDT-ON-OFF-ON	15	10	¾	15/32	lug	1.33	1.22	1.02	.918	.816
60F3452	82612	C	3PST-ON-OFF	15	10	1	15/32	scrw	2.53	2.33	1.44	1.75	1.56
60F3453	82614	C	3PDT-ON-OFF-ON	15	10	1	15/32	scrw	3.21	2.96	2.47	2.22	1.967
60F3454	82615	C	3PDT-ON-OFF-ON	15	10	1	15/32	lug	2.69	2.48	2.07	1.858	1.652
60F3455	82616	C	3PDT-ON-NONE-ON	15	10	1	15/32	scrw	3.21	2.96	2.47	2.22	1.967
60F3456	82617	C	3PDT-ON-NONE-ON	15	10	1	15/32	lug	2.69	2.48	2.07	1.858	1.652
60F3457	82634	C	4PDT-ON-OFF-ON	15	10	½	15/32	lug	4.01	3.70	3.09	2.777	2.468
60F3458	83636	C	4PDT-ON-NONE-ON	15	10	½	15/32	lug	4.01	3.70	3.09	2.777	2.468

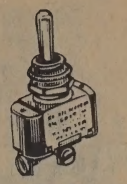


Fig. A

Fig. B

Switch Hardware

25F045	2059-0-1	On-Off Plate for 15/32" dia. sleeve	.04	.036	.03	.027	.024
60F2376	8991-1378	Bronze Lock washer for 15/32" dia. sleeve	2.00 per 100				
60F2377	20590-174	Locking Ring for 15/32" dia. sleeve	3.00 per 100				

DRY CIRCUIT TYPE—GOLD PLATED CONTACT TOGGLE SWITCH U.L. Listed

Stock No.	Type	Fig.	Action	DC Rating 125V	DC Rating 250V	Lever Type	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
60F3477	83052-PY	F	SPDT-ON-ON	3	1	Bat	15/32	lug	1.74	1.61	1.34	1.21	1.07
60F3478	83054-PY	F	DPDT-ON-ON	3	1	Bat	15/32	lug	2.86	2.64	2.20	1.98	1.76

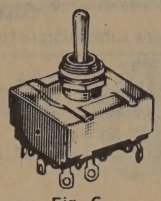


Fig. C

Fig. F

SECURITY LOCK SWITCHES—ROTARY ACTION—Fig. G U.L. Listed

3 pin "Corbin" security lock switch, designed for easy dead front mounting.

Stock No.	Type	Action	DC Rating 125V	DC Rating 250V	Key Removable	Sleeve Lgth.	Term Type	1-24	25-99	100-499	500-Up
60F3479	81721-LQ-41	SPDT-ON-ON	6	3	Pos. 1 & 11	⅞	lug	10.23	8.18	7.67	7.16
60F3480	(Key for above A-H #41)							1.68	1.34	1.26	1.18
60F3484	81721-LQ-61	SPDT-ON-ON	6	3	Pos. 1	⅞	lug	10.23	8.18	7.67	7.16
60F3483	(Key for above A-H #61)							1.68	1.34	1.26	1.18

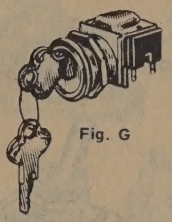


Fig. G

Fig. H

INTERMEDIATE SIZE LOCKING SWITCH—FIG. H U.L. Listed

Stk. No.	Type	Action	DC Rating 125V	DC Rating 250V	Key Removable	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
60F2316	81715-L	SPST-ON-OFF	6	3	Pos. 1	15/32"	lug	2.13	1.97	1.64	1.48	1.31
60F2320	(Key for above switch 1561-488)				(Rem. off pos. only)			.18	.17	.14	.126	.112
60F3482	81721-L	SPDT-ON-OFF	6	3	Pos. 1	15/32"	lug	2.26	2.08	1.74	1.56	1.388
60F3481	81727-LC	DPDT-ON-OFF	6	3	Pos. 1+1	15/32"	lug	2.93	2.71	2.26	2.03	1.804
60F2321	Key for above switches #1561-487		Rem. ON & OFF Pos.					.20	.19	.16	.14	.12

Push-Pull Wiping Action Switch Fig. I

60F3485	81376	DPDT-ON-ON	6	3	. . . . .	17/32	lug	1.90	1.75	1.46	1.31	1.168

ROTARY POWER SWITCHES

Wiping blade contact, ideal for control panel. Small appliance and instrument use. U.L. List.

Stock No.	Type	Fig.	Action	Rating 125V	Rating 250V	Slv. Dia.	Spdl. Lgth.	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
60F3486	41047	. .	SPST-ON-OFF	3	1	⅜	⅜	⅜	lug	.45	.42	.35	.313	.278
60F3487	1561-B	. .	SPST-ON-OFF	6	3	⅜	⅜	⅜	lug	.94	.87	.72	.648	.576
60F3488	1575	. .	DPDT-ON-ON	3	1	⅜	⅜	⅜	lug	1.78	1.64	1.37	1.23	1.096
60F3489	81715	J	SPST-ON-OFF	6	3	⅜	⅜	⅜	lug	1.67	1.54	1.29	1.156	1.028
60F3490	81727	J	DPDT-ON-ON	6	3	⅜	⅜	⅜	lug	2.44	2.25	1.88	1.688	1.50
60F3491	70302-A	K	DPST-ON-OFF	20	2HP	¼	¾	7/32	scrw	2.31	2.14	1.78	1.60	1.42

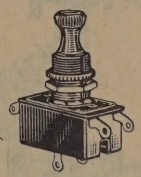


Fig. I

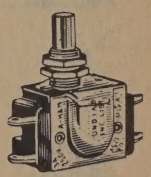


Fig. J

SUBMINIATURE TOGGLE SWITCHES

Gold plated contacts standard Military type meet Mil-3950-C per drawing, single pole MS-75028 and double pole MS-75029. Toggle switch ratings, 5 amps at 125VAC and 29VDC. Push button switch ratings, 1 amp at 115VAC and 2 amps at 29VDC, #rated, 7 amps at 125VAC and 29VDC. Base size, SPST switches ¼x½", DPDT ½x½". Sleeves diameter both ¼".

LEVER POSITION CHART
†denotes maint. on
*denotes momentary action

I ON-NONE-ON
II ON*-OFF-ON†
III ON*-OFF-ON*
IV ON*-NONE-ON
V OFF-NONE-ON
VI ON-OFF-ON
VII ON-ON-ON

Stock No.	Comm. Type	Fig.	Action	Lever Chart	1-24	25-99	100-499	500-Up	Stock No.	Mil. Type	Fig.	1-24	25-99	100-49
60F2388	TS-1	P	SPST	V	2.80	2.24	2.10	1.96	60F2335	75028-22	P	3.00	2.40	2.25
59F521	TC-3	P	SPDT	VI	3.00	2.40	2.25	2.10	60F2334	75028-21	P	3.20	2.56	2.40
59F522	TE-3	P	SPDT	I	3.20	2.56	2.40	2.24	60F2339	75028-31	P	3.40	2.72	2.55
59F523	TG-3	P	SPDT	III	3.20	2.56	2.40	2.24	60F2338	75028-27	P	3.40	2.72	2.55
60F2389	TM-3	P	SPDT	IV	3.20	2.56	2.40	2.24	60F2337	75028-26	P	3.40	2.72	2.55
59F524	TS-3	P	SPDT	I	3.00	2.40	2.25	2.10	60F2336	75028-23	P	3.20	2.56	2.40
60F2390	TS-2	P	DPST	V	3.40	2.72	2.55	2.38	60F2341	75028-22	P	3.60	2.88	2.70
60F2391	TC-6	P	DPDT	VI	3.90	3.12	2.93	2.73	60F2340	75029-22	P	4.10	3.28	3.08
60F2392	TE-6	P	DPDT	II	5.00	4.00	3.75	3.50	60F2345	75029-21	P	5.20	4.16	3.90
60F2393	TG-6	P	DPDT	III	5.00	4.00	3.75	3.50	60F2344	75029-31	P	5.20	4.16	3.90
60F2394	TM-6	P	DPDT	IV	5.00	4.00	3.75	3.50	60F2343	75029-27	P	5.20	4.16	3.90
59F525	TS-6	P	DPDT	I	3.90	3.12	2.93	2.73	60F2342	75029-26	P	4.10	3.28	3.08

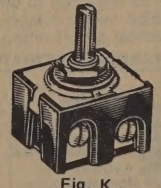


Fig. K

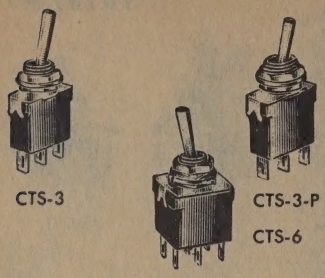
Fig. L

SUBMINIATURE PUSH BUTTON SERIES—MOMENTARY ACTION

Stk. No.	Type	Fig.	Action	1-24	25-99	100-499	500-Up
23F128	PM-3	L	SPDT	2.86	2.29	2.15	2.00
23F129	PM-6	M	DPDT	3.51	2.81	2.63	2.46
59F520	PM-7	M	3PST-NO	3.31	2.65	2.48	2.32
60F2386	PM-8	M	3PST-NC	4.65	3.72	3.49	3.26
60F2387	PMQ-3	L	SPST#	3.25	2.60	2.44	2.28

Fig. M

Fig. P



IEC SERIES SUBMINIATURE TOGGLE SWITCHES

Subminiature toggle switches compatible with Series "A" switches. Meet IEC standards. Contacts rated 2 A @ 250 VAC or 5 A @ 29 VDC. Insulation resistance: 10,000 megohms. Life: 50,000 cycles min. Chrome plated steel case with silver contacts. Wt., ¼ oz.

Stock No.	Mfr's Type	Description	1-24	25-99	100-499	500-999
29F2000 29F2001	CTS-3 CTS-3-P	SPDT "On-None-On" "P" has parallel lever	1.29	1.03	.97	.90
29F2002 29F2003	CTC-3 CTC-3-P	SPDT "On-Off-On" "P" has parallel lever	1.44	1.15	1.08	1.01
29F2004 29F2005	CTS-6 CTS-6-P	DPDT "On-None-On" "P" has parallel lever	1.72	1.38	1.29	1.20
29F2006 29F2007	CTC-6 CTC-6-P	DPDT "On-Off-On" "P" has parallel lever	1.95	1.56	1.46	1.36

COLORED NYLON LEVER CAPS FOR IEC SERIES TOGGLE SWITCHES

Mount on IEC series subminiature toggle switches. Fits end of switches' levers.

Stock No.	Mfr's Type	Color	1-24	25-99	100-499
29F2008	18500-11	White	.20	.16	.15
29F2009	18500-13	Blue			
29F2010	18500-14	Red			
29F2011	18500-15	Yellow			
29F2012	18500-16	Green			
29F2013	18500-17	Brown			
29F2014	18500-18	Black			

84000 SERIES AC-DC COMPACT TOGGLE SWITCHES

2 & 3 position, with wiping action, silver alloy contacts, ideal for low voltage applications. Size: ½ x 49/64 x 1 13/64" with 9/16" sleeve, length, 15/32" dia. Terminals are combination solder lug, quick connect type. Rating: AC—5A@ 125V, 2A@ 250V; DC—4A@ 12V, 1A@ 250V. Nickel plated bat handle—¾". Colored paddle shaped nylon lever—1 15/16". UL listed.

- Ideal for Low Voltage Applications
- Solder Lug—Quick Contact Type

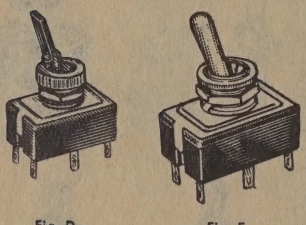


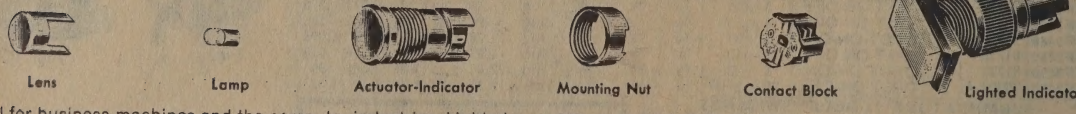
Fig. E METAL BAT HANDLE

Stk. No.	Type	Action	1-24	25-49	50-99	100-499	500-Up
60F3459	84000	SPST-ON-OFF	2.11	1.94	1.62	1.46	1.30
60F3460	84001	DPST-ON-OFF	2.50	2.31	1.93	1.73	1.54
60F3461	84002	SPDT-ON-ON	2.28	2.10	1.75	1.58	1.40
60F3462	84003	DPDT-ON-ON	2.78	2.57	2.14	1.93	1.71
60F3463	84004	DPDT-ON-OFF-ON	2.78	2.57	2.14	1.93	1.71
60F3464	84005	SPDT-ON-OFF-ON	2.28	2.10	1.75	1.58	1.40

Fig. D COLORED NYLON LEVER

Black Lever		Red Lever			1-24	25-49	50-99	100-499	500-Up
Stk. No.	Type	Stk. No.	Type	Action					
60F3465	84000-CB	60F3471	84000-CR	SPST-ON-OFF	2.18	2.01	1.68	1.51	1.34
60F3466	84001-CB	60F3472	84001-CR	DPST-ON-OFF	2.57	2.38	1.98	1.78	1.58
60F3467	84002-CB	60F3473	84002-CR	SPDT-ON-ON	2.35	2.17	1.81	1.63	1.45
60F3468	84003-CB	60F3474	84003-CR	DPDT-ON-ON	2.85	2.63	2.20	1.98	1.76
60F3469	84004-CB	60F3475	84004-CR	SPDT-ON-OFF-ON	2.85	2.63	2.20	1.98	1.76
60F3470	84005-CB	60F3476	84005-CR	DPDT-ON-OFF-ON	2.35	2.17	1.81	1.63	1.45

ADAPT-A-SWITCHES



Ideal for business machines and the computer industries. Lighted pushbutton switches designed to offer 25, 344 combinations with 31 components listed below. Highly reliable—100,000 cycles mechanical and electrical at full rating. Rated: 5A @ 125vac, 2A @ 250vac, and 5A @ 28vdc. Minimum rating for dry circuit application 10 microamp, 50 mV. Uses standard T-1¾ (CM #327, #328, #330, #387 incandescent lamp with grove base (not supplied). Installed through front of panel.

RECTANGULAR ACTUATOR INDICATORS

Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-499	500-999
29F2015	83501	Rec. Momentary action	1.40	1.12	1.05	.98
29F2016	83504	Rec. Alternate action	2.20	1.86	1.65	1.55
29F2017	83502	Square Momentary action	1.40	1.12	1.05	.98
29F2018	83505	Square Alternate action	2.20	1.86	1.65	1.55
29F2019	83503	Round Momentary action	1.40	1.12	1.05	.98
29F2020	83506	Round Alternate action	2.20	1.86	1.65	1.55

LENSES FOR ABOVE INDICATORS

Stock No.	Mfr's Type	Description	Stock No.	Mfr's Type	Description
29F2021	83500-70	Rect. white	29F2032	83500-84	Sq. yellow
29F2022	83500-71	Rect. red	29F2033	83500-85	Sq. amber
29F2023	83500-72	Rect. green	29F2034	83500-86	Sq. black
29F2024	83500-73	Rect. blue	29F2035	83500-90	Round white
29F2025	83500-74	Rect. yellow	29F2036	83500-91	Round red
29F2026	83500-75	Rect. amber	29F2037	83500-92	Round green
29F2027	83500-76	Rect. black	29F2038	83500-93	Round blue
29F2028	83500-80	Sq. white	29F2039	83500-94	Round yellow
29F2029	83500-81	Sq. red	29F2040	83500-95	Round amber
29F2030	83500-82	Sq. green	29F2041	83500-96	Round black
29F2031	83500-83	Sq. blue			

1-24.....Each .20 100-499.....Each .15
25-99.....Each .16 500-999.....Each .14

CONTACT BLOCKS (*Silver plated contacts, †gold plated)

Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-499	500-999
29F2042	83500-30	Standard Duty*	1.50	1.20	1.13	1.05
29F2043	83600-30	Low Energy†	2.50	2.00	1.88	1.75

SNAP-ON BEZEL

29F2044	83500-46	Bright chrome	.20	.16	.15	.14

SNAP-ON CLIP TO CONVERT ANY ACTUATOR TO INDICATOR

29F2045	83500-51	Snap-on-clip	.20	.16	.15	.14

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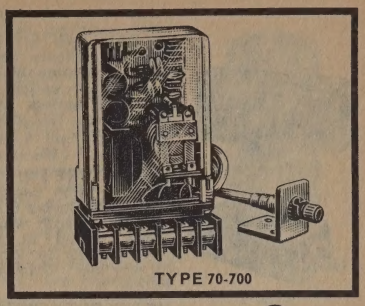
Eleven Stocking Warehouses from Coast-to-Coast
Use the Service of the Facility
Nearest You—See Front Cover

ULTRA COMPACT 70-700 PROXIMITY SWITCH

Ultra compact proximity switch for precision control without physical contact. Consists of a control module (2.53" x 3.75" x 1.35") which contains a 10 amp DPDT relay plug-in terminal block (2.19" x 2.66" x.84"), potted sensor with 20' cable, and potentiometer for sensitivity control. Senses both ferrous and non-ferrous metals. Up to 1000 operations per minute possible. Sensing range for .750 dia. sensor is .110" to .261", for .440" dia. sensor .048" to .148". Shipping wt. for complete unit 1½ lbs. (For complete unit pick, (1) control module, (1) terminal black (1) sonsor, add (1) pof + (1) enclosure if desired.)



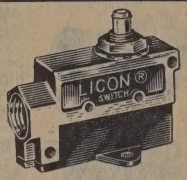
TYPE 70-700

COMPONENTS

Stk. No.	Type	Indiv.	Net Ea.
60F2077	70-7010	Control module	60.00
60F3117	27390-B	Terminal block	2.20
60F2079	70-7012	750" dia. sensor	18.00
60F2080	70-7020	440" dia. sensor	18.00
60F2081	70-7018	Potentiometer	5.50
60F2082	70-7025	Nema class 1 enclosure	14.00

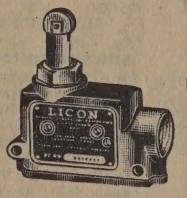
DIECAST ENCLOSED SWITCHES TYPE 30

Type 30. For industrial control limit, safety applications. Polyethyelene diaphram provides a positive switch seal with unlimited life, minimizes "pumping" by its minute movement and eliminates customary problems of tearing and cracking. "O" ring at base prevents extrusion of gaskets. Aluminum diecast housing provides rugged enclosure, ½—¼ internal tap conduit hub, 15 amps 125/250/480 V AC. .5 amps @ 125 V DC. Size: 3"x1"x2"x½". Shpg. wt., 10 oz.

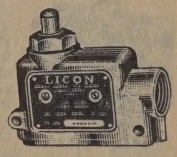


Type 30

Stock No.	Type	Description	Micro Switch Equivalent	1-24	25-49	50-99	100-199	200-499
23F172	30-200	Sealed Plunger	BZE-2RN BZV-2RN	6.50	5.20	4.55	4.23	4.10
23F173	30-400	Adjustable Sealed Roller Arm	BZE-2RN2 BZV-2RN2	10.00	8.00	7.00	6.50	6.30
23F174	30-600	Sealed Palm Button	BZE-2RN4	10.55	8.44	7.39	6.86	6.65
23F175	30-100	Overtravel Plunger	BZE-2RQ BZX-2RQ	4.95	3.96	3.47	3.22	3.12
23F176	30-300	Adj. Roller Lever	BZE-2RQ2	8.85	7.08	6.20	5.75	5.58
23F177	30-500	Roller Plunger	BZE-2RQ8 BZV-2RQ8 BZE-2RQ81 BZV-2RQ81 BZE-2RO9 RZV-2RO9	8.85	7.08	6.20	5.75	5.58
23F186	30-030	Diecast Term Encl.	3PAI-3PA2	1.90	1.52	1.33	1.24	1.20



Roller Plunger

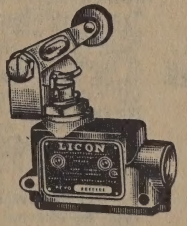


Plunger Switch

SPLIT DIECAST TYPE 30 ENCLOSED LIMIT SWITCH SIDE MOUNT

"Easy-wire" split diecast version of Type 30 above offers all features with one added feature: entire bottom half of protective case can be removed for ease in wiring. Bottom half enclosure is made of high impact, chemically resistant polyvinyl dichloride which eliminates any possibility of shorting out the basic switch.

Stock No.	Type	Description	Mirro Switch Equivalent	1-24	25-49	50-99	100-199	200-499
60F2067	30-100301	Overtravel plunger—side mount	BZE6-2RQ	5.10	4.08	3.57	3.32	3.21
60F2068	30-200301	Sealed plunger—side mount	BZE6-2RN	6.55	5.24	4.59	4.26	4.13
60F2069	30-300301	Adjust. roller lever—side mount	BZE6-2RQ2	8.85	7.08	6.20	5.75	5.58
60F2070	30-400301	Sealed adjust. roller lever—side mount	BZE-6-2RN2	10.00	8.00	7.00	6.50	6.30
60F2071	30-500301	Roller plunger—side mount	BZE6-2RQ8	8.85	7.08	6.20	5.75	5.08
60F2072	30-600301	Sealed palm button—side mount	BZE6-2RN4	10.55	8.44	7.39	6.86	6.65
60F2073	30-800301	Sealed one-way roller—side mount	BZE6-2RN28	11.60	9.28	8.12	7.54	7.31
60F2074	30-900301	One way roller actuator—side mount	.....	10.55	8.44	7.39	6.86	6.65

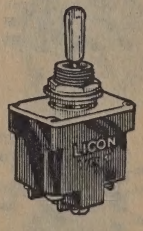


Roller Arm

NOTE: Bottom mount versions available upon special order at same price: Use # 2 for last digit instead of # 1. Exclude Stock Number.

• NEW TYPE 51 MIL-3950C ENVIRONMENTALLY SEALED

Heavy duty sealed toggle switch, approved to MIL-S-3950C, on Q.P.L. for MS24523 (1 pole), MS24524 (2 pole), MS24525 (4 pole). Rated at 15 amps. res. at 115 VAC. Dependable operation between —85°F to +250°F. Ideal for aircraft and industrial applications.



• New Type 51

Stk. No.	Type	MS	Description	1-4	5-19	20-49	50-249
60F2084	51-112200	MS24523-22	1 pole on-off	4.40	3.61	3.21	2.95
60F2085	51-122200	MS24524-22	2 pole on-off	7.20	5.90	5.26	4.82
60F2086	51-142200	MS24525-22	4 pole on-off	11.45	9.39	8.36	7.67
60F2087	51-112300	MS24523-23	1 pole on-on	4.40	3.61	3.21	2.95
60F2088	51-122300	MS24524-23	2 pole on-on	7.20	5.90	5.26	4.82
60F2089	51-142300	MS24525-23	4 pole on-on	11.45	9.39	8.36	7.67
60F2090	51-112100	MS24523-21	1 pole on-off-on	4.40	3.61	3.21	2.95
60F2091	51-122100	MS24524-21	2 pole on-off-on	7.20	5.90	5.26	4.82
60F2092	51-142100	MS24525-21	4 pole on-off-on	11.45	9.39	8.36	7.67
60F2093	51-112700	MS24523-27	1 pole mom. on-off-mom. on	4.40	3.61	3.21	2.95
60F2094	51-122700	MS24524-27	2 pole mom. on-off-mom. on	7.20	5.90	5.26	4.82
60F2095	51-142700	MS24525-27	4 pole mom. on-off-mom. on	11.45	9.39	8.36	7.67

NEWARK —

YOUR DEPENDABLE SOURCE

FOR ALL ELECTRONIC NEEDS

Type 10

BASIC SWITCHES

Type 10. Highly sensitive "serpentine blade" snap action switch. 1" mounting centers rated 15 amperes 125, 250 or 480 AC. 2" x 1" x 11/16". Shpg. wt., 1.3 oz.

Type 11

MINIATURE SWITCH

Type 11. High capacity two circuit Double break mechanism with wiping action. Rated 10 amperes at 125/250 V AC. 1¼"x½"x½". Ship. wt., 3/10 oz.

Type 14

HEAVY DUTY SWITCH

Type 14. Industrial limit switch. Uses double break mechanism for high electrical rating, 20 amps at 125/250/480 VAC. 1¾"x¾"x¾". Shpg. wt., 1¼ oz.

Type 16

SUBMINIATURE SWITCH

Type 16 Double break. 2 circuit rated 10 amps 125/250 VAC. Size 25/32"x7/16"x¼". Shpg. wt., 12 oz.

Type 18

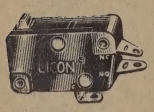
SUB SUBMINIATURE

Type 18. Double break. Rated: 7 amps @ 125/250 VAC; 3 amps inductive @ 28 VDC. Size: .2x.5x.38". Shpg. wt., .003 lbs.

Type 22

DOUBLE POLE SWITCH

Type 22. DPDT high current interruption. Rated 10 amps @ 125/250 VAC; 10 amps @ RES 30 VDC. Double. bearing guide. Wiping action. Dust proof case. Beryllium copper switch blades. Size: ⅞x1¼x½". Shpg. wt., ½ oz.


Type 23

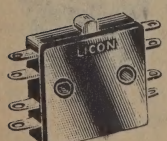
HIGH CAPACITY SWITCH

Type 23. Hi-capacity single break with unique "heat dam" to omit flow of solder inside models having solder terminals. UL rated 15 amps @ 125/250 VAC. 10 amps resistive and 6 amps inductive @ 30 VDC. Size: 1.34 x .625 x .41". Shpg. wt., 3/10 oz.

Type 25

"THIN" SWITCH

Type 25. Internal wiping action insures resistance to contact weld. Center line plunger rated at 12 amps @ 125/250 VAC. 9/32x53/64x1½". Shpg. wt. 3/10 oz.


Type 26

DOUBLE POLE SUBMIN.

Type 26. Two Butterfly double break mechanisms. Both poles operate simultaneously due to special linkage. Uses type 76 actuators. UL rated 8 amps @ 125/250 VAC. 10 amps. res., 5 ind. @ 28 VDC. 25/32" x .761" x ¼". Shpg. wt., 2/10 oz.

Type 36

3 POLE SUBMIN.

Type 36. Compact triple pole double break switch. Three Butterfly double break mechanisms. Rated at 8 amps 125/250 VAC. Simultaneous handling for up to 6 circuits in a single switch. Uses 76 series actuators. 1.187 x .796 x 250. Shipping weight, 1 oz.

BASIC SWITCHES — TYPE 10

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F151	10-122	Pin Plunger .020" gap	BZ-2RT	1.90	1.52	1.33	1.24	1.20
23F154	10-222	Spring Plunger	BZ-2RST	2.35	1.88	1.65	1.53	1.48
23F155	10-322	Panel Mount Plunger	BZ-2RQIT	4.00	3.20	2.80	2.60	2.52
23F156	10-422	Leaf Spring	BZ-2RLT	2.05	1.64	1.44	1.33	1.29
23F157	10-522	Roller Leaf Spring	BZ-2RL2T	2.80	2.24	1.96	1.82	1.76
23F158	10-622	Pivoted Lever	.....	2.35	1.88	1.65	1.53	1.48
23F159	10-722	Pivoted Roller Lever	BZ-2RW82T	2.95	2.36	2.07	1.92	1.86
23F160	10-822	Compact Plunger	BZ-ROT	2.40	1.92	1.68	1.56	1.51
23F181	10-922	Roller Plunger	BZ-2RO18T	7.10	5.68	4.97	4.62	4.47

MINIATURE SWITCHES—TYPE 11

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F161	11-104	End Solder Terminal	1TB1-2	1.55	1.24	1.09	1.01	.98
23F162	11-204	End Screw Terminal	1TB1-1	1.70	1.36	1.19	1.11	1.07
23F163	11-304	Side Solder Terminal	1TB1-3	1.65	1.32	1.16	1.08	1.04
23F165	11-214	Reset-End Screw Term	.....	1.95	1.56	1.37	1.27	1.23

AUXILIARY ACTUATORS FOR TYPE 11 SWITCHES

23F168	71-1040	Rigid Roller Lever	.....	.90	.72	.63	.59	.57
23F169	71-2010	Overtravel Plunger	.....	1.40	1.12	.98	.91	.88
23F170	71-3010	Spring Lever	JT-1	.42	.34	.29	.27	.26
23F171	71-3020	Spring Roller Lever	JT-5	.75	.60	.53	.49	.47

HEAVY DUTY SWITCHES—TYPE 14

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F178	14-12403	Basic Switch	.....	3.20	2.56	2.24	2.08	2.02
23F180	14-128040	Basic Switch	.....	3.20	2.56	2.24	2.08	2.02

SUBMINIATURE SWITCH—TYPE 16

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F179	16-104	End Solder Terminal	.....	2.35	1.88	1.65	1.53	1.48
23F182	16-304	Side Solder Terminal	.....	2.35	1.88	1.65	1.53	1.48
23F183	16-404	Bottom Solder Term.	.....	2.35	1.88	1.65	1.53	1.48
23F184	16-114	Reset-End Solder Term.	.....	2.60	2.08	1.82	1.69	1.63
23F187	16-504	Bottom Taper Tab.	.....	2.35	1.88	1.65	1.53	1.48

AUXILIARY ACTUATORS FOR TYPE 16 SWITCHES

23F188	76-1200	Rigid roller lever	.....	1.00	.80	.70	.65	.63
23F189	76-1210	Rigid lever	.....	.55	.44	.38	.36	.35

SUB-SUBMINIATURE SWITCHES—TYPE 18

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
60F1950	18-40121	Form Y	.....	3.15	2.52	2.21	2.05	1.98
60F1952	18-40421	Form Z Hi temps	.....	3.15	2.52	2.21	2.05	1.98

DOUBLE POLE SWITCH—TYPE 22

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F185	22-304	DPDT Side Term	41TB5-3	4.95	3.96	3.47	3.22	3.11

HIGH CAPACITY SWITCHES—TYPE 23

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
60F1958	23-114	Solder terminals SPDT	V3-19	1.10	.88	.77	.71	.69
60F1959	23-124	Screw terminals SPDT	V3-1	1.15	.92	.81	.75	.70
60F1960	23-154	187 Series Amp Connect.	V3-1D8	1.00	.80	.70	.65	.63

HIGH CAPACITY SINGLE BREAK MINIATURE TYPE 25

Stk. No.	Type	Description	Acro Equiv.	1-24	25-49	50-99	100-199	200-499
60F1963	25-100000*	3-6 oz O.F.	1MD1-1A					
60F1964	25-101000*	6-10 oz O.F.	2MD1-1A					
60F1965	25-102000*	12-16 oz O.F.	3MD1-1A					
60F1966	25-205000**	27 gr max. O.F.	1CMD1-2AXX	1.45	1.16	1.02	.94	.91
60F1967	25-206000**	44 gr max. O.F.	2CMD1-2AXX					
60F1968	25-207000**	60 gr max. O.F.	3CMD1-2AXX					

*On center. **Off center plunger.

DOUBLE POLE SUBMINIATURE—TYPE 26

60F1961	26-804	Form ZZ End Solder Terminal	.....	6.05	4.84	4.24	3.95	3.93
60F1962	26-904	Form ZZ Side Solder Terminal	.....	6.05	4.84	4.24	3.95	3.93

TRIPLE POLE SUBMINIATURE TYPE 36

Stock No.	Type	Description	1-24	25-49	50-99	100-199	200-249
60F1969	36-604	End Solder Term. Simul.	9.20	7.36	6.44	5.98	5.79
60F1970	36-60401	End Solder Term. Non-Simul.	8.15	6.52	5.61	5.30	5.13
60F1971	36-704	Side Solder Term. Simul	9.20	7.36	6.44	5.98	5.79
60F1972	36-70401	Side Solder Term. Non-Simul.	8.15	6.52	5.61	5.30	5.13

01 SERIES SINGLE LITE PUSHBUTTON SWITCH

15/32" Bushing Screw Base	5/8" Bushing Flange Base	Description	1-49	50-99	100-499
01-145000	01-365000	Indicator	3.50	3.15	2.98
01-145130	01-365130	Maint. 1 pole form Z	8.20	7.38	6.97
01-145230	01-365230	Maint. 2 pole form Z	10.30	9.27	8.76
01-145530	01-365530	Momentary 1 pole form Z	5.65	5.09	4.80
01-145630	01-365630	Momentary 2 pole form Z	7.80	7.02	6.63

01 SERIES LENS CAPS

15/32" Bushing	5/8" Bushing	Description	1-49	50-99	100-499
01-91131X	01-92131X	Solid Color 5/8" Square	.45	.41	.38
01-93131X	01-94131X	Solid Color 5/8" Round	.45	.41	.38
01-91141X	01-92141X	Solid Color 3/4" Square	.55	.50	.47
01-93141X	01-94141X	Solid Color 3/4" Round	.55	.50	.47
01-91132X	01-92132X	Projected Color 5/8" Square	.85	.77	.72
01-93132X	01-94132X	Projected Color 5/8" Round	.85	.77	.72
01-91142X	01-92142X	Projected Color 3/4" Square	.95	.86	.81
01-93142X	01-94142X	Projected Color 3/4" Round	.95	.86	.81

01-600

Mon. Cont.	Description	1-49	50-99	100-499	Maint. Cont.	1-49	50-99	100-499
01-748000	Indicator	2.00	1.80	1.64	01-748000	2.00	1.80	1.64
01-748510	1 Pole Form C	3.30	2.97	2.70	01-748110	4.40	3.96	3.60
01-748530	1 Pole Form Z	3.50	3.15	2.87	01-748130	4.60	4.14	3.77
01-748610	2 Pole Form C	4.00	3.60	3.28	01-748210	5.10	4.59	4.18
01-748630	2 Pole Form Z	4.40	3.96	3.60	01-748230	5.50	4.95	4.51

01-600 LENS CAP

Projected Color	1-49	50-99	100-499	Solid Color	1-49	50-99	100-499
01-91141X	.55	.50	.44	01-91142X	.95	.86	.76

Replace X with appropriate number.
1-white 2-red 3-green 4-blue 5-yellow 6-amber 7-orange

01-600 HOUSING CODING

Type	Description	1-49	50-99	100-499
01-600001	Vert Row/Vert Barriers	1.20	1.08	.98
01-600002	Horiz. Row Mount/Vert. Barriers	1.20	1.08	.98
01-600003	Vert. Row Mount/Single Vert. Barriers	1.20	1.08	.98
01-600004	Horiz. Row Mount/- Single Vert. Barrier	1.20	1.08	.98
01-600005	Vert. Row Mount W/O Barriers	1.20	1.08	.98
01-600006	Horiz. Row Mount W/O Barriers	1.20	1.08	.98

01-800 SERIES SINGLE LIGHT PUSHBUTTON SWITCH

Type	Description	1-49	50-99	100-499
01-865000	Indicator only	2.15	1.94	1.83
01-865130	Maint. contact 1 pole—Form Z	5.80	5.22	4.06
01-865230	Maint. contact 2 pole—Form Z	7.50	6.75	6.38
01-865530	Momentary 1 pole—Form Z	3.85	3.47	3.27
01-865630	Momentary 2 pole—Form Z	5.55	5.00	4.72

01-800 SERIES LENS CAP—1 1/8" x 7/8"

Projected Color	1-49	50-99	100-499	Solid Color	1-49	50-99	100-499
01-95192X	1.10	.99	.94	01-95191X	.70	.63	.60

SWITCH MODULES— FOR 02 AND 04 SERIES

Type	Description	1-24	25-49	50-99
76-2713	Maint. cont. 1 pole Form Z	4.60	3.68	3.22
76-2723	Maint. cont. 2 pole Form Z	5.85	4.68	4.10
76-2753	Momentary 1 pole Form Z	3.05	2.44	2.14
76-2763	Momentary 2 pole Form Z	4.10	3.28	2.87

02 LENS CAP AND HOUSINGS

02-61XX	Full screen, solid color	.70	.63	.57
02-62XX	Vertical split, solid color	1.25	1.13	1.03
02-63XX	Horizontal split, solid color	1.25	1.13	1.03
02-73	Snap-in mtg.-flange base lamp socket	1.95	1.76	1.60
02-76	Indicator only Housing	1.95	1.76	1.60

04 LIGHT MODULES

Type	Description	1-49	50-99	100-499
04-601XXXX	Full screen translucent proj. color	2.75	2.48	2.31
04-602XXXX	Vertical split translucent proj. color	3.15	2.84	2.68
04-603XXXX	Horizontal split translucent proj. color	3.15	2.84	2.68
04-607XXXX	Quad split translucent proj. color	3.55	3.20	3.02
04-604XXXX	Full screen solid color	2.75	2.48	2.34
04-611XXXX	Full screen, insertable legend, proj. color	2.90	2.61	2.47
04-612XXXX	Vert. split, insertable legend, proj. color	3.30	2.97	2.81
04-613XXXX	Horiz. split insertable legend, proj. color	3.30	2.97	2.81
04-617XXXX	Quad split insertable legend, proj. color	3.70	3.33	3.15
04-614XXXX	Full screen solid color, insert. legend	2.90	2.61	2.47

04 HOUSINGS

Type	Description	1-49	50-99	100-499
04-71	Flange mount 1/8" panel	4.15	3.74	3.53
04-72	Flange mount 1/4" panel	4.15	3.74	3.53
04-75	Barrier with screw mounting	3.90	3.51	3.32
04-76	Bezel mounting snap in mounting Blk. Anod	4.15	3.74	3.53
04-78	Bezel barrier snap in mounting Blk. Anod.	4.15	3.74	3.53

FOR SWITCH MODULES FOR 04 SERIES SEE 02 SERIES LISTING

BARRIERS FOR 04-75 HOUSING

Flush	Protruding	Color	1-49	50-99	100-499
70-3051	70-3061	Black	.40	.36	.34
70-3052	70-3062	White			
70-3053	70-3063	Gray			

NOTE: For 02 & 04 series select 1 lens cap or light module, 1 housing and 1 switch module to make up a complete unit.

01 SERIES

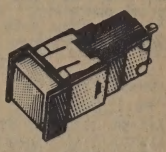
Offers butterfly double break switches rated at 10 amps 125/250 VAC. Momentary, maintained contact, solenoid held and indicator versions available as well as unit on Q.P.L. for MIL-S-22885. Stationary socket, no tool relamping from front of panel. Accepts screw or flange. base T-1¾ lamps.

01 SERIES LENS CAPS. Indicate desired colors by replacing the "X's" with appropriate numbers: 1—white, 2—red, 3—green, 4—blue, 5—yellow, 6—amber, 7—orange.

Type 01

01-600 SERIES

Lighted switch, easy to install snap-in housing available in bezel, single or double barrier design. ¾" lens caps in solid or projected colors.

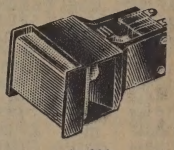


01-600

01-800 SERIES

Snap in single light switch for horizontal or vertical matrix arrangements. Accepts solid or projected rectangular lens caps. Rated 10 amps 125/250 VAC. Accepts T 1¾ flange base lamps.

01-800 SERIES LENS CAP— 1⅛"x⅞" indicate desired colors by replacing the "X's" with appropriate numbers. 1—white, 2—red, 3—green, 4—blue, 5—yellow, 6—amber, 7—orange.



01-800 Bezel-Barrier

02-SERIES

2-light version of the 01-800 with snap in mounting and bezel-barrier appearance. Select lens cap, housing, and snap on 10 amp (125/250 VAC) switch module. Accepts T 1¾ flange base lamps.

02 LENS CAP AND HOUSINGS. Indicate desired colors by replacing the "X's" with appropriate numbers: 1—white, 2—red, 3—green, 4—blue, 5—yellow, 6—amber, 7—orange.

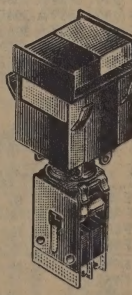
01-800

04 SERIES

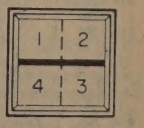
Modular four lamp lighted switches. Consists of a light module housing, and switch module which snap together. Accepts 4 T 1¾ flange base lamps (not included.)

04 LIGHT MODULES. Indicate color filter combination for projected screen color by listing color designating letters clockwise in accordance with the color key diagram at right. Example: Vertically split, green on left, red at right— order 04-602GRRG

W—white, R—red
G—green, B—blue
Y—yellow, A—amber
O—orange.



02-800



04Color Key

ALCOSWITCH Miniature Switches

MST105
SPDT

MST205
DPDT

MST305
3PDT

MST405
4PDT

Ultra-miniature toggle switches. Solid silver terminals and contacts. Toggle in switch mechanism is linked directly to movable contact member to provide positive make and break. Black phenolic resin case material; ¼-40 thread bushing. Rated 5 amps. 115 vac. High voltage barriers between terminals and contacts SPDT and DPDT types have life cycle of over 80,000 on-off operations. *Momentary. †Special DP3P switch with 3 "on" positions take the place of 3 position rotary switch in certain applications. Average wt. 1 oz.

WHITE PLASTIC CAP—30° THROW

Stock No.	Type MST-	Action	1-24	25-99	100-499	500-999
61F850	115D	SPDT On-None-On	1.70	1.16	1.02	.85
61F851	215N	DPDT On-None-On	2.20	1.47	1.32	1.10
61F852	315D	3PDT On-None-On	3.90	2.61	2.34	1.95
61F853	415N	4PDT On-None-On	4.90	3.33	2.94	2.45

SLIM BAT HANDLE—30° THROW

61F854	105D	SPDT On-None-On	1.65	1.12	.99	.83
61F855	105E	SPDT On-Off-On	1.95	1.33	1.17	.975
61F856	105F	SPDT None-On-On*	1.95	1.33	1.17	.975
61F857	105G	SPDT On*-Off-On*	1.95	1.33	1.17	.975
61F858	105H	SPDT On-Off-On*	1.95	1.33	1.17	.975
61F859	205N	DPDT On-None-On	2.15	1.43	1.29	1.08
61F860	205P	DPDT On-Off-On	2.55	1.72	1.53	1.28
61F861	205R	DPDT None-On-On*	2.55	1.72	1.53	1.28
61F862	205S	DPDT On*-Off-On*	2.55	1.72	1.53	1.28
61F863	205T	DPDT On-Off-On*	2.55	1.72	1.53	1.28
61F864	†205PA	DP3T On-On-On	2.85	1.90	1.71	1.42
61F865	†205TA	DP3T On*-On-On	3.15	2.14	1.89	1.58
61F1185	305F	On-None-On*	4.15	2.82	2.49	2.075
61F866	305D	3PDT On-None-On	3.85	2.57	2.31	1.925
61F867	305E	3PDT On-Off-On	4.15	2.82	2.49	2.075
61F1184	205SA	DP3T On*-On-On*	3.15	2.14	1.89	1.58
61F868	305H	3PDT On-Off-On*	4.15	2.14	2.49	2.075
61F869	405N	4PDT On-None-On	4.85	3.29	2.91	2.43
61F870	405P	4PDT On-Off-On	5.35	3.64	3.21	2.68

MSTA SERIES MINIATURE TOGGLE SWITCHES

Reliable miniature switch has the important features wanted in a good miniature: turret terminals, bonded solid silver, extra wide contacts, heavier current capabilities. Low loss, high heat and high impact case construction. ¼"-40 bushing, "No Tear" shoulder on bushing. 6A, 125V/3A 280 VAC. Specify color coded caps below if needed. Average weight 1 oz.

Stk. No.	Model	Contacts	Description	1-24	25-99	100-499	500-999
61F1245	MSTA-106D	SPDT	On-None-On	1.80	1.23	1.08	.90
61F1246	MSTA-106E	SPDT	On-Off-On	2.25	1.53	1.35	1.125
61F1247	MSTA-206N	DPDT	On-None-On	2.35	1.60	1.41	1.18
61F1248	MSTA-206P	DPDT	On-Off-On	2.85	1.90	1.71	1.42
61F1249	MSTA-206PA	DP3T	On-On-On	3.15	2.14	1.89	1.58
61F1250	MSTA-306D	3PDT	On-None-On	4.05	2.75	2.43	2.03
61F1251	MSTA-306E	3PDT	On-Off-On	4.45	3.03	2.67	2.23
61F1252	MSTA-406N	4PDT	On-None-On	5.10	3.47	3.06	2.55
61F1253	MSTA-406P	4PDT	On-Off-On	5.65	3.84	3.39	2.83
61F1254	MSTA-406PA	4P3T	On-On-On	6.15	4.18	3.69	3.08

COLOR CODED CAPS

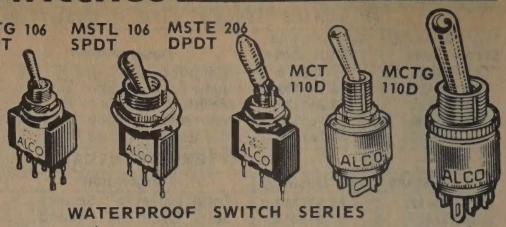
An invaluable aid. Pkgs. of 25. C10 and C17 for MST, MSTA and MSTE toggle switches except C-15 for Mustang Series only.

Stk. No.	Model	Color	25-75	100-475	500-999
61F880	C-10	Black	.04	.028	.025
61F881	C-10	White			
61F882	C-10	Red			
61F883	C-10	Blue			
61F951	C-15	Black	.06	.04	.036
61F952	C-15	White			
61F953	C-15	Red			
61F954	C-15	Blue			
61F1202	C-17	Black	.04	.028	.025
61F1203	C-17	White			
61F1204	C-17	Red			
61F1205	C-17	Blue			

SWITCH PLATES

ON-OFF switch plates for standard and miniature switches. Sold in packages of 5 only. *per pkg. of five.

Stk. No.	Type	Use	1-24*	25-99*	100-499*
61F948	SP-3	¼" Dia. Bushing	.75	.55	.50
61F949	SP-4	15/32" Dia. Bushing	.75	.55	.50



WATERPROOF SWITCH SERIES

Type MSTE. All new case design incorporates high voltage barriers, rugged high impact materials, low loss properties. Bonded silver contacts rated 6 amps at 125 VAC. "O" rings, permanently seals turret terminals. Imported from Japan. Wt. 1 oz.

Stock No.	Type MSTE	Action	1-24	25-99	100-499	500-999
61F871	106D	SPDT On-None-On	1.95	1.33	1.17	.975
61F872	106E	SPDT On-Off-On	2.55	1.72	1.53	1.28
61F873	206N	DPDT On-None-On	2.55	1.72	1.53	1.28
61F874	206P	DPDT O-n-Off-On	3.15	2.14	1.89	1.58
61F875	206PA	DP3T On-On-On	3.45	2.35	2.07	1.73
61F876	306D	3PDT On-None-On	4.25	2.89	2.55	2.13
61F877	306E	3PDT On-Off-On	4.75	3.23	2.85	2.38
61F878	406N	4PDT On-None-On	5.35	3.64	3.21	2.68
61F879	406P	4PDT On-Off-On	5.95	4.05	3.57	2.98

"MUSTANG" TOGGLE SWITCHES

Features 15/32" hole mounting and large lever bat handle; but has minimal rear space requirement. Rugged case of low loss, high impact and temperature materials with turret terminals. Bonded silver contacts. Rated at 6 Amps @ 125 VAC.

Stock No.	Type MSTG	Action	1-24	25-99	100-499	500-999
61F8187	106D	3PDT None-On-On*	2.15	1.43	1.29	1.08
61F8186	106E	DP3T On*-On-On*	2.75	1.87	1.65	1.38
61F884	206N	DPDT On-None-On	2.75	1.87	1.65	1.38
61F885	206P	DPDT On-Off-On	3.35	2.28	2.01	1.68
61F886	206PA	DP3T On-On-On	3.65	2.48	2.19	1.83
61F887	306D	3PDT On-None-On	4.45	3.03	2.67	2.23
61F888	306E	3PDT On-Off-On	4.95	3.37	2.97	2.48
61F889	406N	4PDT On-None-On	5.55	3.77	3.33	2.78
61F890	406P	4PDT On-Off-On	6.15	4.18	3.69	3.08

AC-DC LEVER-LOCK TOGGLE SWITCHES

Pull-to-unlock toggle switches. Toggle locks into position. Rated 6A @ 125VAC (resistive), 4A @ 30VDC (resistive).

Stk. No.	Type	Action	1-24	25-99	100-499	500-999
61F972	MSTL-106D	SPDT On-None-On	3.15	2.14	1.89	1.58
61F973	MSTL-106E	SPDT On-Off-On	3.85	2.57	2.31	1.925
61F974	MSTL-206N	DPDT On-Off-On	3.85	2.57	2.31	1.925
61F975	MSTL-206P	DPDT On-On-On	4.45	3.03	2.67	2.23
61F989	MSTL-206PA	DP3T On-None-On	4.75	3.23	2.85	2.38
61F990	MSTL-306D	3PDT On-None-On	5.65	3.84	3.39	2.83
61F991	MSTL-406N	4PDT On-Off-On	6.95	4.73	4.17	3.48

MSTL SERIES LOCKING TOGGLE SWITCHES AC ONLY

"Pull to unlock toggle" toggle switch for use in hazardous applications. The toggle locks in position to safeguard against accidents. Optional interchangeable color coded toggle tips available. Rated 6 amps @ 125 VAC.

Stk. No.	Model	Contacts	Description	1-24	25-99	100-499	500-999
61F1231	MSTL-106D	SPDT	On-None-On	3.15	2.14	1.89	1.58
61F1232	MSTL-106E	SPDT	On-Off-On	3.85	2.57	2.31	1.925
61F1233	MSTL-206N	DPDT	On-None-On	3.85	2.57	2.31	1.925
61F1234	MSTL-206P	DPDT	On-Off-On	4.45	3.03	2.67	2.23
61F1235	MSTL-206PA	DP3T	On-On-On	4.75	3.23	2.85	2.38
61F1236	MSTL-306D	3PDT	On-None-On	5.65	3.84	3.39	2.83
61F1237	MSTL-306E	3PDT	On-Off-On	6.25	4.24	3.75	3.13
61F1238	MSTL-406N	4PDT	On-None-On	6.95	4.73	4.17	3.48
61F1239	MSTL-406P	4PDT	On-Off-On	7.45	5.06	4.47	3.73
61F1240	MSTL-406PA	4P3T	On-On-On	7.95	5.40	4.77	3.98

SWITCH HARDWARE (Multiples of 25 Only)

Stk. No.	Type	Description	25-75	100-475	500-975
61F913	N-1	¼"-40 Knurled Nut	.04	.028	.025
61F914	N-1A	¼"-40 Perfect Fit Nut	.06	.04	.036
61F915	N-1B	15/32" Perfect Fit Nut	.08	.056	.05
61F916	N-2	¼"-40 Hex Nut	.03	.022	.02

MINIATURE CYLINDRICAL TOGGLE SWITCHES

Reliable, ultra small cylindrical case miniature toggle switches. All metal construction and high impact terminal insulator allows use under all environmental conditions. Rated 10 amps@125 VAC. Internal contact resistance; under 20 milliohms@2-4 VDC, 1 amp. Life 40,000 on-off actions. Contact material silver on copper.

Stk. No.	Model	Contacts	Description	1-24	25-99	100-499	500-999
61F1241	*MCT-110D	SPDT	On-None-O	1.95	1.33	1.17	.975
61F1242	*MCT-220N	DPDT	On-None-On	2.55	1.72	1.53	1.28
61F1243	**MCTG-110D	SPDT	On-None-On	1.95	1.33	1.17	.975
61F1244	**MCTG-220N	DPDT	On-None-On	2.55	1.72	1.53	1.28

* With miniature bushings. ** With standard size "15/32" bushings.

ADJUSTABLE STOP ½" ROTARY SWITCHES

Ideal where size and space limitations are a factor. Features adjustable stop, non shorting 36° spacing, and up to 4 poles on a single deck. Rated 500MA@ 125 VAC. Silver contacts. ¼"-40 bushing. Imported from Japan. (*) - poles on a single deck.

⅛" DIAMETER SHAFT—LESS KNOB

Stock No.	Type	*	Positions	1-24	25-49	100-499	500-999
61F891	MRA-1-10S	1	2-10	4.25	2.89	2.55	2.13
61F892	MRA-2-5S	2	2-5				
61F893	MRA-3-3S	3	2-3				
61F894	MSRA-4-2S	4	2 (fixed)				

5/32" DIAMETER SHAFT—WITH KNOB

61F895	MRA-1-10	1	2-10	4.35	2.96	2.61	2.18
61F1624	MRA-1-10SC	1	10 (contd.)				
61F896	MRA-2-5	2	2-5				
61F897	MRA-3-3	3	2-3				
61F898	MSRA-4-2S	4	2 (fixed)				

⅛" DIA. SHAFT WATERPROOF ROTARY SWITCHES

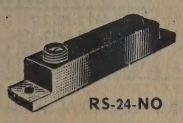
Non-adjustable...similar to MRA series, but fully waterproof. Less knob. Rear terminals permanently sealed.

Stock No.	Type	No. of Poles	No. of Positions	1-24	25-99	100-499	500-999
61F899	MSRE-1-10	1	10	5.35	3.64	3.21	2.68
61F900	MSRE-2-5	2	5				
61F901	MSRE-3-3	3	3				
61F902	MSRE-4-2	4	2				

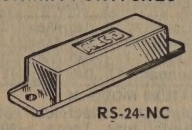
⅛" DIA. SHAFT ANODIZED ALUM. KNOBS FOR MSR & MSRE

Stock No.	Type	Description	1-99	100-249	250-499	500-999
61F903	KC-500A	Natural Aluminum	.55	.50	.47	.44
61F904	KC-500B	Black Anodized	.55	.50	.47	.44
61F905	KC-500B-10	Black 0-9 Numeral	.65	.59	.56	.5?

RS-24 MAGNET ACTUATED PROXIMITY SWITCHES



RS-24-NO



RS-24-NC

Enclosed Alnico 5 permanent magnet provides force to actuate reed switch within distances of 1" apart. Used in interlocks, counters, and burglar alarms. Current rating of 5 amperes break, 1.0 amperes carry. Voltage breakdown 300 volts D.C. Life operations 18 million (100 MA. @ 48 volts).

Stk. No.	Model No.	1-24	25-99	100-499	500-999
61F971	RS-24-NO	2.85	1.90	1.71	1.42
61F1623	RS-24-NC	3.15	2.14	1.89	1.58

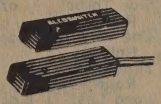
MSH LEVER AND MSL ROCKET SWITCHES

MSL-203N

Versatile action switches have choice of actuators, long lever or rocker. Rated 3 amps 125 VAC; 25,000 life cycle; contacts silver-plated.

Stk. No.	Model	1-24	25-49	100-499	500-999
61F1229	MSH-203N	1.25	.85	.75	.63
61F1230	MSL-203N	1.15	.78	.69	.58

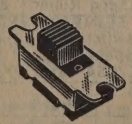
MINIATURE PROXIMITY MAGNETIC SWITCH ASSEMBLIES



Current rating 50 VDC: .15 amps break; .5 amps carry. 200 VDC breakdown. Life 10 million cycles. 8" leads. Size 1.102" x .335".

Stk. No.	Model	1-24	25-99	100-499	500-999
61F1255	RS-11-NO	2.75	1.87	1.65	1.38
61F1256	RS-11-NC	3.05	2.08	1.83	1.53

MINIATURE SLIDE SWITCH



Type MSS-22. SPDT, 2 circuit. Only ½x.305x.257". Contact rating: 2A at 120 VAC or ½ A at 120 VDC. Cont. Res: .01 ohm max. Leak, res: 10,000 megohms. V. breakdown: 250 VRMS 60 CPS. Life: 250,000 actions. .687" mntg. centers. Phenolic base and side block, NO-NC *DPDT

Stk. No.	Type	1-24	25-99	100-499	500-999
61F947	MSS-22	1.75	1.17	.88	.73
61F995	MSS-44*	3.15	2.11	1.58	1.31

MINIATURE PUSH BUTTON SWITCHES

MSPE

MSPG

MSP Miniature Pushbutton Switches-snap action, 5 amps@115 VAC. Solid silver contacts, terminals. Bushing size ¼-40 with keyway. Black phenolic case. 20000 action life. **MSPE Waterproof Pushbutton Switches**-(less button) 6 amps resistive 2 amps inductive@125 VAC. Double "O" waterseals, low-loss "E" Series case; turret terminals. Versatile double throw. **MSP-103 Economy Pushbutton Switches**-Specify color when ordering 3 amps @125 VAC Low pressure Silverplated brass contacts, terminals Plunger travels .098". Depth behind panel ¾". 1 pc. ¼-40 bushing. **MSPS-103C** is similar to MSP-103 except smaller diameter, rated 0.5 amps@125 VAC. **MSPG Mustang Pushbutton** less button rated 6 amps@125 VAC (Specs same as MSPE series, less waterproof). 15/32" Bushings.

Stk. No.	Model	Contacts	Application	1-24	25-99	100-499	500-999
61F908	MSP-105D	SPDT	Push-on-off	2.15	1.46	1.29	1.08
61F906	MSP-105F	SPDT	Momentary	2.15	1.46	1.29	1.08
61F909	MSP-205N	DPDT	Push-on-off	2.95	2.01	1.77	1.48
61F907	MSP-205R	DPDT	Momentary	2.95	2.01	1.77	1.48
61F959	MSPE-106D	SPDT	Push-on-off	2.55	1.72	1.53	1.28
61F957	MSPE-106F	SPDT	Momentary	2.55	1.72	1.53	1.28
61F960	MSPE-206N	DPDT	Push-on-off	3.45	2.35	2.07	1.73
61F958	MSPE-206R	DPDT	Momentary	3.45	2.35	2.07	1.73
61F961	MSPE-406N	4PDT	Push-on-off	5.95	4.05	3.57	2.98
61F1211	MSPE-406R	4PDT	Momentary	5.95	4.05	3.57	2.98
61F1212	MSP-103B	SPST	NC-Blk. But.	.65	.44	.39	.33
61F1213	MSP-103C	SPST	No-Red. But.	.65	.44	.39	.33
61F1214	MSP-103C-B	SPST	No-Blk. But.	.65	.44	.39	.33
61F1215	MSPS-103C	SPST	No-Red But.	.50	.34	.30	.25
61F993	MSPG-206N	DPDT	Push-on-off	3.15	2.14	1.89	1.58
61F994	MSPG-206R	DPDT	Momentary	3.15	2.14	1.89	1.58

BUTTONS (*KNURL GUARD)

			Pkg. of 25 only: Each		
Stk. No.	Type	Color	25-75	100-475	500-975
61F910	C-12	Black	.036	.032	.03
61F911	C-12	Red	.036	.032	.03
61F1200	C-12	Green	.036	.032	.03
61F1201	C-12KC*	Chrome	.20	.18	.165
61F912	C-14L	Chrome	.06	.054	.05

ILLUMINATED PUSH BUTTON SWITCHES

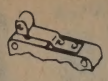
MSPN Illuminated Push Button Switches are snap-action types capable of handling a high current rating for its small size. DPDT action in a miniature case with separate connections to its replaceable T-1¾ grooved base lamps. Side terminals for simplified wiring or P.C. use. Metal construction, phenolic case, solid silver contacts. 6 amps @ 125 VAC. Mounts in 1 3/32" dia. hole. Wide choice of plastic buttons. **TRANSPARENT** colors: Red, Amber, Blue, Green, Clear. Specify color when ordering. Uses grooved base lamps.

Stk. No.	Model	Contacts	Application	1-24	25-99	100-499	500-999
61F1216	MSPN-206N	DPDT	Push-on-off	4.80	3.26	2.88	2.40
61F1218	MSPN-206R	DPDT	Momentary	4.80	3.26	2.88	2.40
Supplied less colored button, lamps, see listing below							
61F1218	RS	½" Round Button		.10	.068	.06	.05
61F1219	RL	¾" Round Button		.15	.102	.09	.075
61F1220	SS	½" Square Button		.10	.068	.06	.05
61F1221	SL	¾" Square Button		.15	.102	.09	.075
61F1222	CGR-½	½" Chrome Guard, Round		.30	.204	.18	.15
61F1223	CGR-¾	½" Round Guard, Chromed Brass		.30	2.04	.18	.15
61F1224	CGS-½	½" Chrome Guard, Square		.30	.204	.18	.15
61F1225	CGS-¾	¾" Square Guard, Chromed Plastic		.30	.204	.18	.15
61F1226	379	6.3V@ 0.2A Lamp		.85	.57	.51	.43
61F1227	386	14.0V@0.08A Lamps		.90	.60	.54	.45
61F1228	388	28.0V@0.04A Lamps		.95	.63	.57	.47

MAGNETIC REPULSION PUSHBUTTON

Momentary push button switches designed for data entry in modern electronic equipment. Ceramic magnets eliminate springs. Contacts are glass-encapsulated reeds for long-life. Plunger is keyed and non-rotating. Metal case withstands abuse and serves as a shield. Rated 100°mA @ 50 VDC, resistance 100 millohms. Contact bounce 1 millisecond. Plunger travel 5/64". Operating force, under 2 ozs. Life, 10 million. All SPST type contacts.

Stk. No.	Model	Description	1-24	25-99	100-499	500-999
61F1207	MSPM-101B	N.C., Solder lug	4.25	3.40	2.98	2.76
61F1208	MSPM-101C	No., Solder lug	3.90	3.12	2.73	2.54
61F1209	MSPM-101B-1	N.C.,.110"Terminal	4.25	3.40	2.98	2.76
61F1210	MSPM-101C-1	No., .110" Termina	3.90	3.12	2.73	2.54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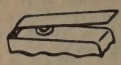
1CMD1-2AXX

ZD-0024

ZLD-0037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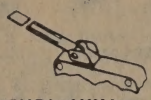
ZPD-0092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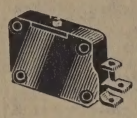
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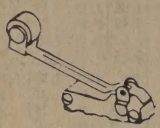
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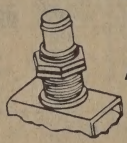
A18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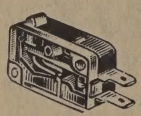
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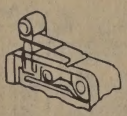
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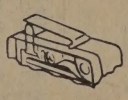
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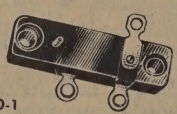

BBPD-1

BHLD-1

BORD-1

SUBMINIATURE MODEL Z

Switches have post terminals. Pin actuator can be ordered with any one of five terminals: post (solder), turret, double turret, baton (.057 dia.), and quick connect (.110 wide). Other actuators are available only with post terminal (solder).

Stk. No.	Model No.	Micro. Equv.	Actuator	Operating Force	Pretravel	1-9	10-19	20-49	50-99	100-199	200-499
60F1936	ZD-0024	1SM1	Pin Plunger	85-140 gms.	.008-.020 in.	1.25	1.13	1.00	.88	.81	.79
60F1937	ZLD-0036	111SM2	Flat Leaf	2 oz. max.	3/32 in. max.	1.75	1.58	1.40	1.22	1.14	1.10
60F1938	ZLD-0037	111SM2	Roller Leaf	2 oz. max.	3/32 in. max.	2.10	1.89	1.68	1.47	1.37	1.32
60F1939	ZLD-0038	.....	Formed Leaf	10 oz. max.	.050 in. max.	1.65	1.49	1.32	1.16	1.07	1.04
60F1942	ZPD-0092	2PB7	Push Button	15 oz. max.	.010 in. max.	4.95	4.46	3.96	3.47	3.22	3.12

MINIATURE MODEL CM

Mechanical life of up to 50 million cycles. Light operating force. Electrical rating: 3 amps, 125-250VAC; 3 amps, 28 VDC. Environmental temperature -90°F to 250°F.

Stock No.	Model No.	Actuator	Operating Force	Pretravel	1-9	10-19	20-49	50-99	100-199	200-499
23F415	1CMD1-2AXX	Pin Plunger	20-27 g.	.040 in. Max.	1.45	1.31	1.16	1.02	.94	.91
23F426	2CMD1-2AXX	Pin Plunger	34-44 g.	.040 in. Max.	1.45	1.31	1.16	1.02	.94	.91
60F1900	3CMD1-2AXX	Pin Plunger	45-60 g.	.040 in. Max.	1.45	1.31	1.16	1.02	.94	.91
60F1901	1CMD1-2AXX-A22	Wire Leaf	2.5 g. Max.	.....	1.75	1.68	1.40	1.22	1.14	1.10
60F1902	1CMD1-1AXX-A23M	Roller Leaf	5-8 oz.	.040 in. Max.	1.75	1.68	1.40	1.22	1.14	1.10
23F416	1CMD1-2AXX-A24	Flat Leaf Spring	2.5 g. Max.	.....	1.75	1.68	1.40	1.22	1.14	1.10
23F427	2CMD1-2AXX-A24	Flat Leaf Spring	4 g. Max.	.....	1.75	1.68	1.40	1.22	1.14	1.10

CM DRY CIRCUIT SWITCHES

Buffer contracts minimize contact bounce. .010 amp. .030 vac. min. 1 amp 24 vac max. Probe contracts for dry cicuit applications. .002 amp. .010 vac min. 2 amp. 240 vac max. Up to 50 million cycles Overtravel: 0.62" min, Movement differential: .030" max. UL CSA listed. (*) Buffered (**) Probe

Stock No.	Model No.	Oper. Force gms.	Actuator	Pretravel Inches	Release Force	1-9	10-19	20-49	50-99	100-199	200-499
60F1881	1CMD1-18AXX-A22-46	20-27	Wire Leaf (*)	.040 Max.	12 gms. Min.	4.17	3.75	3.34	2.92	2.71	2.63
60F1882	1CMD1-2AXX-78	20-27	Pin Plunger(*)	.040 Max.	12 gms. Min.	3.53	3.18	2.82	2.47	2.19	2.12
60F1883	1CMD1-18AXX-A22-45	20-27	Wire Leaf(**)	.040 Max.	12 gms. Min.	2.85	2.57	2.28	2.00	1.85	1.80
60F1884	1CMD1-2AXX-77	20-27	Pin Plunger(**)	.040 Max.	12 gms. Min.	2.33	2.10	1.86	1.63	1.51	1.47

MINIATURE MODEL M

Mechanical life of up to 10 million cycles. U.L. electrical rating: 10 amps, 125-250VAC. All have solder terminals and stainless steel actuator pins. Temp. —90°F to 250°F.

Stock No.	Model No.	Operating Force	Pretravel	Overtravel	Actuator	1-9	10-19	20-49	50-99	100-199	200-499
23F414	1MD1-1A	6 oz. Max.	1/32 in. Max.	.025 in. Max.	Pin Plunger	1.45	1.31	1.16	1.02	.94	.91
23F428	2MD1-1A	10 oz. Max.	1/32 in. Max.	.025 in. Max.	Pin Plunger	1.45	1.31	1.16	1.02	.94	.91
23F425	3MD1-1A	16 oz. Max.	1/32 in. Max.	.025 in. Max.	Pin Plunger	1.45	1.31	1.16	1.02	.94	.91
60F1852	2MD3-1A	10 oz. Max.	1/32 in. Max.	.025 in. Max.	Pin Plunger	1.45	1.31	1.16	1.02	.94	.91

ACTUATORS

Stock No.	Model No.	Description	1-9	10-19	20-49	50-99	100-199	200-499
23F429	A18	Flat leaf, side mount actuator.	.43	.39	.34	.30	.28	.26
23F430	A18M	Roller leaf, side mount actuator.	.64	.58	.51	.45	.42	.39
60F1903	A14	Plunger actuator for two switches.	1.28	1.15	1.02	.90	.83	.81

MINIATURE MODEL V

Rolling Spring Snap action, precision repeatability, nine integral actuators, Lateral Wiping Action, low operating force, extra long life, low differential. 15 amp. 125-250 vac ½ hp, 125 vac; 1 hp 250 vac, 10 amp, 30 vac. UL and CSA listed. 10 million cycles. Available with solder screw, .188 quick connect terminals.

Stock No.	Model No.	Micro-Equip.	Actuator	Operating Force	Inches	1-9	10-19	20-49	50-99	100-199	200-499
60F1885	VD-0004	V3-1-D8	Pin Plunger	14 oz. Max.	.047 Max.	.85	.72	.68	.60	.55	.54
60F1886	VLD-0011	V3L-1-D8	Short Leaf	14 oz. Max.	.062 Max.	1.00	.90	.80	.70	.65	.63
60F1887	VLD-0017	VL3-3-D8	Short Roller	14 oz. Max.	.062 Max.	1.20	1.08	.96	.84	.78	.76
60F1888	VLD-0023	.....	Side Thrust Roller	14 oz. Max.	.062 Max.	1.54	1.39	1.23	1.08	1.00	.97
60F1889	VLD-0029	.....	One Way Roller	14 oz. Max.	.062 Max.	2.08	1.87	1.66	1.46	1.38	1.31
60F1890	VLD-0039	V3L-5-D8	Simulated Roller	8 oz. Max.	.125 Max.	1.05	.95	.84	.74	.68	.66
60F1891	VLD-0014	V3L-2-D8	Long Leaf	8 oz. Max.	.156 Max.	1.00	.90	.80	.70	.65	.63
60F1892	VLD-0042	V3L-6-D8	Extra Long Leaf	4 oz. Max.	.260 Max.	1.00	.90	.80	.70	.65	.63
60F1893	VLD-0020	V3L-4-D8	Long Roller	8 oz. Max.	.56 Max.	1.20	1.08	.96	.84	.78	.76

SERIES 1-TYNI

The only top mounting miniature switch in the industry. May be stacked using one actuator. Multiple poles, choice of terminals, (spade, tab, or solder). 15 amps., 125-250 VAC ½ h.p., 250 VAC h.p., 125 VAC 20 million cycles. UL/CSA listed. (*) Overtravel.

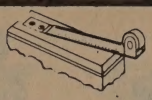
Stk. No.	Model No.	Operating Force	Pretravel	O.T.* Min.	Actuator	1-9	10-19	20-49	50-99	100-199	200-499
60F1894	BBPD-1	4.5-8 oz.	.030 Max.	.005	Plunger	1.12	1.01	.90	.78	.72	.71
60F1895	BWLD-1	6-11 gms.	20 Max.	2.000	Wire Lever	1.40	1.26	1.12	.98	.91	.88
60F1896	BHLD-1	11 gms. Max.	.656 Max.	.093	Hinge Lever	1.60	1.44	1.28	1.12	1.04	.81
60F1897	BHRD-1	12 gms. Max.	.656 Max.	.093	Roll Lever	2.09	1.88	1.67	1.46	1.36	1.32
60F1898	BOTD-1	4.5-8 oz.	.030 Max.	.250	O.T. Plunger	3.20	2.88	2.56	2.24	2.08	2.02
60F1899	BORD-1	4.5-8 oz.	.030 Max.	.156	O.T. Roller	4.60	4.14	3.68	3.22	2.99	2.90

Snap Switches by Acro Division Robertshaw

3DC5-5P-2T

3DC5-8P-AT

BRD2-5LIS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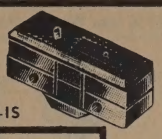
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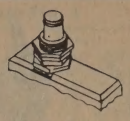
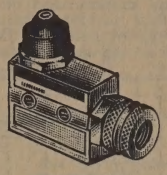

BRD2-1P-IS

SNAP-ACTION PUSHBUTTON MODEL "D"

Precision snap action, easy mounting with two sleeve locknuts, solder terminals *quick conn. term. U.L. listed. 6 amps-230 VAC, 12 amps 125 VAC. Operating force 10-15 oz.

For Screw Term. add to Model No. 2T. For Tab Term. add 4-T.

Stock No.	Model No.	Plunger	Circuit	Color	1-9	10-19	20-49	50-99	100-199	200-499
60F1935	3D05-5P	Plastic	N. O.	Black	2.00	1.80	1.60	1.40	1.30	1.26
60F1854	3DC5-5P	Plastic	N. C.	Red	2.00	1.80	1.60	1.40	1.30	1.26
60F1856	3DO5-8P	Metal	N. O.	.....	2.40	2.16	1.92	1.68	1.56	1.51
60F1857	3DC5-8P	Metal	N. C.	.....	2.40	2.16	1.92	1.68	1.56	1.51
60F1851	3DC5-8P-2T	Metal	N. C.	.....	2.40	2.16	1.92	1.68	1.56	1.51

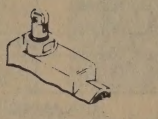

SBHT2-7PN

GENERAL PURPOSE MODEL B

Mechanical life of over 10 million cycles. High contact pressure rolling spring has minimum contact bounce and low traverse time. Uniform mating cover onto base. Spring loaded assembly. Contacts rated at 15 amps, 120-240-480 volts AC; ¼ amp, 240 VDC. ½ amp, 120 VDC. Step Base 6-32. Screw terminals are standard. Flat base available on special order.

Stock No.	Model No.	Micro Equiv.	Actuator	Operating Force	1-9	10-19	20-49	50-99	100-199	200-499
60F1904	BRD2-1A-1S	BZ-2R-A2	Pin	9-13 oz.	1.90	1.71	1.52	1.33	1.24	1.20
23F402	BRD2-5L-1S	BZ-2RL-A2	Leaf	5 oz. Max.	2.20	1.98	1.76	1.54	1.43	1.39
23F406	BRD2-LW8-1S	BZ-2RW	Leaf	2½ oz. Max.	2.19	1.97	1.75	1.53	1.42	1.38
60F1905	BRD2-LW48-1S	BZ-2RW84-A2	Leaf	1 oz. Max.	2.19	1.97	1.75	1.53	1.42	1.38
23F407	BRD2-2M-1S	BZ-RL2-A2	Roll. Leaf	5 oz. Max.	2.75	2.48	2.20	1.92	1.79	1.73
23F409	BRD2-LW228-1S	BZ-2RW22-A2	Sh. Roll. Leaf	6 oz. Max.	2.75	2.48	2.20	1.92	1.79	1.73
60F1907	BRD2-LW28-1S	BZ-2RW2-A2	Lg. Roll. Leaf	3½ oz. Max.	2.19	1.97	1.75	1.53	1.42	1.38
23F401	BRD2-70-1S	BZ-2RD-1A	Over Trav. Plun.	9-13 oz.	2.35	2.12	1.88	1.65	1.53	1.48
23F405	BRD2-10-1S	BZ-2RS-A2	Over Trav. Plun.	9-13 oz.	2.85	2.57	2.28	2.00	1.85	1.80
60F1908	BRD2-3P-1S	BZ-2RQ-A2	Over Trav. Plun.	9-13 oz.	3.21	2.89	2.57	2.25	2.09	2.02
23F404	BRD2-1P-1S	BZ-2RQ1-A2	Over Trav. Plun.	9-13 oz.	3.95	3.56	3.16	2.77	2.57	2.49
60F1909	BRD2-8PR-1S	BZ-2RQ8-A2	Roll. Pan. Mt.	9-13 oz.	5.44	4.90	4.35	3.81	3.54	3.43
60F1912	BRD2-24P-1S	BZ-2RQ18-A2	Roll. Pan. Mt.	9-13 oz.	6.85	6.17	5.48	4.80	4.45	4.32
60F1913	BRD2-LW6-1S	BZ-2RW825-A2	One Way Roller	8 oz. Max.	3.50	3.15	2.80	2.45	2.28	2.21

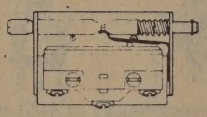
SBH2-2PN2


SBH2-8PR

HEAVY DUTY GENERAL PURPOSE MODEL F

2 types available: Heavy Duty and (*) High Amp Sensitivity. High contact pressure, minimum contact bounce, low traverse time. Uniform mating cover onto base, Spring loaded assembly. Excellent repeatability. Contact wipe inherent, 10 million mechanical cycles. 21 amps 120-240-480 VAC 1 HP 240 VAC, 2 hp 240 VAC.

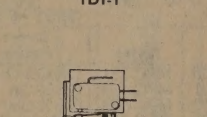
Stock No.	Model No.	Micro Equiv.	Actuator	Operating Force max.	Pre-travel max.	1-9	10-19	20-49	50-99	100-199	200-499
60F1858	FAD2-1A-IS	BA-2R-A2	Pin Plung.	14-22 oz.	.050	1.90	1.71	1.52	1.33	1.24	1.20
60F1859	FAD2-5L-IS	BA-2RL-A2	Leaf	9 oz.	11/32	2.20	1.98	1.76	1.54	1.43	1.39
60F1860	FAD2-LV-IS	BA-2RV-A2	Leaf	2½ oz.	5/8	2.40	2.16	1.92	1.68	1.56	1.51
60F1861	FAD2-LV22	BA-2RV22-A2	Sh. Roll. Leaf	6 oz.	¼	3.20	2.88	2.56	2.24	2.08	2.02
60F1862	FAD2-LW23	.....	Leaf	2½ oz.	.375	2.60	2.34	2.08	1.82	1.69	1.64
60F1863	FAD2-40-IS	BA-2RB-A2	Over Trav. Plung.	14-22 oz.	.050	2.35	2.12	1.88	1.65	1.53	1.48
60F1864	FAD2-1P-IS	BA-2RQ1-A2	Over Trav. Plung.	14-22 oz.	.050	3.95	3.56	3.16	2.77	2.57	2.49
60F1865	MRDI-1A-IS*	BM-1R-A2	Pin Plung.	7-10 oz.	.030	2.05	1.85	1.64	1.43	1.33	1.29


1DI-1

MODEL BH SPLIT HOUSING METAL ENCLOSED SWITCHES

SPDT snap-action, bottom enclosures removable for wiring. Liner seals housing and insulates bottom enclosure. SBH are internally threaded, SBHT are externally threaded housing. Contacts rated at 15 amps 120-240-480 VAC. Screw terminals. Side Mounting. UL Component Program Recognized, CSA Listed.

Stock No.	Model No.	Micro Equiv.	Actuator	Operating Force oz.	Pre-travel	1-9	10-19	20-49	50-99	100-199	200-499
60F1866	SBH2-7PN	BZE6-2RN	Sealed Plun.	9-24	.078"	7.05	6.35	5.64	4.94	4.58	4.44
60F1867	SBH2-2PN4	BZE6-2RN4	Sealed Man.	10-20	.188"	10.85	9.77	8.68	7.60	7.05	6.84
60F1868	SBH2-6PQ	BZE6-2RQ	Plunger	9-13	.020"	5.50	4.95	4.40	3.85	3.58	3.47
60F1869	SBH2-8PR	BZE6-2RQ8	Roll. Plung.	9-13	.020"	9.30	8.37	7.44	6.51	6.05	5.86
60F1870	SBH2-8PQ2	BZE6-2RQ2	Adj. Roll.	10-18	.188"	9.30	8.37	7.44	6.51	6.05	5.86
60F1871	SBH2-2PN2	.....	Seal. Adj. Roll.	10-20	.188"	10.55	9.50	8.44	7.39	6.86	6.65
60F1872	SBHT2-2PN2	.....	Seal. Adj. Roll.	10-20	.188"	10.80	9.72	8.64	7.56	7.02	6.80
60F1873	SBHT2-2PN4	.....	Sealed Man.	10-20	.188"	11.15	10.04	8.92	7.81	7.25	7.02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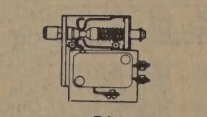
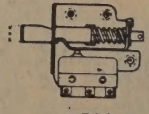

2DI-1

DOOR INTERLOCKS

Provide required protection to personnel when used as safety devices on hazardous equipment. Break power circuits when service panels are opened and can be manually reactivated by trained servicemen. Resets automatically when panels are closed. Designed for use in office and business machines, x-ray, radar, transmitters, ultrasonics, lasers, and chemical processing machines, etc. 3 types available; General purpose SPDT in 10 or 21 amp rated. Miniature model V 15 amp rated in 1 & 2 pole. Sub-miniature Model Z 5 amp rated up to 4 poles. All switches are available with solder, screw, or quick connect terminals. UL/CSA listed. Over 100,000 cycles.(*)Available with 1 pole or push 2nd pole on pull.

Stock No.	Model No.	Micro Equiv.	No. Poles	Oper. Force	Amp. Rating	1-9	10-19	20-49	50-99	100-199	200-499
60F1874	1DI-1	1AC2	1	36 oz.	15	5.20	4.68	4.16	3.64	3.38	3.28
60F1875	6DI-1	.....	1	36 oz.	21	5.19	4.67	4.15	3.63	3.37	3.27
60F1876	2DI-1	2AC	1	48 oz.	15	3.65	3.29	2.92	2.56	2.37	2.30
60F1877	3DI-1	.....	1	48 oz.	15	3.65	3.29	2.92	2.56	2.37	2.30
60F1878	4DI-1	4AC	2*	64 oz.	15	7.50	6.75	6.00	5.25	4.88	4.73
60F1879	8DI-1	8AC2T	4	64 oz.	5	16.00	14.40	12.80	11.20	10.40	10.08
60F1880	17DI-1	17AC1T	1	40 oz.	5	2.90	2.61	2.32	2.03	1.89	1.83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-FREE-

Write For Robertshaw Catalog

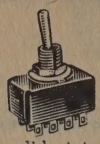
J-B-T INSTRUMENTS Toggle Switches

SUB-MINIATURE — JMT SERIES

A

B

C


D

Designed for manually controlled, low current, solid state devices, and miniaturized circuitry. Single hole mounting with ¼ inch thin bushing. Nominal rating: 5 amps @ 125 VAC; 24 VDC. Terminal holes on JMT series accept up to three #22 wires. Mounting hdwe. *Momentary position; X no position.

SPDT—3 Term. Fig. A

Stk. No.	Type	Lever Action	1-24	25-99	100-499	500-999
22F862	JMT-121	On-Off-On	1.95	1.30	1.17	1.09
22F863	JMT-123	On-X-On	1.65	1.10	.99	.93
22F864	JMT-126	On-X-On*	1.95	1.30	1.17	1.09
22F865	JMT-127	On*-Off-On*	2.10	1.40	1.26	1.18
22F866	JMT-131	On-Off-On*	2.10	1.40	1.26	1.18
		DPDT—6 Term. Fig. B				
22F868	JMT-221	On-Off-On	2.55	1.70	1.53	1.43
22F869	JMT-223	On-X-On	2.15	1.43	1.28	1.20
22F871	JMT-227	On*-Off-On*	2.70	1.80	1.62	1.51
22F872	JMT-231	On-Off-On*	2.70	1.80	1.62	1.51
22F873	JMT-232	On-On-On	2.85	1.90	1.71	1.60
22F874	JMT-233	On-On-On*	3.15	2.10	1.89	1.76
22F875	JMT-234	X-On-On*	2.55	1.70	1.53	1.42
		3PDT—9 Term. Fig. C				
22F876	JMT-321	On-Off-On	4.25	2.84	2.54	2.37
22F877	JMT-323	On-X-On	3.85	2.57	2.32	2.16
		4PDT—12 Term. Fig. D				
22F878	JMT-421	On-Off-On	5.45	3.64	3.26	3.05
22F879	JMT-423	On-X-On	4.85	3.24	2.90	2.71

SUB-MINIATURE — MPC SERIES

K

J

H

Same specifications as JMT series above. Terminals are gold plated over nickel.

SPDT—3 Term. Fig. H

Stk. No.	Type	Lever Action	1-24	25-99	100-499	500-999
55F5700	MPC-121	On-Off-On	2.05	1.38	1.24	1.16
55F5701	MPC-123	On-X-On	1.75	1.18	1.06	.99
55F5702	MPC-126	On-X-On*	2.05	1.38	1.24	1.16
55F5703	MPC-127	On*-Off-On*	2.20	1.48	1.33	1.24
		DPDT—6 Term.				
55F5704	MPC-221	On-Off-On	2.65	1.78	1.60	1.50
55F5705	MPC-223	On-X-On	2.25	1.51	1.36	1.27
55F5706	MPC-226	On-X-On*	2.65	1.78	1.60	1.50
55F5707	MPC-232	On-On-On	2.95	2.19	1.98	1.88
		3 PDT—9 Term.				
55F5708	MPC-321	On-Off-On	4.40	2.96	2.26	2.49
55F5709	MPC-323	On-X-On	4.00	2.69	2.42	2.26
		4PDT—12 Term.				
55F5710	MPC-421	On-Off-On	5.65	3.79	3.41	3.19
55F5711	MPC-423	On-X-On	5.05	3.39	3.05	2.85
55F5712	MPC-427	On*-Off-On*	5.80	3.89	3.50	3.27
55F5713	MPC-431	On-Off-On*	5.80	3.89	3.50	3.27

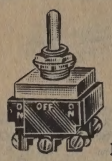
SUB-MINIATURE — LFH FLAT HANDLE SERIES

For ease of grasp and good sensing in direction of throw.

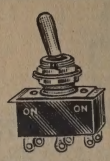
SPDT—3 Term. Fig. J

55F5714	LFH-121	On-Off-On	2.70	1.90	1.71	1.60
55F5715	LFH-123	On-X-On	2.40	1.70	1.53	1.43
55F5716	LFH-126	On-X-On*	2.70	1.90	1.71	1.60
55F5717	LFH-127	On*-Off-On*	2.85	2.00	1.80	1.68
		DPDT—6 Term.				
55F5718	LFH-221	On-Off-On	3.30	2.30	2.17	1.93
55F5719	LFH-223	On-X-On	2.90	2.03	1.83	1.71
55F5720	LFH-226	On-X-On*	3.30	2.30	2.17	1.93
55F5721	LFH-232	On*-Off-On*	3.60	2.50	2.25	2.10
		3PDT—9 Term.				
55F5722	LFH-321	On-Off-On	5.00	3.44	3.10	2.89
55F5723	LFH-323	On-X-On	4.60	3.17	2.85	2.67
		4PDT—12 Term.				
55F5724	LFH-421	On-Off-On	6.20	4.24	3.82	3.56
55F5725	LFH-423	On-X-On	5.60	3.84	3.46	3.23
55F5726	LFH-427	On*-Off-On*	6.35	4.34	3.91	3.65
55F5727	LFH-431	On-Off-On*	6.35	4.34	3.91	3.65

SNAP ACTION TOGGLE SWITCHES



E



F

G

Nominally 6 amps @ 125 VAC, 3 amps @ 250 VAC. 11/16" lever. Bushing 15/32"L x 15/32"D. U.L. approved.

MIL-S-3950C MEDIUM DUTY WITH LEVER SEAL FIG. F.

SPST—2 Term.

Stk. No.	Type MS-	Action	Each	2-9	10-29	30-99	100-249
22F912	25098-22	On-X-Off	1.98	1.48	1.18	1.11	1.03
22F913	25098-29	On-X-Off*	2.40	1.90	1.52	1.43	1.33
22F914	25098-30	Off-X-On*	2.40	1.90	1.52	1.43	1.33
		DPST—4 Term.					
22F915	25098-23	On-X-On	2.19	1.69	1.35	1.27	1.18
		SPDT—3 Term.					
22F916	25100-22	On-X-Off	2.62	2.12	1.69	1.59	1.48
22F917	25100-29	On-X-Off*	2.97	2.47	1.97	1.85	1.73
22F918	25100-30	Off-X-On*	2.97	2.47	1.97	1.85	1.73
		DPDT—6 Term.					
22F919	25100-23	On-X-On	2.80	2.30	1.84	1.72	1.61

JAN-S-23 MEDIUM DUTY FIG. G.

SPST—2 Term.

22F880	ST12A	On-X-Off	1.48	.98	.78	.72	.68
22F883	ST13A +	On-X-Off	1.48	.98	.78	.72	.68
22F884	ST16A #	On-X-Off	1.48	.98	.78	.72	.68
		SPDT—3 Term.					
22F888	ST12D	On-X-On	1.61	1.11	.89	.83	.78
22F889	ST13D +	On-X-On	1.61	1.11	.89	.83	.78
22F891	ST17D #	On-X-On	1.61	1.11	.89	.83	.78
		DPST—4 Term.					
22F892	ST22K	On-X-Off	1.84	1.34	1.08	1.01	.95
22F894	ST22M	Off-X-On*	1.98	1.48	1.19	1.11	1.04
22F895	ST23K +	On-X-Off	1.84	1.34	1.08	1.01	.95
22F897	ST26L #	On-X-Off*	1.98	1.48	1.19	1.11	1.04
		DPDT—6 Term.					
22F900	ST22N	On-X-On	1.98	1.48	1.19	1.11	1.04
22F901	ST23N +	On-X-On	1.98	1.48	1.19	1.11	1.04
22F902	ST26N #	On-X-On	1.98	1.48	1.19	1.11	1.04
22F903	ST27N +#	On-X-On	1.98	1.48	1.19	1.11	1.04

*-Momentary Position; X-No Position; + Bushing ¼" high; # Side Connected

MIL-S-3950C HEAVY DUTY FIG. E

Switches have silver contacts, rocker arms, silicone rubber bushing seals to meet sand, dust, and 15" head of water submersion tests and solderable 6/32" screw terminals. Contact resistance under .005 ohms. Rating: 20 amps @ 125 VAC. Size: single hole bushing 15/32"L x 15/32" H. Toggle 11/16" long.

22F122	MS25068-24	4PST On-Off-X	5.50	4.50	3.54	2.98	2.47
22F123	MS25068-25	4PST On-off*-X	6.30	5.30	4.18	3.51	2.92
22F124	MS25068-28	4PST X-Off-On*	6.30	5.30	4.18	3.51	2.92
22F125	MS25068-21	4PDT On-off-On	6.22	5.22	4.11	3.46	2.87
22F126	MS25068-23	4PDT On-X-On	6.30	5.30	4.18	3.51	2.92
22F127	MS25068-26	4PDT On-X-On*	6.63	5.63	4.44	3.73	3.10
22F128	MS25068-27	4PDT On*-Off-On*	6.63	5.63	4.44	3.73	3.10
22F129	MS25068-31	4PDT On-off-on*	6.63	5.63	4.44	3.73	3.10

SUB-MINIATURE — LL SELF-LOCKING LEVER SERIES

Spring loaded locking device mechanism must first be released to move from one position to another.

SPDT—3 Term. Fig. K

55F5728	LL-121	On-Off-On	3.70	2.59	2.33	2.15
55F5729	LL-123	On-X-On	3.10	2.12	1.91	1.78
		DPDT—6 Term.				
55F5730	LL-221	On-Off-On	4.35	3.04	2.74	2.55
55F5731	LL-223	On-X-On	3.70	2.59	2.33	2.15
55F5732	LL-232	On-Off-On	4.35	3.04	2.74	2.55
		3PDT—9 Term.				
57F5733	LL-321	On-Off-On	5.90	4.13	3.72	3.47
57F5734	LL-323	On-X-On	5.25	3.67	3.30	3.08
		4PDT—12 Term.				
55F5735	LL-421	On-Off-On	7.20	5.04	4.54	4.24
55F5736	LL-423	On-X-On	6.60	4.62	4.15	3.88
55F5737	LL-432	On-On-On	7.20	5.04	4.54	4.24

Rotary and Lever Switches

J-B-T INSTRUMENTS

SUB-MINIATURE ROTARY SWITCHES INCLUDING SRO5 STYLE TO MIL-S-3786C

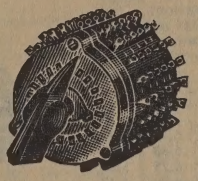
(Contacts bent only on special order) Deck wafers are epoxy-glass fabric laminations per MIL-P-18177C GEB. Deck rotor meets MIL-I-10A. Wafer contacts are 90% silver alloy, gold-plate, double wiping for low contact resistance, and self cleaning. Frame, detent mechanism, and shaft are stainless steel. Dielectric strength 1000 volts RMS. Insulation resistance exceeds 100,000 megohms. Current carrying capacity: 5 amp. Current breaking capacity: 750MA at 30 DCV; 300 MA at 120 DCV; 1 amp at 115 ACV. non-inductive. Include A7505 knob. Positive 30° indexing. (Also available with 60° or 90° indexing). Nominal 1" diameter. Patented Series 7000 provides a full 12 live switching contacts per deck. Series 5000 has the same wafer design but provides nearly twice the switching capability per deck, with up to 12 contacts on the front and up to 12 contacts on the rear of the same deck. Figure 3 in manufacturer's type number indicates for vibration grade 3, 10 to 2000 cps.

SINGLE DECK, NON-SHORT, SUB-MINIATURE LEVER SWITCHES

Stock No.	Type	Poles Deck	Pos. Pole	Shaft Dia.	NET
26F790	VL71031N	1	3	1/4"	4.80
26F792	VL72031N	2	3	1/4"	5.05
26F793	VL58021N	8	2	1/4"	5.35

MULTI POLE MOLDED ROTARY SWITCHES

Series 20M. Made of superior molded materials, bonded and ruggedized. Provides 19 positions and off. Versatile; up to four poles per deck. Uses melamine stators and rotors. Built-in panel locator non-turn device. Rotor brushes made of phosphor bronze, heavily silver plated. All are non-shorting. Same size as MS-20 at right, except 1/4" longer behind panel.



1-3/16" DEPTH BEHIND PANEL

Stk. No.	Type	No. of Decks	Poles Deck	No. of Pos.	NET Each
22F976	20M-1201N	1	1	Cont	3.75
22F977	20M-1191N	1	1	1-19	3.75
22F980	20M-4051N	1	4	20-4	4.85

1½" DEPTH BEHIND PANEL

22F981	20M-1202N	2	1	Cont	5.00
22F982	20M-2102N	2	2	20-9	5.80
22F983	20M-3052N	2	3	20-4	6.50
22F984	20M-4052N	2	4	20-4	7.20

1-13/16" DEPTH BEHIND PANEL

22F985	20M-1203N	3	1	Cont	6.25
22F986	20M-2103N	3	2	20-9	7.45

2-3/16" DEPTH BEHIND PANEL

22F989	20M-1204N	4	1	Cont	7.70
22F990	20M-2104N	4	2	20-9	9.30
22F992	20M-4054N	4	4	20-4	12.10

2-13/16" DEPTH BEHIND PANEL

22F993	20M-1206N	6	1	Cont	10.80
22F994	20M-2106N	6	2	20-9	13.20

NOTE. 1) Panel Seal Per MIL-S-3786C requirement special order. Add 1.75 per switch and prefix (PS) to type no. Shorting also available on special order. Add suffix (S) to type no. Do not include Stk. No. To price add .05 per pole, per deck.

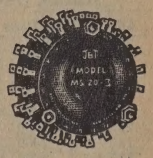
Non-shorting V and X Types—Fig. A

Stock No.	Type	Decks	Per Deck	Pos. Per Pole	Shaft Dia.	NET Each
26F745	V71121N	ONE	1	12	1/4"	4.90
26F747	X71121N		1	12	1/8"	4.70
26F749	V72061N		2	6	1/4"	5.00
26F750	V74031N		4	3	1/4"	5.20
26F751	V52111N	ONE	2	11	1/4"	5.25
26F755	V58021N		8	2	1/4"	5.55
26F756	V71122N	TWO	1	12	1/4"	6.75
26F768	X71124N	FOUR	1	12	1/8"	11.40
26F769	V71126N	SIX	1	12	1/4"	16.05

Non-shorting Military SR05 Type MIL-S-3786C—Fig. A

Stock No.	Designation SRO5N30C3MGC	Decks	Poles Per Deck	Pos. Per Pole	Shaft Dia.	NET Each
26F772	V72061N-SR05	ONE	2	6	1/4"	5.35
26F773	V74031N-SR05		4	3	1/4"	5.50
26F781	V72062N-SR05	TWO	2	6	1/4"	7.40
26F783	V52112N-SR05	TWO DUAL	2	11	1/4"	8.65
26F787	V74033N-SR05	3 OMIT DUAL	4	3	1/4"	10.45

ENCLOSED MOLDED ROTARY SWITCHES



Interchangeable with J-B-T, SS-14 and SS-20 laminated types but offers enclosed construction. Heavy silver plated contacts are rated at 1 amp —125 VAC. inductive. Double-grip collector arms reduce contact resistance to an average of .007 ohm. Type MS-14 has a diameter of 2 3/32", while type MS-20 is 2 5/8". With bar knob. Type MS-14 switches require 25° 43', and Type MS-20 takes 18° plates. 5 oz. one-deck switch 27/32" deep behind panel. Extra decks 5/16" each. **All non-shorting except (**) shorting *2 position fixed stop, with no "off" position.**

MS-14 TYPE

Stk. No.	Type	Poles	Decks	Positions	NET
22F933	MS-14-1	1	1	14	2.45
22F934	MS-14-2	2	2	14	3.10
22F935	MS-14-3	3	3	14	3.75
22F936	MS-14-4	4	4	14	4.85
22F937	MS-14-6	6	6	14	7.05

MS-20 TYPE

22F938	MS-20-1S**	1	1	20	3.15
22F939	MS-20-2S**	2	2	20	4.00
22F940	MS-20-1	1	1	20	3.10
22F941	MS-20-2	2	2	20	3.90
22F942	MS-20-3	3	3	20	5.00
22F943	MS-20-4	4	4	20	6.20
22F944	MS-20-1-6DT	6	1	2*	3.90
22F945	MS-20-6	6	6	20	8.60

ADJUSTABE STOP 14-POS. MOLDED SWITCHES

Like molded switches above, except have adjustable stop to permit use of as many positions as desired. Enclosed adjustable stop mechanism increases overall depth 5/32" behind panel. Angular indexing is 25° 43'. Shpg. wt., 4 oz.

No.	Type	Poles	Decks	Positions	NET
22F949	MAS-14-1	1	1	2-14	3.10
22F950	MAS-14-2	2	2	2-14	3.80
22F951	MAS-14-3	3	3	2-14	4.60
22F952	MAS-14-4	4	4	2-14	5.70
22F953	MAS-14-6	6	6	2-14	8.00

ETCHED DIAL PLATES

For all rotary switches on this page. Dull black, 2 3/4" diameter. Shpg. wt., 2 oz.

No.	Type	Calibration	Index	NET
22F954	EP-13	Off thru 13	25°43'	.23
22F955	EP-14	1 thru 14	25°43'	
22F956	EP-19	Off thru 19	18°	
22F957	EP-20	1 thru 20	18°	

ATTENTION INDUSTRIAL BUYERS

NEWARK carries complete lines of top quality electronic components.

Newark can supply all your needs.

Grayhill Switches

SERIES 19 POWER TAP SWITCHES

U.L. listed. Single pole. Single deck. Non-shorting contacts with 15 amp 125 VAC resistive rating. Breakdown is rated for 2500 VAC. Wt., 1¾ oz.

Stk. No.	Type	Taps	1-49	50-99
57F1500	19101-2UL	2	3.70	2.78
57F1501	19101-3UL	3	3.90	2.93
57F1502	19101-4UL	4	4.10	3.08
57F1503	19101-5UL	5	4.30	3.23
57F1504	19101-6UL	6	4.50	3.38
57F1505	19101-7UL	7	4.70	3.53
57F1506	19101-8UL	8	4.90	3.68
57F1507	19101-9UL	9	5.10	3.83
57F1508	19101-10UL	10	5.30	3.98
57F1509	19101-11UL	11	5.50	4.13

SERIES 24 MINIATURE TAP SWITCH

One pole per. Break 1 amp. carries 5 amps. ⅜ bushing. 1 1/32" O.D. Cam operates from —55° C to +85°C. 5 oz. *Depth behind panel.

SINGLE DECK SWITCHES *.58:

Stk. No.	Type	Taps	1-49	50-99
23F950	24001-2	2	3.05	2.29
23F951	24001-3	3	3.15	2.36
23F952	24001-4	4	3.25	2.44
23F953	24001-5	5	3.35	2.51
23F954	24001-6	6	3.45	2.59
23F955	24001-7	7	3.55	2.66
23F956	24001-8	8	3.65	2.74
23F957	24001-9	9	3.75	2.81
23F958	24001-10	10	3.85	2.89

2-DECK SWITCHES *1.39"

23F959	24002-2	2	5.35	4.01
23F960	24002-3	3	5.55	4.16
23F961	24002-4	4	5.75	4.31
23F962	24002-5	5	5.95	4.46
23F963	24002-6	6	6.15	4.61
23F964	24002-7	7	6.35	4.76
23F965	24002-8	8	6.55	4.91

MINIATURE MOMENTARY CONTACT SWITCH

Normally open SPST. ¼ amp. 114 volts. AC non-inductive. Length 1.047" and maximum diameter. ½". Solder terminals. Red button. Shpg. wt. 1 oz.

Stk. No.	Type	1-49	50-99	100 & Up
24F204	23-1	1.10	.83	.66

SUB-MINIATURE SWITCH

Push button switch with coin silver contacts and terminals. SPST. Momentary contact. Rated 1 amp.—115 VAC. OP—.375" length behind panel—.592. Length 63/64". Shpg. Wt., 1 oz.
Type 30-1. SPST-NO. Red button.
Type 30-2. SPST-NC. Black button.

Stk. No.	Type	1-49	50-99	100 & Up
24F205	30-1	.95	.71	.57
24F206	30-2	.95	.71	.57

LIGHTED PUSH BUTTON SWITCH

Series 40. Integrated switch and indicator light. Silent action, SPST, momentary contact, normally open. Life expectancy, 500,000 operations at rated load of 1 ampere, 115 VAC. 25/64" mtg. hole required. Solder-type terminals. Overall length 1.84". Shpg. wt. 1 oz.

Stk. No.	Type	Lens	Cont.	1-49	50-99	100-Up
24F210	40-1	Cir.	NO*	2.45	1.84	1.47
57F1594	40-1	Rd. Tr.	NO*	2.45	1.84	1.47
57F1595	40-1	Amb. Tr.	NO*	2.45	1.84	1.47
24F241	40-2	Cir.	NC*	2.70	2.03	1.62
24F242	40-100	Cir.	NO†	2.75	2.06	1.65
57F1596	40-100	Red. Fr.	NO†	2.75	2.06	1.65
57F1597	40-100	Grn. Fr.	NO†	2.75	2.06	1.65
57F1598	40-100	Yel. Fr.	NO†	2.75	2.06	1.65
24F208	40-102	Cir.	NC†	3.00	2.25	1.80

*Neon, † Incad. (20 VAC/DC)

SERIES 42D AND 44D ADJUSTABLE STOP ROTARY TAP SWITCHES

10 position (42D), 12 position (44D), fully enclosed switches, interchangeable with fixed stop 42A and 44A series. 10 amps. @ 115 VAC. Bushing ⅜-32 NEF. Behind panel: 1-deck, 1.025"; 2-deck, 1.371"; 3-deck, 1.717". 1.162" Diam. Wt., 1½ oz.

Stk. No.	Type	Decks	1-49	50-99
57F1541	42D36-01-1-ADJN	1	6.30	4.73
57F1542	42D36-02-1-ADJN	2	8.00	6.00
57F1543	42D36-03-1-ADJN	3	9.60	7.20
57F1544	42D36-01-2-ADJN	1*	7.10	5.33
57F1545	44D30-01-1-ADJN	1	6.50	4.88
57F1546	44D30-02-1-ADJN	2	8.40	6.30
57F1547	44D30-03-1-ADJN	3	10.20	7.65
57F1548	44D30-01-2-ADJN	1*	7.30	5.48

*Indicates 2 poles/deck.

SERIES 8 ULTRA-MINIATURE TAP SWITCHES

Single pole, ¼ amp at 115 V.A.C. Resistive make and break. Carry 4 amp. continuous. Voltage breakdown is at 1000 volts AC. Life expectancy is about 100,000 operations. Solder terminals and non-shortening contacts. Length behind panel for single deck is 960". ¾ oz.

Stk. No.	Type	Pos.	1-49	50-99
57F1515	8A36-01-1-2N	2	6.45	4.84
57F1516	8A36-01-1-3N	3	6.60	4.95
57F1517	8A36-01-1-4N	4	6.75	5.05
57F1518	8A36-01-1-5N	5	6.90	5.17
57F1519	8A36-01-1-6N	6	7.05	5.29
57F1520	8A36-01-1-7N	7	7.20	5.40
57F1521	8A36-01-1-8N	8	7.35	5.51
57F1522	8A36-01-1-9N	9	7.50	5.62
57F1523	8A36-01-1-10N	10	7.65	5.73

SERIES 5000 TAP SWITCHES

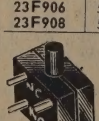
Break one amp at 115V AC, carry 5 amps. All have stops except 10-tap units, continuous rotation. ⅜" bushing. 1 1/32" diameter, 1 pole per deck. 4 oz. (*) Depth behind panel.

SINGLE-DECK SWITCHES *.47

Stk. No.	Type	Taps	1-49	50-99
24F225	5001-2	2	2.30	1.72
24F226	5001-3	3	2.35	1.76
24F227	5001-4	4	2.40	1.80
24F228	5001-5	5	2.45	1.84
24F229	5001-6	6	2.50	1.88
24F230	5001-7	7	2.55	1.92
24F231	5001-8	8	2.60	1.96
24F232	5001-9	9	2.65	2.00
24F233	5001-10	10	2.70	2.04

2-DECK SWITCHES *1.25"

23F900	5002-2	2	4.90	3.67
23F901	5002-3	3	5.00	3.75
23F902	5002-4	4	5.10	3.83
34F903	5002-5	5	5.20	3.90
23F904	5002-6	6	5.30	3.97
23F905	5002-7	7	5.40	4.05
23F906	5002-8	8	5.50	4.12
23F908	5002-10	10	5.70	4.27



MINIATURE SWITCH

Series 39-200. SPDT. 2 circuit, push button switch. 1 open, 1 closed. Ratings same as 39-1.

Stk. No.	Type	1-49	50-99	100-Up
24F237	39-201R	2.65	1.99	1.59
24F238	39-201B	2.65	1.99	1.59
Same as 39-201 except for stand-off pads.				
24F239	39-204R	2.75	2.06	1.65
24F240	39-204B	2.75	2.06	1.65

SERIES 50 ADJUSTABLE, ROTARY TAP SWITCH

10 post. Single deck. Make or break 50 ma @ 6 amps, 115 VAC. MD style with shaft-bushing-panel seal. CD style without 50 MD type meets requirements of MIL-S-3786/SR20. Behind panel dim. .617". Weight, ½ oz. *Printed circuit terminals.

Stk. No.	Type	Poles	1-49	50-99
57F1537	50CD36-01-1-ADJN	1	6.20	4.65
57F1538	50CD36-01-2-ADJN	2	8.10	6.08
57F1539	50MD36-01-1-ADJN	1	7.50	5.63
57F1540	50MD36-01-2-ADJN	2	9.40	7.05
57F1590	50MDP36-01-1-AJN	1*	7.50	5.63
57F1591	50MDP36-01-2-AJN	2*	9.40	7.05

SERIES 51. Similar to series 50 except 12 position (30 angle of throw). 9/16 diameter. Behind panel approximately .617" 51MD type meets requirements of MIL-S-3786/SR35.

SOLDER LUG TERMINAL

57F1592	51MD30-01-1AJN	1	8.05	6.04

PRINTED CIRCUIT TERMINAL

57F1593	51MDP 30-01-AJN	1	8.05	6.04

MOMENTARY CONTACT SWITCH

Series 4000. Non-stop action switch, momentary contact, SPST. ½ amp—500M operations, 1 amp—100M operations. 115V. AC. Solder terminals. Size: 1.53" L. x 80"D. Shpg. Wt., 1 oz.

Type 4001. Normally open. Red Button.

Type 4002. Normally open. Black Button.

Stk. No.	Type	1-49	50-99	100 & Up
24F202	4001	1.00	.75	.60
24F203	4002	1.00	.75	.60

BUTTON GUARD FOR SERIES 2000, 4000 & 35-1

Type 10C1015. Provides protective recess for buttons. Brass cadmium plated, fits 15/32"—32 thread. Wt., ½ oz.

Stk. No.	Type	1-49	50-99	100-Up
23F496	10C1015	.30	.23	.18
Decorative MTG. Nut				
57F1514	7C1040	.20	.15	.12

SERIES 35-1

Pushbutton, silent N.O., mom. cont. DPST. ½ amp., 115 VAC Molden phenolic button housing. 1 17/64"L. x 51/64" Dia. Solder term. 100.000—operation life. Wt. ½ oz.

Stk. No.	Type	1-49	50-99	100 &Up
24F207	35-1	1.50	1.13	.90

ULTRA MINIATURE SWITCH

Series 39-1. SPST. ½ A. 115VAC 1,000,000 operation life. **Series 39-2.** 250,000 operation life. Phenolic button and base. ¼" Dx 19/32"L. 1 1/64" mtg. hole. Wt., 1 oz.

Stk. No.	Type	Contacts	1-49	50-99	100-Up
24F209	39-1	Open	1.15	.86	.69
24F236	39-2	Closed	1.60	1.20	.96

GRAYHILL SWITCHES

•NEW PUSH BUTTON SWITCH

Type 46-230, 46-430. Available with either Momentary or Alternate action. Switch features include DPDT (break before make) circuit versatility and wiping contacts for low contact resistance during switch life. Switches are rated to make and break ¼ amp. for 250,000 operation.

Momentary

Stk. No	Type	Button Color	1-49	50-99	100-499
57F1494	46-230-R	Red	3.40	2.55	2.04
57F1495	46-230-B	Black	3.40	2.55	2.04
57F1496	46-230-W	White	3.40	2.55	2.04

Alternate

57F1497	46-430-R	Red	4.85	3.64	2.91
57F1498	46-430-B	Black	4.85	3.64	2.91
57F1499	46-430-W	White	4.85	3.64	2.91

PUSH BUTTON SWITCH

46-502

46-525

46-125

Alternate action push button switch, single ople, double throw. Rated: ¼ amp.; 110VAC resistive for 250,000 operations. Contract resistance initially-10 milliohms. Series 46-525 has ½-32 UN-2A thread for bezel mounting. Series 46-502 has ⅜-32 NEF-2A thread, ½-32 UN-2A thread for bezel mounting. All have button diameter .375". (Cap colors. R=Red, B=Black.)

Stk. No.	Type	Behind Panel	1-49	50-99	100-499
57F1670	46-125B	1.20"	2.35	1.76	1.41
57F1671	46-125R	1.20"	2.35	1.76	1.41
57F1672	46-502B	1.00"	3.50	2.63	2.10
57F1673	46-502R	1.00"	3.50	2.63	2.10
57F1674	46-525B	1.50"	3.90	2.93	2.34
57F1675	46-525R	1.50"	3.90	2.93	2.34

SERIES 46 PUSH BUTTON SWITCH

Fig. A

Fig. B

Rated ¼ amp. 115 VAC resistive. Contact resistance: .010 ohms. Life expectancy: 250,000 operations. Button travel: .187" Mounting hole: 17/64". Color of button. R=Red, B=Black. Break before make except, (*) make before break.

Type 101, 110: (Fig. A) SPDT
Type 200, 210: (Fig. B) DPDT

Stk. No.	Type	1-49	50-99	100-499
23F894	46-101B	1.40	1.05	.84
23F895	46-101R	1.40	1.05	.84
23F918	46-110R5*	1.55	1.16	.93
23F919	46-110B5*	1.55	1.16	.93
23F898	46-200B	3.10	2.33	1.86
23F899	46-200R	3.10	2.33	1.86
23F922	46-201R*	3.40	2.55	2.04
23F923	46-201B*	3.40	2.55	2.04

APM

HIGH PRESSURE SEALS FOR STANDARD TOGGLE SWITCHES

N-1030

N-1030B

2030B

Silicone rubber chemically and mechanically bonded to nut, make these boots impervious to salt water, acids, and ozone. Flexible from —160°F to +500°F. Meets MIL-B-5423. Pressure Range 15 PSI Internal and External. Wt. approx. 1 oz. per 5.

Stk. No.	Type	Thread Size	Description	1-99	100-499
30F000	N1030	15/32-32	Bush. Mtg. (Enclosed)	.73	.58
30F001	N1030A	15/32-32	Bush. Mtg. (Metal Cap)	1.25	1.00
30F002	N1030B	15/32-32	Bush. Mtg. (Open Top)	.73	.58
30F004	2030B	3 hole mtg.	Flush Mtg.	.59	.46
30F011	N5030	¼-40	Bush. mtg. (enclosed)	1.05	.84

SNAP SEALS

Designed to make standard push-button, toggle, and rotary switches both water-tight and dust-proof. Material: Neoprene. Color: Black. Operating Temperatures: —40°F to +225° F. Bushing dia. for type 1211/5 & 1312/7: ⅜"; type 1111/4: 15/32". Push, toggle & rotary dia.: ¼".

Stk. No.	Type	To Switch	1-99	100-999	1000-2499	2500-4999
30F097	1211/5	Push-button	.46	.36	.26	.22
30F098	1111/4	Toggle				
30F099	1312/7	Rotary				

HEXSEAL

Seats for locking type potentiometers and variable capacitors. Temp. Range: —160°F to +500°F. Shaft size: ¼". Thread size: ⅜-32". Ht. 17/32". Width ⅜".

Stock No.	Type No.	1-99	100-499
30F060	NLK-9030-¼	1.15	.92

HIGH PRESSURE SEALS

Designed for shafts which pass through panels or housings. Meets MIL-B-5423/9. For standard rotary switches. Wt. approx. 1 oz. per 5.

Stock No.	Mfg. No.	Thread Size	Shaft Size	Depth	Hex Size	1-99	100-499
30F013	N-9030-¼	⅜-32	¼"	7/32"	½"	.61	.49
30F014	N-9040-⅛	¼-32	⅛"	13/64"	7/16"	.65	.52
30F015	N-9060-¼	15/32-32	¼"	5/16"	¾"	1.20	.92

BLADED POWER CONNECTORS

Type UP120M. Miniature. Rated 125 V-15 amps to 250 V-10 amps. Meets MIL-C-3767/3. High impact glass-filled melamine insert. 2 parallel blades.
Type UP121M or UP221M. 3 blades gnd. type MIL-C-3767/13.

Stk. No.	Type	1-99	100-499	500-999
30F016	UP120M	.95	.90	.81
30F017	UP121M, UP221M	1.00	.94	.84

HIGH PRESSURE SEALS FOR STANDARD PUSHBUTTON SWITCHES

N-3030
NH-3030

NC-3030

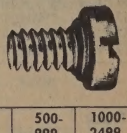
N-5040

4080 Series

Meet MIL-B-5423. High pressure sealing is maintained by a gasket rib, which seats firmly against any panel surface to keep out moisture, dust, or combustible vapors. Temp. Range: —160°F to +500°F.

Stock No.	Mfg. No.	Thread Size	Description	1-99	100-499
30F006	N-3030	15/32,32	Bush. Mtg.	.65	.52
30F007	NC-3030	15/32,32	Bush. Mtg.	.65	.52
30F008	NH-3030	½-32	Bush. Mtg.	.73	.58
30F009	4080	⅝-24	Dial-light seal (trans)	1.55	1.21
30F010	3082	15/32-32	Dial-light seal (trans)	1.55	1.21
30F012	N-5040	¼-40	Bush. Mtg.	1.05	.84
30F065	N-5040G	¼-32	Bush. Mtg.	1.05	.84
30F066	N-5040R	¼-40	Bush. Mtg.	1.05	.84

SLOTTED PAN-HEAD SEELSKREWS



Single unit fasteners which form an absolute seal against any surface. Grooved under head and have a silicone rubber o-ring pressed into the groove. Maintain seal even after frequent removal from equipment. Range: —160°F to +500°F.

Stock No.	Size	Head Depth	Head Dia.	1-99	100-499	500-999	1000-2499
30F018	S4/40x¼"	.069	.220	.145	.1075	.075	.0645
30F019	S4/40x⅜"	.069	.220	.145	.1075	.075	.0655
30F020	S4/40x½"	.069	.220	.145	.1075	.075	.0670
30F039	S4/40x1" z	.069	.220	.145	.1075	.085	.0775
30F021	S6/32x¼"	.083	.271	.145	.1075	.075	.0635
30F022	S6/32x⅜" z	.083	.271	.145	.1075	.075	.0644
30F023	S6/32x½"	.083	.271	.145	.1075	.075	.0655
30F040	S6/32x⅝"	.083	.271	.145	.1075	.085	.0720
30F042	S6/32x⅞"	.083	.271	.145	.1075	.085	.0765
30F043	S6/32x1"	.083	.271	.145	.1075	.085	.0785
30F024	S8/32x⅜"	.097	.323	.145	.1075	.075	.0675
30F025	S8/32x½"	.097	.323	.145	.1075	.085	.0695
30F044	S8/32x⅝"	.097	.323	.145	.1075	.085	.0725
30F045	S8/32x¾"	.097	.323	.145	.1075	.085	.0755
30F047	S8/32x1"	.097	.323	.145	.1075	.085	.0795
30F027	S10/32x⅜"	.113	.374	.177	.135	.1075	.0759
30F028	S10/32x½"	.113	.374	.177	.135	.1075	.0789
30F048	S10/32x⅝"	.113	.374	.177	.135	.1075	.0834
30F029	S10/42x¾"	.113	.374	.177	.135	.1075	.0884
30F051	S10/32x1"	.113	.374	.177	.135	.1075	.0997
30F030	S10/24x⅜"	.113	.374	.177	.135	.1075	.0759
30F055	S10/24x1"	.113	.374	.177	.135	.1075	.0997
30F056	S¼/20x⅜"	.148	.493	.19	.15	.1275	.1155
30F033	S¼/20x½"	.148	.493	.19	.15	.1275	.1155
30F057	S¼/20x⅝"	.148	.493	.19	.15	.1275	.1155
30F058	S¼/20x⅞"	.148	.493	.19	.15	.1275	.1155
30F035	¼/20x1"	.148	.493	.20	.175	.15	.146
30F059	¼/20x1¼"	.148	.493	.20	.175	.15	.146

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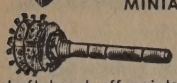
NEWARK carries complete lines of top quality electronic components.

Newark can supply all your needs.

Oak Rotary Switches

MINIATURE SILICONE SWITCHES



Series A. Dual ball, 30° indexing finishes. Meet MIL-S-3786, 200-hr. salt spray finishes. Frame dim. 1"Hx1 5/16"W; 1 3/16" over clips; 1/4" dia. x 2 3/8"L shaft break-off points @ 3/4", 1 1/8", 1 7/8" from mtg. surf., Adj. stop. Sect. spacing, 1st spacer 17/64", 2nd 5/32", 3rd 5/32" approx. 750V peak breakdown voltage 1 amp @ 28 VDC, .5 amp. @ 115 VAC. Av. shpg. wt. 4 oz.

SHORTING—TYPE "A"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F600	399216A	1	1	2-12	5.40	4.52	4.05	3.85	3.60	3.24
57F602	399218A	2	2	2-12	6.90	5.78	5.18	4.92	4.60	4.14
57F606	399222A	1	2	2-6	5.40	5.52	4.05	3.85	3.60	3.24
57F608	399224A	2	4	2-6	6.90	5.78	5.18	4.92	4.60	4.14
57F610	399226A	3	6	2-6	8.70	7.28	6.53	6.20	5.80	5.22
57F612	399234A	1	4	2	5.40	4.52	4.05	3.85	3.60	3.24
57F614	399236A	2	8	2	6.90	5.78	5.18	4.92	4.60	4.14

NON-SHORTING TYPE "A"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F601	399217A	1	1	2-12	5.40	4.52	4.05	3.85	3.60	3.24
57F603	399219A	2	2	2-12	6.90	5.78	5.18	4.92	4.60	4.14
57F605	399221A	3	3	2-12	8.70	7.28	6.53	6.20	5.80	5.22
57F607	399223A	1	2	2-6	5.40	4.52	4.05	3.85	3.60	3.24
57F609	399225A	2	4	2-6	6.90	5.78	5.18	4.92	4.60	4.14
57F611	399227A	3	6	2-6	8.70	7.28	6.53	6.20	5.80	5.22
57F613	399235A	1	4	2	5.40	4.52	4.05	3.85	3.60	3.24
57F615	399237A	2	8	2	6.90	5.78	5.18	4.92	4.60	4.14

SUB MINIATURE PHENOLIC SWITCHES

Series F. Dual ball, 30° indexing. Meet MIL-S3786, 50-Hr. salt spray finishes. Frame dim. 1 5/16" H. x 1 1/4" W; 1 3/8" over clips; 1/4" dia. x 2 3/8" L., shaft break-off points @ 3/4", 1 1/8" from mtg. surf., adj. stop, except 2-pos. fixed stop. Sect. spacing, 1st spacer 5/16". 2nd 3/8" approx. 1000V peak breakdown voltage; break 1 amp @ 28 VDC, 0.5 amp @ 115 VAC. Av. shpg. wt. 3 oz.

SHORTING TYPE "F"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F616	399322F	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F618	399324F	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F620	399326F	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58
57F622	399328F	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F624	399330F	1	3	2-3	2.64	2.21	1.98	1.88	1.76	1.58
57F626	399332F	2	6	2-3	3.18	2.66	2.39	2.27	2.12	1.91
57F628	399334F	1	4	2	2.64	2.21	1.98	1.88	1.76	1.58

NON-SHORTING TYPE "F"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F617	399323F	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F619	399325F	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F621	399327F	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58
57F623	399329F	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F625	399331F	1	3	2-3	2.64	2.21	1.98	1.88	1.76	1.58
57F627	399333F	2	6	2-3	3.18	2.66	2.39	2.27	2.12	1.91
57F629	399335F	1	4	2	2.64	2.21	1.98	1.88	1.76	1.58
57F631	399337F	2	8	2	3.18	2.66	2.39	2.27	2.12	1.91

SUBMINIATURE CERAMIC SWITCHES

Series FC +50 hr. salt spray. Steel and brass parts are cadmium plated and chromate dipped. Phenolic PBE-P per MIL-P-3115; steatite per MIL-I-10A, grade L422 Silicone fiberglass; GSG per MIL-P-997. Contacts: Brass-silver plated. Electrical: Break 1 amp. at 28VDC or 0.5 amp. at 115VAC, resistive. Carry 5 amps.

SHORTING TYPE FC

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-8	10-24	25-49	50-99	100-499
57F632	399366-FC	1	1	2-11	3.22	2.69	2.49	2.38	2.24	2.04
57F640	399374-FC	1	3	2-3	3.22	2.69	2.49	2.38	2.24	2.04

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F633	399367-FC	1	1	2-11	3.22	2.69	2.49	2.38	2.24	2.04
57F635	399369-FC	2	2	2-11	4.78	4.00	3.74	3.58	3.39	3.11
57F637	399371-FC	1	2	2-5	3.22	2.69	2.49	2.38	2.24	2.04
57F641	399375-FC	1	3	2-3	3.22	2.69	2.49	2.38	2.24	2.04
57F639	399373-FC	2	4	2-5	4.78	4.00	3.74	3.58	3.39	3.11
57F643	399377-FC	2	6	2-3	4.78	4.00	3.74	3.58	3.39	3.11
57F647	399381-FC	2	8	2	4.78	4.00	3.74	3.58	3.39	3.11

STANDARD PHENOLIC SWITCHES

Series H. Dual ball, 30° indexing. Meet MIL-S-3786, 50-Hr. salt spray finishes. Frame dim. 1 7/8"H. x 1 19/32"W., 1 13/16" over clips. 1/4" dia. x. 2 3/8"L., shaft breakoff points @ 3/4", 1 1/8", 1 7/8" from mounting surf. Adj. stop. Sect. spacing 1st spacer 1/2"; 2nd 1"; 3rd 1". Approx. 2500V peak break-down voltage. 1 amp @ 28 VDC, .5 amp @ 115 VAC. Av. shpg. wt. 4 oz.

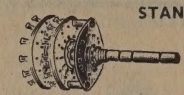
SHORTING TYPES "H"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F684	399512H	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F686	399514H	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F692	399520H	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F690	399518H	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58

NON-SHORTING TYPES "H"

57F685	399513H	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F687	399515H	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F689	399517H	3	3	2-11	4.05	3.70	3.49	3.32	2.70	2.43
57F691	399519H	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58
57F693	399521H	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F695	399523H	3	6	2-5	4.05	3.70	3.49	3.32	2.70	2.43
57F597	399529H	4	4	2-11	4.71	3.94	3.54	3.36	3.14	2.83

STANDARD CERAMIC SWITCHES



STANDARD SERIES HC. 50-Hr. salt spray finishes. Meet MIL-S-3788 Dual ball. 30° indexing. Frame dim. 1 7/8"H x 1 5/8"W. 1 7/8" over clips 1/4" dia. x 2 3/8"L., shaft break-off points @ 3/4, 1 1/8, 1 7/8, from mounting surf. Adj. stop; Sect. spacing 1st spacers 1/2"; 2nd 1 5/16"; 3rd 1". Approx. 2500V. peak break-down voltage, 1 amp @ 28 VDC, .5 amp 115 VAC. Av. Wt., 5 oz.

SHORTING TYPES "HC"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F696	399562HC	1	1	2-11	2.94	2.46	2.21	2.10	1.96	1.76
57F698	399564HC	2	2	2-11	4.17	3.49	3.13	2.97	2.78	2.50
57F700	399566HC	3	3	2-11	5.37	4.49	4.03	3.83	3.58	3.22
57F704	399570HC	2	4	2-5	4.17	3.49	3.13	2.97	2.78	2.50
57F540	399574HC	1	1	2-6	2.94	2.46	2.21	2.10	1.96	1.76

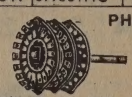
NON-SHORTING TYPES "HC"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F697	399563HC	1	1	2-11	2.94	2.46	2.21	2.10	1.96	1.76
57F699	399565HC	2	2	2-11	4.17	3.49	3.13	2.97	2.78	2.50
57F701	399567HC	3	3	2-11	5.37	4.49	4.03	3.83	3.58	3.22
57F703	399569HC	1	2	2-5	2.94	2.46	2.21	2.10	1.96	1.76
57F705	399571HC	2	4	2-5	4.17	3.49	3.13	2.97	2.78	2.50

60° HAM SWITCHES (CERAMIC, NON-SHORTING)

57F541	399581HC	3	3	2-6	4.37	3.66	3.29	3.13	2.93	2.64

PHENOLIC 17 POS. SWITCHES



Series I. Single ball, 20° indexing. 50-hr. salt spray finishes. Meet MIL-S-3786. Frame dim. 2 5/16"Hx1 31/31"W. 2 1/8 over clips. 1/4" dia. x 2 3/8"L., shaft, break-off points @ 3/4, 1 1/8, 1 7/8, from mounting surf. Adj. stop 2-17 pos. adjustable. Sect. spacing all 1/2". Approx. 1000V. peak breakdown voltage 1 amp @ 28VDC, 5 amps @ 115 VAC. Av. shpg. wt., 4 oz.

SHORTING TYPES "L"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F708	399608L	1	1	2-17	2.34	1.96	1.76	1.67	1.56	1.40
57F710	399610L	2	2	2-17	3.36	2.81	2.52	2.39	2.24	2.02
57F714	399614L	4	4	2-17	5.07	4.24	3.75	3.57	3.42	3.09

NON-SHORTING TYPES "L"

57F709	399609L	1	1	2-17	2.34	1.96	1.76	1.67	1.56	1.40
57F711	399611L	2	2	2-17	3.36	2.81	2.52	2.39	2.24	2.02
57F713	399613L	3	3	2-17	4.38	3.67	3.29	3.13	2.92	2.63
57F715	399615L	4	4	2-17	5.07	4.24	3.75	3.57	3.42	3.09

PHENOLIC 23 POS. SWITCHES

Series MF. 50 hour salt spray. MIL-P-3115. Ball type indexing, one fixed and adjustable stop per switch. Break one amp at 28 VDC or 0.5 amp at 110 VAC, resistive. Carry 5 amps.

SHORTING TYPE "MF" SERIES

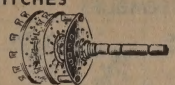
Stk. No.	Type	Sec.	Poles Tot.	Poles pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F716	399658-MF	1	1	2-23	2.77	2.32	2.14	2.05	1.93	1.76
57F718	399660-MF	2	2	2-23	3.96	3.31	3.06	2.93	2.76	2.52
57F722	399664-MF	4	4	2-23	5.39	4.51	4.06	3.86	3.61	3.25

NON SHORTING TYPE "MF" SERIES

57F717	399659-MF	1	1	2-23	2.77	2.32	2.14	2.05	1.93	1.76
57F719	399661-MF	2	2	2-23	3.96	3.31	3.06	2.93	2.76	2.52
57F721	399663-MF	3	3	2-23	4.71	3.94	3.54	3.36	3.14	2.83
57F723	399665-MF	4	4	2-23	5.39	4.51	4.06	3.86	3.61	3.25

Oak Rotary Switches, Assemblies

CERAMIC MULTI-SECTION SWITCHES



Series JC. Single bah, 30° indexing. Meet MIL-S3786. 50-Hr. salt spray finishes. Frame dim. 1 17/32" H. x 1 3/8" W., 1 1/2" over clips. 1/4" dia. x 2 3/8" L., shaft break-off points @ 3/4", 1 1/8", 1 7/8" from mtg. surf., adj. stop. Sect. spacing, 1st spaces 3/8", 2nd 7/16", 3rd 15/32", 4th 15/32"; approx. 1800V peak break-down voltage; break 1 amp @ 28 VDC, .5 amp @ 115VAC. Av. shpg wt., 5 oz.

SHORTING TYPES JC

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F666	399468JC	1	1	2-12	2.58	2.16	1.97	1.88	1.76	1.60
57F668	399470JC	2	2	2-12	3.68	3.08	2.80	2.67	2.50	2.26
57F674	399476JC	1	2	2-6	2.58	2.16	1.97	1.88	1.76	1.60
57F676	399478JC	2	4	2-6	3.68	3.08	2.80	2.67	2.50	2.26
57F678	399480JC	3	6	2-6	4.66	3.90	3.54	3.37	3.16	2.86

NON-SHORTING TYPES JC

57F667	399469JC	1	1	2-12	2.58	2.16	1.97	1.88	1.76	1.60
57F669	399471JC	2	2	2-12	3.68	3.08	2.80	2.67	2.50	2.26
57F671	399473JC	3	3	2-12	4.66	3.90	3.54	3.37	3.16	2.86
57F673	399475JC	4	4	2-12	5.65	4.73	4.30	4.10	3.85	3.49
57F675	399477JC	1	2	2-6	2.58	2.16	1.97	1.88	1.76	1.60
57F677	399479JC	2	4	2-6	3.68	3.08	2.80	2.67	2.50	2.26
57F679	399481JC	3	6	2-6	4.66	3.90	3.54	3.37	3.16	2.86
57F681	399485JC	1	6	2	2.58	2.16	1.97	1.88	1.76	1.60
57F683	399487JC	2	12	2	3.68	3.08	2.80	2.67	2.50	2.26
57F856	399697JC	2	6	2-5	3.68	3.08	2.86	2.68	2.50	2.32
57F858	399699JC	4	8	2-5	5.65	4.73	4.40	4.12	3.85	3.58
57F543	399705JC	1	3	2-5	2.58	2.16	1.97	1.88	1.76	1.64
57F547	399709JC	3	9	2-5	4.71	3.94	3.59	3.42	3.21	2.91
57F549	399711JC	2	10	2-3	3.68	3.08	2.80	2.67	2.50	2.26
57F551	399713JC	5	10	2-6	5.78	4.84	4.40	4.22	3.94	3.65
57F553	399715JC	6	12	2-6	7.57	6.34	5.67	5.42	5.03	4.66
57F555	399717JC	3	15	2-3	4.71	3.94	3.59	3.42	3.21	2.91
57F557	399719JC	3	18	2	4.71	3.94	3.59	3.42	3.21	2.91

CONSECUTIVE SHORTING TYPE JC & R

9 active contacts. All open in full CCW position & progressively picked-up & shorted to common contact.

Stk. No.	Type	Poles Sec.	Poles Tot.	Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F559	399722JC	1	1	2-10	2.32	1.94	1.78	1.70	1.60	1.46
57F578	399748K	1	1	2-10	1.95	1.63	1.49	1.42	1.33	1.21

OPPOSITE ROTATION CONSECUTIVE SHORTING TYPES

9 active contacts, all shorted to common contact CCW position, & progressively opened and dropped.

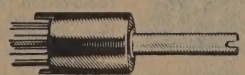
57F558	399720JC	1	1	2-10	2.32	1.94	1.78	1.70	1.60	1.46

SUBMINIATURE ROTARY SWITCHES

Ultra-compact switches provide superior insulating quality, with dimensional stability even under severe environmental conditions. For all applications where extremely small size is essential. Long-life silver alloy contacts are gold plated to prevent tarnish. Double-wiping design, with frame components of materials and finishes to withstand 50-hour salt spray. Exclusive Tri-Ball detent mechanism, with helical spring provides approximately 16 in-oz. torque. Offers negligible contact noise and circuit resistance thruout 10,000 cycle life. All are non-shorting.

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F887	399633-511	1	1	2-12	9.43	8.44	7.28	5.98	4.53	3.43
57F888	399634-512	2	2	2-12	12.01	10.74	9.27	7.56	5.96	4.67
57F889	399639-511	1	2	2-6	9.43	8.44	7.28	5.98	4.53	3.43
57F891	399635-513	3	3	2-12	14.79	13.24	11.42	9.34	7.49	5.96
57F892	399640-512	2	4	2-6	12.01	10.74	9.27	7.56	5.96	4.67
57F894	399646-512	2	6	2-4	12.01	10.74	9.27	7.56	5.96	4.67
57F895	399641-513	3	6	2-6	14.79	13.24	11.42	9.34	7.49	5.96
57F896	399647-513	3	9	2-4	14.79	13.24	11.42	9.34	7.49	5.96

MICROMINIATURE 10 POSITION SWITCH



Single pole, 10 position, with continuous rotation and non-shorting contacts. Free-standing on PC, board, with leads that can be dip soldered. Up to 1/2 AMP at 28 VDC; 0-10 AMP at 120 VAC noninductive. Breakdown voltage, 500 VAC between contacts to ground; Slotted 1/8" diameter, plain round poly sulfone plastic shaft. Glass-filled diallyl pathalate conforming with MIL-M-14, usable to 85°C. Provides smooth "feel" and constant torque through switch life. Spring-tempered copper alloy and spring steel with heavy gold plating. Fully tested for 5000 cycles. Size .300" dia. x 1/2" above panel. Shock tested at over 23,000 G's.

Stk. No.	Type	1-4	5-9	10-19	20-34	35-59	60-99
57F886	399502-MMI	9.85	8.65	7.55	6.65	5.75	4.95

PHENOLIC MULTI-SECTION SWITCHES

Series K. Meet MIL S-3786. Single ball 30° indexing. 1 9/16 over clips; 1/4" dia. x 2 3/8" L., bushing 3/8"-32 thread, 3/8" L. nut & washer. 1st spacer 3/8", 2nd, 3rd, 4th 1/2" ea. 1800 V, peak breakdown voltage; break 1 amp. @ 28 VDC, 0.5 amp. @ 115 VAC. Av. shpg. wt. 4 oz.

SHORTING TYPE "K"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F648	399418K	1	1	2-12	1.95	1.63	1.49	1.42	1.33	1.21
57F650	399420K	2	2	2-12	2.78	2.33	2.16	2.06	1.89	1.71
57F656	399426K	1	2	2-6	1.95	1.63	1.49	1.42	1.33	1.21
57F658	399428K	2	4	2-6	2.78	2.33	2.16	2.06	1.89	1.71
57F660	399430K	3	6	2-6	3.52	2.95	2.68	2.55	2.40	2.18
57F652	399422K	3	3	2-12	3.52	2.95	2.68	2.55	2.40	2.18
57F654	399424K	4	4	2-12	4.13	3.46	3.14	2.99	2.81	2.55
57F863	399494K	3	9	2-5	4.13	3.46	3.14	2.99	2.81	2.55
57F562	399732K	5	5	2-11	4.88	4.08	3.71	3.55	3.32	3'09
57F568	399738K	4	8	2-5	4.15	3.47	3.16	3.01	2.83	2.57
57F570	399740K	3	12	2	3.54	2.96	2.70	2.57	2.42	2.20

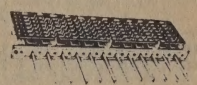
NON-SHORTING TYPE "K"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F649	399419K	1	1	2-12	1.95	1.63	1.49	1.42	1.33	1.21
57F651	399421K	2	2	2-12	2.78	2.33	2.16	2.06	1.89	1.71
57F653	399423K	3	3	2-12	3.52	2.95	2.68	2.55	2.40	2.18
57F655	399425K	4	4	2-12	4.13	3.46	3.14	2.99	2.81	2.55
57F657	399427K	1	2	2-6	1.95	1.63	1.49	1.42	1.33	1.21
57F659	399429K	2	4	2-6	2.78	2.33	2.16	2.06	1.89	1.71
57F661	399431K	3	6	2-6	3.52	2.75	2.68	2.55	2.40	2.18
57F663	399433K	1	6	2	1.95	1.63	1.49	1.42	1.33	1.21
57F665	399435K	2	12	2	2.78	2.33	2.16	2.06	1.89	1.71
57F860	399491K	1	3	2-5	1.95	1.69	1.49	1.42	1.33	1.21
57F862	399493K	2	6	2-5	3.45	2.89	2.67	2.53	2.35	2.19
57F864	399495K	3	9	2-5	4.13	3.46	3.14	2.99	2.81	2.55
57F563	399733K	5	5	2-11	4.88	4.08	3.71	3.55	3.32	3.09
57F565	399735K	2	6	2-3	2.78	2.33	2.16	2.06	1.89	1.71
57F567	399737K	6	6	2-11	5.58	4.67	4.23	4.05	3.78	3.51
57F571	399741K	3	12	2	3.54	2.96	2.70	2.57	2.42	2.20
57F573	399743K	5	10	2-5	4.88	4.08	3.71	3.55	3.32	3.09
57F575	399745K	6	12	2-5	5.58	4.67	4.23	4.05	3.78	3.51

60° INDEXING SWITCHES (PHENOLIC, NON-SHORTING)

57F577	399747K	1	1	2-6	1.95	1.63	1.49	1.42	1.33	1.21
57F579	399749K	2	1	2-6	2.78	2.33	2.12	2.02	1.90	1.72

130 PUSHBUTTON SWITCH



4 PDT per plunger. 2 to 12 buttons. 8 to 48 poles. Mechanism permits modification to momentary operations. 5/8 and 3/4" button spacing. Push rods extend 2" from mounting surface. Rated, 1 amp at 28 VDC operation; 0.5 amp at 110 VAC. Carries 5 A. Insulation: Phenolic punching stock, conforming to L-P-513 grade PBG. Slider insulators: PBE-P.

3/4" BUTTON NON-SHORTING

57F825	399851-130	2	8	4.86	4.35	4.05	3.24	2.75	2.11
57F826	399853-130	3	12	6.54	5.87	5.45	4.36	3.71	2.83
57F828	399855-130	4	16	8.16	7.33	6.80	5.44	4.62	3.54
57F829	399857-130	5	20	9.99	9.00	8.33	6.66	5.66	4.33
57F831	399859-130	6	24	11.70	10.50	9.75	7.80	6.63	5.07
57F832	399861-130	7	28	13.41	12.05	11.18	8.94	7.60	5.81
57F834	399863-130	8	32	15.09	13.50	12.58	10.06	8.55	6.54
57F837	399867-130	10	40	18.87	17.00	15.73	12.58	10.69	8.18
57F838	399869-130	11	44	21.15	18.90	17.63	14.10	11.99	9.16
57F840	399871-130	12	48	22.68	20.40	18.90	15.12	12.85	9.82

5/8" BUTTON NON-SHORTING

Stk. No.	Type	No. Btns.	Tot. Poles		5-9	10-24	25-49	50-99	100-499
57F869	399875-130	3	12	6.54	5.87	5.45	4.36	3.71	2.83
57F871	399877-130	4	16	8.16	7.33	6.80	5.44	4.62	3.54
57F872	399879-130	5	20	9.99	9.00	8.33	6.66	5.66	4.33
57F874	399881-130	6	24	11.70	10.50	9.75	7.80	6.63	5.07
57F875	399883-130	7	28	13.41	12.05	11.18	8.94	7.60	5.81
57F877	399885-130	8	32	15.09	13.50	12.58	10.06	8.55	6.54

DELUXE BUTTONS FOR 130 SWITCH

Lighting accomplished by flooding back of panel with light. Translucent buttons light up when depressed.

57F841. Type 399930-001. NET. EACH 18

TYPE 200 SERIES SLIDE SWITCHES

30% narrower than ordinary slide switches; gold-plated, Double-Wiping contacts which are self-cleaning. Rated 3 amps at 125 VAC operation. Non-Shorting.

Stk. No.	Type	Funct.	Cont.	1-4	5-9	10-24	25-49	50-99	100-499
57F816	399275-275	SPST	2	.21	.19	.18	.17	.16	.16
57F817	399276-276	DPST	4	.25	.23	.22	.21	.20	.19
57F818	399277-277	SPDT	3	.21	.19	.18	.17	.16	.16
57F819	399278-278	DPDT	6	.26	.24	.23	.22	.21	.20

Oak Switches

Complete hardware consisting of mounting nut and lockwasher, stop washer, assembly tie rods and spacers, washers, nuts. Type A uses stainless steel and brass nickel plated parts to meet 200-hour salt spray. All others use steel and brass parts cadmium plated and chromate dipped to meet 50-hour salt spary. (*) Dimension from mounting surface to rear of shaft. Shpg. wt. 3 oz.

SHAFT & INDEX ASSEMBLIES

Stk. No.	Type	Sec.	*	Pole Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F776	399029A	A	6 3/64	2-12	2.25	1.88	1.69	1.60	1.50	1.35
57F795	399022A	A	4 13/32	2-12	3.40	2.85	2.65	2.54	2.40	2.20
57F777	399039F,FC	F	1 1/4	2-12	1.56	1.31	1.17	1.11	1.04	.94
57F796	399021F,FC	F	6 1/8	2-12	2.49	2.08	1.88	1.79	1.66	1.50
57F778	399043K,JC	K,JC	2 17/32	2-12	1.77	1.48	1.41	1.36	1.29	1.19
57F797	399024K,JC	K,JC	6 1/8	2-12	2.37	1.98	1.78	1.69	1.58	1.42
57F779	399785H,HC	H	3 3/32	2-12	1.76	1.47	1.34	1.28	1.19	1.08
57F798	399023H,HC	H	6 1/8	2-12	2.64	2.21	1.98	1.88	1.76	1.59
57F780	399789L	L	2 13/32	2-18	2.17	1.82	1.69	1.62	1.52	1.39
57F799	399025L	L	6 1/8	2-18	2.73	2.28	2.06	1.96	1.82	1.64
57F781	399793MF	MF	2 17/32	2-24	2.17	1.82	1.69	1.62	1.52	1.39
57F800	399026MF	MF	6 1/8	2-24	2.88	2.41	2.16	2.06	1.92	1.73

SECTIONS

SHORTING "A"

Stock No.	Type	Sec.	Tot	Pos	1-4	5-9	10-24	25-49	50-49	100-499
57F730	399032A	A	1	2-12	3.09	2.59	2.32	2.20	2.06	1.85
57F732	399034A	A	2	2-6	3.09	2.59	2.32	2.20	2.06	1.85

SHORTING "F"

57F736	399070F	F	1	2-11	1.21	1.01	.94	.90	.84	.77
57F738	399072F	F	2	2-5	1.21	1.01	.94	.90	.84	.77

SHORTING "FC"

57F744	399090C	F	1	2-11	1.70	1.42	1.35	1.30	1.23	1.19
57F746	399032C	F	2	2-5	1.70	1.42	1.35	1.30	1.23	1.19

SHORTING "K"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F 752	399130K	K	1	2-12	.94	.79	.72	.69	.64	.63
57F754	399132K	K	2	2-6	.94	.79	.72	.69	.64	.63
57F584	399244K	K	2	2-5	.94	.79	.72	.69	.64	.63

SHORTING "JC"

57F758	399150JC	JC	1	2-12	1.31	1.10	1.00	.95	.89	.81

SHORTING "H"

57F764	399750H	H	1	2-11	1.11	.93	.84	.80	.74	.67
57F766	399752H	H	2	2-5	1.11	.93	.84	.80	.74	.67

SHORTING "HC"

57F768	399760HC	HC	1	2-11	1.41	1.18	1.06	1.01	.94	.84
57F770	399762HC	HC	2	2-5	1.41	1.18	1.06	1.01	.94	.84

SHORTING "L"

57F772	399172L	L	1	2-17	1.19	1.00	.91	.87	.81	.74

SHORTING "MF"

57F774	399180MF	MF	1	2-23	1.33	1.11	1.03	.98	.93	.85

NON-SHORTING "A"

Stock No.	Type	Sec.	Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F731	399033A	A	1	2-12	3.09	2.59	2.32	2.20	2.06	1.85
57F733	399035A	A	2	2-6	3.09	2.59	2.32	2.20	2.06	1.85

NON-SHORTING "F"

57F737	399071F	F	1	2-11	1.21	1.01	.94	.90	.84	.77
57F739	399073F	F	2	2-5	1.21	1.01	.94	.90	.84	.77
57F741	399075F	F	3	2-3	1.21	1.01	.94	.90	.84	.77
57F743	399077F	F	4	2	1.21	1.01	.94	.90	.84	.77

NON-SHORTING "FC"

57F745	399091FC	FC	1	2-11	1.70	1.42	1.35	1.30	1.23	1.19
57F747	399093FC	FC	2	2-5	1.70	1.42	1.35	1.30	1.23	1.19
57F749	399095FC	FC	3	2-3	1.70	1.42	1.35	1.30	1.23	1.19

NON-SHORTING "K"

57F753	399131K	K	1	2-12	.94	.79	.72	.69	.64	.63
57F755	399133K	K	2	2-6	.94	.79	.72	.69	.64	.63
57F757	399135K	K	6	2	.94	.79	.72	.69	.64	.63
57F583	339243K	K	1	2-11	.94	.79	.72	.69	.64	.63
57F585	399245K	K	2	2-5	.94	.79	.72	.69	.64	.63
57F587	399247K	K	3	2-3	.94	.79	.72	.69	.64	.63
57F885	399255K	K	3	2-5	.94	.79	.72	.69	.64	.63

NON-SHORTING "JC"

57F759	399151JC	JC	1	2-12	1.31	1.10	1.00	.95	.89	.81
57F591	399445JC	JC	3	2-5	1.31	1.10	1.00	.95	.89	.81
57F593	399447JC	JC	5	2-3	1.31	1.10	1.00	.95	.89	.81

NON-SHORTING "H"

57F765	399751H	H	1	2-11	1.11	.93	.84	.80	.74	.67
57F767	399753H	H	2	2-5	1.11	.93	.84	.80	.74	.67
57F595	399769H	H	4	2	1.11	.93	.84	.80	.74	.67

NON-SHORTING "HC"

57F769	399761HC	HC	1	2-11	1.41	1.18	1.06	1.01	.94	.84
57F771	399763HC	HC	2	2-5	1.41	1.18	1.06	1.01	.94	.84

NON-SHORTING "L"

57F773	399173L	L	1	2-17	1.19	1.00	.91	.87	.81	.74

NON-SHORTING "MF"

57F775	399181MF	MF	1	2-23	1.33	1.11	1.03	.98	.93	.85

SPECIAL FUNCTIONS SECTIONS

Same dimensions and materials as complete switches. Wt. 2 oz.

10 Posit. Consecutive Shorting Function—Type A

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-499
57F782	399056A	2.10	1.76	1.58	1.50	1.40	1.26

12 Continuous Positions

Binary Coded Decimal Output Switch—Type A, Non-Shorting.

57F783	399061A	2.10	1.76	1.58	1.50	1.40	1.26

TYPE 189 LEVER SWITCHES

2 poles, 3 positions. Double wiping contacts. Single sect. Gold pltd. contacts. *Shorting *Non-Shorting.

Stk. No	Type	Poles	Pos.	Index	1-4	5-9	10-24	25-49	50-99	100-499
57F802	399161-189**	2	3	Positive	1.31	1.10	1.00	.95	.89	.85

TYPE 184 LEVER SWITCHES

5 & 6 poles, 2 & 3 positions. Molded stator adapts to miniature circuitry. Features Double-Wiping gold plated contacts. *Shorting **Non-Shorting.

Stk. No.	Type	Poles	Pos.	Index	1-4	5-9	10-24	25-49	50-49	100-499
57F803	399162-184*	5	3	Positive	4.94	4.13	3.60	3.45	2.82	1.83
57F805	399164-184*	6	2	Positive	4.90	4.10	3.57	3.43	3.22	2.10
57F804	399163-184**	5	3	Positive	4.94	4.13	3.60	3.45	2.82	1.83
57F806	399165-184**	6	2	Positive	4.90	4.10	3.57	3.43	3.22	2.10

Knob for type 189-184 lever switch 19F2410 NET .15

SPECIAL FUNCTIONS SECTIONS

12 Continuous Positions

Resistor Decade—Type A, Non-Shorting

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-499
57F784	399057A	2.10	1.76	1.58	1.50	1.40	1.26

12 Continuous Positions

Capacities Decade—Type A, Non-Shorting

57F785	399059A	2.10	1.76	1.58	1.50	1.40	1.26

TYPE 20 SERIES ROTARY SWITCHES

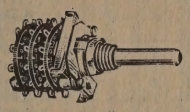
Economical switches provide more flexibility and adaptability to circuit design. Ideally suited for all light duty circuit switching such as radio-phono, stereo channel reversing, meters, speakers and related equipment. Shaft is 2 3/8" long. Grooved for break-off at 3/4", 1 1/8" and 1 7/8" from the mounting surface.

Stk. No.	Type	Poles	Pos.	Index.	1-4	5-9	10-24	25 49	50-99	100-499
57F809	399190-23*	1	2	Positive	1.13	.95	.86	.82	.77	.70
57F810	399192-27*	1	3	Positive	1.13	.95	.86	.82	.77	.70
57F813	399196-29*	1	4	Positive	1.13	.95	.86	.82	.77	.70
57F811	399194-22*	2	2	Positive	1.13	.95	.86	.82	.77	.70
57F815	399198-28*	2	3	Positive	1.13	.95	.86	.82	.77	.70
57F812	399195-29**	1	4	Positive	1.13	.95	.86	.82	.77	.70
57F814	399197-22**	2	2	Spr. Ret.	1.13	.95	.86	.82	.77	.70
57F808	399189-28**	2	3	To Cntr.	1.62	1.36	1.13	1.06	.97	.84

Centralab Switches

CENTRALAB
Electronics Division
GLOBE-UNION INC.

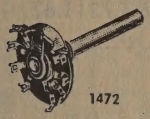
PSA SUB-MINIATURE ROTARY SWITCHES



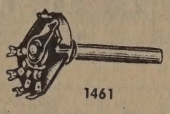
Index mechanism with adjustable stops for extra switching arrangement and versatility. Bushing: 3/8". Index angle: positive 30°. Index stop strength: 10 inch pounds. Section spacing: 9/32" between front plate and clip surface of first section, 5/32" spacing between sections. Insulation: Diallyl Phthalate with high quality molded thermosetting plastic type SDG per MIL-M-14F. Resistive load: 0.550 amps at 28 volts VDC; 170 ma. at 115 VAC. Weight of each switch is less than one ounce.

Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Poles	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F700	PSA-200	22F712	PSA-201	1	2-12	5.28	4.40	3.96	3.76	3.52	3.17
22F701	PSA-202	22F713	PSA-203	2	2-6	5.28	4.40	3.96	3.76	3.52	3.17
22F702	PSA-204	22F714	PSA-205	2	2-12	6.60	5.50	4.95	4.71	4.40	3.96
22F703	PSA-206	22F715	PSA-207	3	2-5	5.28	4.40	3.96	3.76	3.52	3.17
22F704	PSA-208	22F716	PSA-209	3	2-12	7.92	6.60	5.94	5.64	5.28	4.75
22F705	PSA-210	22F717	PSA-211	4	2-6	6.60	5.50	4.95	4.71	4.40	3.96
22F706	PSA-214	22F718	PSA-215	5	2-3	5.28	4.40	3.96	3.76	3.52	3.17
22F707	PSA-220	22F719	PSA-221	6	2-5	6.60	5.50	4.95	4.71	4.40	3.96
22F708	PSA-222	22F720	PSA-223	6	2-6	7.92	6.60	5.94	5.64	5.28	4.75
22F709	PSA-228	22F721	PSA-229	9	2-5	7.92	6.60	5.94	5.64	5.28	4.75
22F710	PSA-230	22F722	PSA-231	10	2-3	7.92	6.60	5.94	5.64	5.28	4.75
22F711	PSA-238	22F723	PSA-239	15	2-3	8.58	7.15	6.44	6.11	5.75	5.15

GENERAL PURPOSE SWITCHES



1472

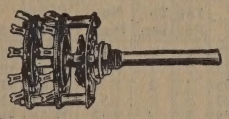


1461

Die-cast, one piece frame except 1463, 1464, 1465, stamped steel frames. Make and break resistive load; 230 MA @ 115 VAC-RMS; 1.5 amps @ 28VDC. Pos. indexing exc. 1463 and 1464. Spring return. 1463, 1464 and 1472 non-shorting type, others shorting. Ship. wt., 5 oz.

Stk.No.	Type	Poles	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F574	1460	1	2						
22F575	1461	1	1						
22F576	1462	2	2	1.25	1.01	.95	.90	.84	.75
22F577	1463	1	2						
22F578	1464	2	2						
22F564	1465	1	4	2.09	1.74	1.57	1.50	1.41	1.25
22F585	1472	2	3	1.25	1.01	.95	.90	.84	.75
22F586	1473	2	3	1.25	1.01	.95	.90	.84	.75
22F587	1483	1	3	.88	.74	.66	.63	.58	.53
22F588	1484	1	3	1.03	.86	.78	.74	.69	.62

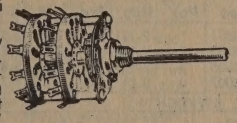
ROTARY SELECTOR SWITCHES—PHENOLIC INSULATION



Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting bushings 3/8-32 NEF-2A thread, 3/8" long. Shafts 17/8" from end of bushing. Positive 30° index with adjustable stop. Size and current rating same as 2500 series. Breakdown voltage 1000 VAC. includes pointer knob, nut and lockwasher. Shpg. wt., 4 oz. per section.

Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Tot. Pls.	Tot. Sec.	No. Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F422	1400	22F438	1401	1	1	2-6						
22F423	1402	22F439	1403	1	1	2-11	2.90	2.42	2.18	2.08	1.94	1.74
22F424	1404	22F440	1405	2	1	2-5						
22F425	1406	22F441	1407	3	1	2-3						
22F426	1408	22F442	1409	4	1	2						
22F427	1410	22F443	1411	2	2	2-6						
22F428	1412	22F444	1413	2	2	2-11	3.54	2.95	2.66	2.53	2.37	2.12
22F429	1414	22F445	1415	4	2	2-5						
22F430	1416	22F446	1417	6	2	2-3						
22F431	1418	22F447	1419	8	2	2						
22F432	1420	22F448	1421	3	3	2-6						
22F433	1422	22F449	1423	3	3	2-11	4.51	3.75	3.39	3.22	3.00	2.70
22F434	1424	22F450	1425	6	3	2-5						
22F435	1426	22F451	1427	4	4	2-6						
22F436	1428	22F452	1429	4	4	2-11	5.19	4.32	3.89	3.71	3.47	3.10
22F437	1430	22F453	1431	8	4	2-5						

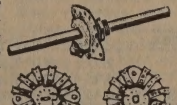
ROTARY SELECTOR SWITCHES—STEATITE INSULATION



Series 2500. Compact, efficient, shorting and non-shorting rotary selector switches. Low loss steatite wafers. Positive 30° index. Adjustable stop. Bushing 3/8"-32thd. 3/8" lg. Shaft 1/4" full round. 17/8" from bushing. Dia. 1 22/32"x17/8". Rated 2.75 amps at 15 VDC, 350 ma. at 115 VAC. Breakdown voltage 1500 VAC. Includes pointer knob, nut and lockwasher. Shpg. wt., 4 oz. per section.

Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Tot. Pls.	Tot. Sec.	No. Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F400	2500	22F411	2501	1	1	2-6						
22F401	2502	22F412	2503	1	1	2-11	3.26	2.72	2.44	2.33	2.17	1.95
22F402	2504	22F413	2505	2	1	2-5						
22F403	2506	22F414	2507	3	1	2-3						
22F404	2510	22F415	2511	2	2	2-6						
22F405	2512	22F416	2513	2	2	2-11	4.64	3.87	3.49	3.32	3.09	2.78
22F406	2514	22F417	2515	4	2	2-5						
22F407	2516	22F418	2517	6	2	2-3						
22F408	2520	22F419	2521	3	3	2-6						
22F409	2522	22F420	2523	3	3	2-11	5.96	4.97	4.48	4.27	3.98	3.56
22F410	2524	22F421	2525	6	3	2-5						

SEPARATE CERAMIC SECTIONS



Separate sections. Use with index assemblies P-270, P-271 and P-272, below to assemble switches with special characteristics. Special section PISD, one off position, nine progressively shorting positions. Sections NSD and PSD combine for resistance decade. Section OSD special for capacitance decade. Special sections GGD and FFD all unused contacts connected and shorted. Wt., 4 oz.

Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Poles	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F482	TD	22F488	XD	1	2-6						
22F483	UD	22F489	YD	1	2-11						
22F484	RD	22F490	RRD	2	2-5						
22F485	SD	22F491	SSD	3	2-3						
22F486	VD	22F492	ZD	4	2	1.56	1.30	1.18	1.12	1.05	.94
22F495	PISD	22F538	FFD	See Text	.....						
22F496	OSD	.....	.....	See Text	.....						
22F493	NSD	.....	.....	See Text	.....						
22F494	PSD	.....	.....	See Text	.....						
22F487	GGD	.....	.....	See Text	.....						

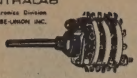
INDEX ASSEMBLIES

Use with above sections. Pos. 30° index, adjustable stop includes all hardware and knob. Shipping weight, 3 oz.

Stk. No.	Type	No. Sec.	1-4	5-9	10-24	25-49	50-99	100-249
		1-3	1.82	1.52	1.36	1.30	1.21	1.09
22F541	P-271	3-5	2.31	1.93	1.74	1.65	1.54	1.39
22F542	P-272	5-10	3.14	2.62	2.35	2.23	2.09	1.88

Centralab Switches

SUB-MINIATURE CERAMIC SWITCHES



Ultra-small ceramic rotary switches ideal for use in transistor circuits, aircraft instruments, etc. Bolt construction with single hole bushing mount; locating lug on 3/8" radius; 1/8" D. shaft, cadmium plated steel, 1 1/4" long from mounting surface. Index angle positive 30° with index stop strength of 10 in.-pounds. 5/32" spacing between front plate and first section. Make, break, resistive load; .550 amps @ 28 VDC; 170 ma at 115 VAC (based on 10,000 cycles). Avg. initial resistance 5 milliohms. Includes mounting nut, lockwasher, and 11/16" D. black pointer knob. Wt., 2 oz. per section.

Shorting Stk.No.	Shorting Type	Non-Short. Stk.No.	Non-Short. Type	Sec.	Total Poles	No. Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F761	PS-100	22F773	PS-101	1	1	11	5.54	4.62	4.16	3.96	3.70	3.32
22F762	PS-102	22F774	PS-103	2	2	11	6.90	5.78	5.19	4.95	4.62	4.15
22F763	PS-104	22F775	PS-105	1	2	5	5.54	4.62	4.16	3.96	3.70	3.32
22F764	PS-106	22F776	PS-107	3	3	11	8.32	6.93	6.24	5.95	5.54	4.97
22F765	PS-108	22F777	PS-109	1	3	3	5.54	4.62	4.16	3.96	3.70	3.32
22F766	PS-110	22F778	PS-111	2	4	5	6.90	5.78	5.19	4.95	4.62	4.15
22F767	PS-112	22F779	PS-113	1	4	2	5.54	4.62	4.16	3.96	3.70	3.32
22F768	PS-114	22F780	PS-115	3	6	5	8.32	6.93	6.24	5.95	5.54	4.97
22F769	PS-116	22F781	PS-117	2	6	3	6.90	5.78	5.19	4.95	4.62	4.15
22F770	PS-118	22F782	PS-119	2	8	2	8.32	6.93	6.24	5.95	5.54	4.97
22F771	PS-120	22F783	PS-121	3	9	3	8.32	6.93	6.24	5.95	5.54	4.97
22F772	PS-122	22F784	PS-123	3	12	2	8.32	6.93	6.24	5.95	5.54	4.97

SEPARATE ASSEMBLY SECTIONS FOR SUB-MINIATURE SWITCHES

These assembly sections are for use with shaft and index assemblies listed below (P-501 thru P-511). Carry same ratings as above switches. Shpg. wt. 2 Oz.

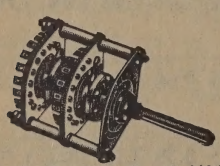
Shorting Stk. No.	Shorting Type	Non-Short. Stk. No.	Non-Short. Type	Tot. Pls.	No. Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F785	PS-20	22F789	PS-21	1	2-11						
22F786	PS-22	22F790	PS-23	2	2-5	2.42	2.01	1.82	1.73	1.62	1.45
22F787	PS-24	22F791	PS-25	3	2-3						
.....	.....	22F792	PS-27	4	2						

SHAFT AND INDEX ASSEMBLIES

Hardware for sub-miniature switches. All index assemblies listed are designed for a maximum 3 sections and contain one index and shaft assembly, one P-106 pointer knob, six e;ds'' spacers, two q;ah'' spacers, two 1/8'' spacers, two e;ah'' spacers, two 1 1/8'' tie bolts, nuts, lockwashers, washers, and sixteen plastic spacer washers. Shipping weight, 2 oz.

Stock No.	Type	Ind.	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F681	P-501	30°	2						
22F682	P-502	30°	3						
22F683	P-503	30°	4						
22F684	P-504	30°	5						
22F685	P-505	30°	6	2.15	1.79	1.62	1.54	1.43	1.29
22F686	P-506	30°	7						
22F687	P-507	30°	8						
22F688	P-508	30°	9						
22F689	P-509	30°	10						
22F690	P-510	30°	11						
22F691	P-511	30°	con't.						

HEAVY DUTY ROTARY POWER SWITCHES



Steatite insulation; 3/8'' bushing mounted; 1/4'' D shaft, double flat steel. 2 1/4'' L. from mounting surface. Index angle is 20° with 2 adjustable stops. 1'' spacing between front plate and first section. Make and break res. load; 9 amps @ 110 VAC-RMS; 15 MA @ 2500 VAC-RMS; 30 amp. @ 5 VDC, 20 amp. @ 12 VDC; 11 amp. @ 28 VDC. Contact resistance 7 miliohms with rotational life 25,000 hz min. Comes with 2'' double setscrew pointer knob, dial plate, adjustable stop pin and nut and instruction sheet. Shpg. wt., 6 oz.

Shorting Stk. No.	Shorting Type	Non-Short. Stk. No.	Non-Short. Type	Tol. Pol.	Tol. Sec.	No. Pos.	1-4	5-9	10-24	25-49	50-99
22F731	IV9000	22F746	JV9001	1	1	2-17	12.72	10.59	9.54	9.10	8.48
22F732	IV9032	22F747	JV9033	2	1	2-8	12.72	10.59	9.54	9.10	8.48
22F733	IV9004	22F748	JV9005	2	2	2-17	21.05	17.55	15.80	15.02	14.04
22F734	IV9002	22F749	JV9003	3	1	2-5	12.72	10.59	9.54	9.10	8.48
22F735	IV9008	22F750	JV9009	3	3	2-17	29.41	24.51	22.07	20.98	19.60
22F736	IV9034	22F751	JV9035	4	2	2-8	21.05	17.55	15.80	15.02	14.04
.....	.....	22F752	JV9013	4	4	2-17	37.75	31.46	28.33	26.93	25.17
.....	.....	22F753	JV9017	5	5	2-17	46.11	38.42	34.60	32.89	30.75
22F739	IV9006	22F754	JV9007	6	2	2-5	21.05	17.55	15.80	15.02	14.04
.....	.....	22F755	JV9037	6	3	2-8	29.41	24.51	22.07	20.98	19.60
.....	.....	22F756	JV9021	6	6	2-17	54.82	45.68	41.14	39.11	36.54
.....	.....	22F757	JV9039	8	4	2-8	37.75	31.46	28.33	26.93	25.17
.....	.....	22F758	JV9011	9	3	2-5	29.41	24.51	22.07	20.98	19.60
.....	.....	22F759	JV9015	12	4	2-5	37.75	31.46	28.33	26.93	25.17
.....	.....	22F760	JV9019	15	5	2-5	46.11	38.42	34.60	32.89	30.75

PA-3000 SERIES 18 POSITION SWITCH

Phenolic insulation per MIL-P-3115B. Voltage breakdown between parts 1000 VAC. Sections 2 5/16" high x 2 11/64" wide, 1/16" thick. Rated 2.25 amps @ 28 VDC; .350 amps @ 115 VAC. Adjustable stop or continuous rotation. Wt., 4 oz. 4 oz. per sect.

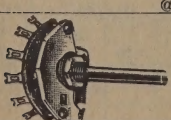
Shorting Stk. No.	Shorting Type	Non-Short. Stk. No.	Non-Short. Type	Pol.	Pos.	Sec.	1-4	5-9	10-24	25-49	50-99	100-249
57F922	PA-3000	57F923	PA-3001	1	2-17	1	2.46	2.06	1.85	1.76	1.64	1.47
57F924	PA-3002	57F925	PA-3003	2	2-17	2	3.80	2.95	2.69	2.53	2.36	2.16
57F926	PA-3004	57F927	PA-3005	3	2-17	3	4.64	3.87	3.49	3.32	3.10	2.78
57F928	PA-3006	57F929	PA-3007	4	2-17	4	5.65	4.71	4.25	4.05	3.77	3.39

PA-4000 SERIES 24-POSITION PHENOLIC SWITCH

High quality laminated phenolic insulation, meets MIL-P-3115B. Sections: 2 5/16"H, 1 31/32"W, 1/16" thick. Rated 5.5 amps @ 6 VDC; 2.75 amps @ 15 VDC; .230 amps @ 115 VAC. Shpg. wt., 4 oz.

Shorting Stk. No.	Shorting Type	Non-Short. Stk. No.	Non-Short. Type	Pol.	Pos.	Sec.	1-4	5-9	10-24	25-49	50-99	100-249
57F930	PA-4000	57F933	PA-4001	1	2-23	1	2.62	2.18	1.97	1.87	1.75	1.56
57F932	PA-4002	57F933	PA-4003	2	2-23	2	3.85	3.21	2.89	2.75	2.57	2.31
57F934	PA-4004	57F935	PA-4005	3	2-23	3	5.04	4.20	3.77	3.60	3.36	3.01
57F936	PA-4006	57F937	PA-4007	4	2-23	4	6.03	5.03	4.52	4.31	4.03	3.61

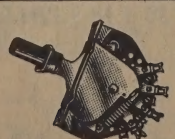
UNIVERSAL FLAT SWITCHES



Rated 1.75 amps at 28 VDC .350 ma at 115 VAC. Phenolic insulation. Bushing 3/8-32, 3/8"L. Shaft 1 7/8 lg. from bushing. Includes hardware. 4 oz.

Stk. No.	Type	Poles	Pos.	Index	1-4	5-9	10-24	25-49	50-99	100-249
22F571	1451	4	2	S.R.	2.77	2.31	2.08	1.98	1.85	1.66
57F991	1488	6	3	S.R.	4.16	3.47	3.12	2.97	2.77	2.49
57F992	1489	6	3	Pos. & S.R.	4.16	3.47	3.12	2.97	2.77	2.49

LEVER SWITCHES



Coil spring index design. Phenolic insulation. Single switch. 1 7/8 high x 9/16" wide x 1 1/2" deep behind panel. With knob and hardware. Rated at 1.5 amps at 28 VDC. 230 ma at 115 volts AC. No. 1475 is the tube tester replacement switch. Weight, 3 oz.

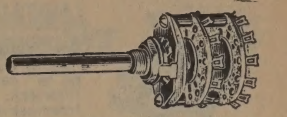
Shorting No.	Shorting Type	Non-Short. No.	Non-Short. Type	Poles	Pos.	Index	1-4	5-9	10-24	25-49	50-99	100-249
22F550	1452	22F555	1454	2	3	Pos.	1.76	1.46	1.32	1.25	1.18	1.06
22F551	1453	22F556	1455	2	3	S.R.	1.76	1.46	1.32	1.25	1.18	1.06
22F552	1456	22F557	1457	4	2	S.R.	1.96	1.63	1.47	1.40	1.31	1.18
22F553	1459	22F558	1458	4	2	Pos.	1.96	1.63	1.47	1.40	1.31	1.18
22F554	1466	22F559	1467	2	3	P&SR	1.76	1.46	1.32	1.25	1.18	1.06
.....	....	22F539	1475	1	3	Pos.	1.76	1.46	1.32	1.25	1.18	1.06

Centralab Switches

CENTRALAB

MINIATURE PHENOLIC SWITCHES

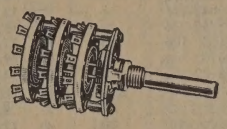
Shorting		Non-Short.		Tot.	Tot.	No.			10-	25-	50-	100-
Stk. No.	PA-	Stk. No.	PA-	Pol.	Sec.	Pos.	1-4	5-9	24	49	99	249
22F800	1000	22F801	1001	1	1	2-11	2.29	1.90	1.72	1.64	1.53	1.36
22F802	1002	22F803	1003	2	1	2-5	2.29	1.90	1.72	1.64	1.56	1.36
22F804	1004	22F805	1005	2	2	2-11	3.26	2.72	2.44	2.33	2.17	1.95
22F806	1006	22F807	1007	3	1	2-3	2.29	3.44	3.10	2.96	2.76	2.48
22F808	1008	22F809	1009	3	3	2-11	2.29	1.90	1.72	1.64	1.53	1.36
22F810	1010	22F811	1011	4	1	2	3.26	2.72	2.44	2.33	2.17	1.95
22F812	1012	22F813	1013	4	2	2-5	4.82	4.02	3.62	3.44	3.21	2.88
22F814	1014	22F815	1015	4	4	2-11	5.68	4.73	4.26	4.06	3.79	3.40
22F816	1016	22F817	1017	5	5	2-11	3.26	2.72	2.44	2.33	2.17	1.95
22F818	1018	22F819	1019	6	2	2-3	4.14	3.44	3.10	2.96	2.76	2.48
22F820	1020	22F821	1021	6	3	2-5	6.42	5.36	4.82	4.60	4.29	3.85
22F822	1022	22F823	1023	6	6	2-11	3.26	2.72	2.44	2.33	2.17	1.95
22F824	1024	22F825	1025	8	2	2	4.82	4.02	3.62	3.44	3.21	2.88
22F826	1026	22F827	1027	8	4	2-5	4.14	3.44	3.10	2.96	2.76	2.48
22F828	1028	22F829	1029	12	3	2	5.68	4.73	4.26	4.06	3.79	3.40
22F830	1030	22F831	1031	10	5	2-5	6.42	5.36	4.82	4.60	4.29	3.85
22F832	1032	22F833	1033	12	6	2-5	2.29	1.90	1.72	1.64	1.53	1.36
22F590	1040	.....	.....	1	1	2-10	2.29	1.90	1.72	1.64	1.53	1.36
.....	.....	22F835	1035	1	1	2-6	3.26	2.72	2.44	2.33	2.17	1.95
.....	.....	22F837	1037	2	2	2-6						



Laminated phenolic insulated rotary switches with low intercircuit capacitance. Bushing 3/8" L. cadmium-plated steel. Shaft 1/4" D. full round cadmium-plated steel, 2 1/4" L. from mtg. surface. Index angle pos. 30° except (*) 60°. 3/8" spacing between front plate and first section; 1/2" space between sections. Brass silver-plated clips and rotor contacts; other metal parts cadmium-plated steel. Make and break res. load; 5.5 amp. @ 6 VDC; 2.75 amp. 15 VDC, 230 MA@ 115 VAC; based on 10,000 cycles. Avg. initial res. 3.5 milliohms. Includes mtg. nut, lock-washer, and 1 1/4" blk. pointer knob. Shpg. wt., 3 oz. per section.

MINIATURE CERAMIC ROTARY SWITCHES

Shorting		Non-Short.		Tot.	Tot.	No.			10-	25-	50-	100
Stk. No.	Type	Stk. No.	Type	Pol.	Sec.	Pos.	1-4	5-9	24	49	99	249
22F600	PA2000	22F601	PA2001	1	1	2-12	3.04	2.53	2.28	2.17	2.02	1.82
22F602	PA2002	22F603	PA2003	2	1	2-6	3.04	2.53	2.28	2.17	2.02	1.82
22F604	PA2004	22F605	PA2005	2	2	2-12	4.29	3.58	3.22	3.07	2.86	2.56
22F606	PA2006	22F607	PA2007	3	1	2-5	3.04	2.53	2.28	2.17	2.02	1.82
22F608	PA2008	22F609	PA2009	3	3	2-12	5.48	4.57	4.11	3.92	3.65	3.28
22F610	PA2010	22F611	PA2011	4	2	2-6	4.29	3.58	3.22	3.07	2.86	2.56
22F612	PA2012	22F613	PA2013	4	4	2-12	6.58	5.48	4.94	4.71	4.39	3.94
22F614	PA2014	22F615	PA2015	5	1	2-3	3.04	2.53	2.28	2.17	2.02	1.82
22F616	PA2016	22F617	PA2017	5	5	2-12	7.88	6.57	5.91	5.63	5.26	4.72
22F618	PA2018	22F619	PA2019	6	1	2	3.04	2.53	2.28	2.17	2.02	1.82
22F620	PA2020	22F621	PA2021	6	2	2-12	4.29	3.58	3.22	3.07	2.86	2.56
22F622	PA2022	22F623	PA2023	6	3	2-6	5.48	4.57	4.11	3.92	3.65	3.28
22F624	PA2024	22F625	PA2025	6	6	2-12	9.15	7.63	6.86	6.55	6.11	5.48
22F626	PA2026	22F627	PA2027	8	4	2-6	6.58	5.48	4.94	4.71	4.39	3.94
22F628	PA2028	22F629	PA2029	9	3	2-5	5.48	4.57	4.11	3.92	3.65	3.28
22F630	PA2030	22F631	PA2031	10	2	2-3	4.29	3.58	3.22	3.07	2.86	2.56
22F632	PA2032	22F633	PA2033	10	5	2	7.88	6.57	5.91	5.63	5.26	4.72
22F634	PA2034	22F635	PA2035	12	2	2-3	4.29	3.58	3.22	3.07	2.86	2.56
22F636	PA2036	22F637	PA2037	12	6	2-6	9.15	7.63	6.86	6.55	6.11	5.48
22F638	PA2038	22F639	PA2039	15	3	2	6.20	5.17	4.65	4.43	4.14	3.72
22F640	PA2040	22F641	PA2041	18	3	2-6	6.20	5.17	4.65	4.43	4.14	3.72
22F642	PA2042	.....	.....	1	1	2-10	2.75	2.29	2.07	1.97	1.84	1.65
.....	.....	22F643	PA2043	1	1	2-6	2.75	2.29	2.07	1.97	1.84	1.65
.....	.....	22F645	PA2045	2	2	2-6	3.81	3.17	2.86	2.72	2.54	2.28



Offers maximum voltage flash-over with high-Q-low loss steatite body. Bolted construction with single hole bushing mount. Bushing is 3/8" L. cad-plated steel and locating lug on 7/16" R. 1/4" D. shaft 2 1/4" L. from mounting surface. Index angle is 30° except (*) 60° adjustable stop or continuous rotation. 3/8" spacing between front plate and first section; 1/2" spacing between sections. Voltage breakdown: 1500 VAC-RMS. Clips and rotor contacts are brass, silver plated. Make and break res. load; 5.5 amp @6 VDC; 2.75 amp@ 15 VDC; 1.5 amp. @ 28 VDC; 230 MA @ 115 VAC; based on 10,000 cycles life test. Avg. initial res. 3.5 milliohms. Rotational life 25,000 cycles minimum. Includes mtg. nut, lock-washer, and 1 1/4" blk. pointer knob. Shpg. wt., 3 oz. per section.

MINIATURE INDEX ASSEMBLIES

Use with PA sections. Includes all hardware and knob.

30° INDEXING

Stock No.	Type	For Switches	Rear Shaft	1-4	5-9	10-24	25-49	50-99	100-249
22F650	PA-300	1 to 3 sec.	2"	1.65	1.38	1.24	1.18	1.10	.99
22F651	PA-301	4 to 6 sec.	4"	2.18	1.82	1.64	1.56	1.45	1.31
22F652	PA-302	7 to 9 sec.	6"	2.84	2.37	2.13	2.02	1.89	1.71

60° INDEXING

Stock No.	Type	For Switches	Rear Shaft	1-4	5-9	10-24	25-49	50-99	100-249
22F654	PA-304	1 to 3 sec.	2"	1.65	1.38	1.24	1.18	1.10	.99
22F655	PA-305	4 to 6 sec.	4"	2.31	1.93	1.74	1.65	1.54	1.39
Intersections Shield									
22F680	P-320	.....	.....	.33	.28	.25	.24	.22	.20

SEPARATE MINIATURE CERAMIC SECTIONS

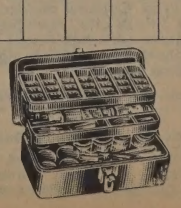
For use with index assemblies PA-300, PA-301, PA-302 for assembly of special units of your own design. Provide maximum flexibility. Sections are .100" thick ceramic (steatite). *Unused contacts one side of common connected and shorted out.(†)All unused contacts connected and shorted out. ‡Progressively shorting with clockwise rotation.(**)Progressively shorting with counter-clockwise rotation.(††)60° indexing, use with PA-304 and 305 indexes. Shipping weight, 3 oz.

Shorting		Non-Short							10-	25-	50-	100-
Stk. No.	Type	Stk. No.	Type	Poles	Pos.	1-4	5-9	24	49	99	249
22F660	PA-0	22F661	PA-1	1	2-12						
22F662	PA-2	22F663	PA-3	2	2-6						
22F664	PA-4	22F665	PA-5	3	2-5						
22F666	PA-6	22F667	PA-7	5	2-3						
22F668	PA-8	22F669	PA-9	6	2						
22F670*	PA-10	22F679*	PA-19	1	2-5	1.52	1.27	1.14	1.09	1.01	.91
22F671†	PA-11	22F678†	PA-18	2	2-11						
22F672‡	PA-12	.....	.....	1	2-10						
22F673**	PA-13	.....	.....	1	2-10						
22F674††	PA-20	22F677††	PA-17	1	2-6						

SEPARATE MINIATURE PHENOLIC SECTIONS

For use with index assemblies PA-300, PA-301, PA-302 for assembly of special switches to meet your requirements. Meet rigorous commercial or military applications. Sections are of 1/16" thick phenolic. (*)All unused contacts one side of common connected and shorted out. (†)All unused contacts connected and shorted out. (‡)Active contacts all shorted to common contact in full CW progressively opened and dropped with CW rotation. PA-45 is 60° indexing section, use with PA-304. 305 indexes. Shpg. wt., 2 oz.

Shorting		Non-Short		Total		Posi-			10-	25-	50-	100-
Stk. No.	Type	Stk.No.	Type	Poles	Index	tions	1-4	5-9	24	49	99	249
22F840	PA-30	22F841	PA-31	1	30°	2-11						
22F842	PA-32	22F843	PA-33	2	30°	2-5						
22F844	PA-34	22F845	PA-35	3	30°	2-3						
22F846	PA 36	22F847	PA-37	4	30°	2	1.10	.91	.83	.79	.74	.66
22F848	PA-38*	22F849	PA-39*	1	30°	2-5						
22F850	PA-40†	22F851	PA-41†	2	30°	2-11						
22F852	PA-43‡	.....	.....	1	30°	2-10						
.....	.....	22F853	PA-45	1	°	2-6						



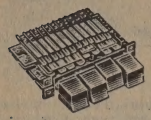
PK-20-S SWITCH KIT

Contains components including rotors, contacts, retainers, clips, stators, eyelets, and stops, for 25 special four section switches. Enables you to build switches to individual specifications. Has a contact nibbling tool to construct a special switch with factory precision. With instructions.

22F599. NET 247.50

SERIES 35000 NON-ILLUMINATED "MULTI SWITCH"

SUPPLIED WITH DPDT CIRCUITRY EACH STATION

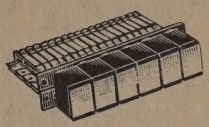


Compact low silhouette design. Only ¾" height, 2⅝" depth behind panel. Plunger on ⅜" centers. All functions available. Interlock, non-lock, all lock and PLRR. Interlock function has "built-in" lockout preventing operation of more than one button at a time. Switches below supplied with a 2-C stack switch per station. Shpg. Wt. 1½ lbs.

INTERLOCK FUNCTION

Stock No.	Type	Stations	Wt. Oz.	Each 1-9	10-24	25-49	50-99	100-249
39F2214	35021K-206	2	2	8.26	7.62	6.99	6.35	5.08
39F2215	35041K-206	4	4	13.26	12.24	11.22	10.20	8.16
39F2216	35061K-206	6	6	18.59	17.16	15.73	14.30	11.44
39F2217	35081K-206	8	8	23.92	22.08	20.24	18.40	14.72
39F2218	35101K-206	10	10	29.25	27.00	24.75	22.50	18.00
39F2219	35121K-206	12	12	34.58	31.92	29.26	26.60	21.28
NON-LOCK FUNCTION								
39F2220	35022-206	2	2	8.26	7.62	6.99	6.35	5.08
39F2221	35042-206	4	4	13.26	12.24	11.22	10.20	8.16
39F2222	35062-206	6	6	18.59	17.16	15.73	14.30	11.44
39F2223	35082-206	8	8	23.92	22.08	20.24	18.40	14.72
39F2224	35102-206	10	10	29.25	27.00	24.75	22.50	18.00
39F2225	35122-206	12	12	34.58	31.92	29.26	26.60	21.28
ALL-LOCK FUNCTION								
39F2226	35023-206	2	2	8.26	7.62	6.99	6.35	5.00
39F2227	35043-206	4	4	13.26	12.24	11.22	10.20	8.16
39F2228	35063-206	6	6	18.59	17.16	15.73	14.30	11.44
39F2229	35083-206	8	8	23.92	22.08	20.24	18.40	14.72
39F2230	35103-206	10	10	29.25	27.00	24.75	22.50	18.00
39F2231	35123-206	12	12	34.58	31.92	29.26	26.60	21.28
PUSH-PUSH FUNCTION								
39F2232	35027-206	2	2	8.26	7.62	6.99	6.35	5.08
39F2233	35047-206	4	4	13.26	12.24	11.22	10.20	8.16
39F2234	35067-206	6	6	18.59	17.16	15.73	14.30	11.44
39F2235	35087-206	8	8	23.92	22.08	20.24	18.40	14.72
39F2236	35107-206	10	10	29.25	27.00	24.75	22.50	18.00
39F2237	35127-206	12	12	34.58	31.92	29.26	26.60	21.28

SERIES 37000 ILLUMINATED "MULTI SWITCH" SUPPLIED WITH DPDT CIRCUITRY EACH STATION



Similar to series 35000 but with added feature of illuminated buttons. Each push button station serves as a color and legend coded panel indicator light. May be wired for any of 3 lighting arrangements: "L" type-button lights in "In" position; "M" type buttons lights in "Out" position; "N" type-button lights in "In" and "Out" positions. Switches listed below supplied with 2 "C" stack switches per station.

INTERLOCK FUNCTION

Stock No.	Mfrs. Type	Stations	Wt. Oz.	Each 1-9	10-24	25-49	50-99	100-249
39F2238	37021K-206	2	2	13.07	12.06	11.06	10.05	8.04
39F2239	37041K-206	4	4	23.21	21.42	19.64	17.85	14.28
39F2240	37061K-206	6	6	33.25	30.78	28.22	25.65	20.52
39F2241	37081K-206	8	8	43.81	40.44	37.07	33.70	26.96
39F2242	37101K-206	10	10	53.95	49.80	45.65	41.50	33.20
39F2243	37121K-206	12	12	64.09	59.16	54.23	49.30	39.44
NON-LOCK FUNCTION								
39F2244	37022-206	2	2	13.07	12.06	11.06	10.05	8.04
39F2245	37042-206	4	4	23.21	21.42	19.64	17.85	14.28
39F2246	37062-206	6	6	33.35	30.78	28.22	25.65	20.52
39F2247	37082-206	8	8	43.81	40.44	37.07	33.70	26.96
39F2248	37102-206	10	10	53.95	49.80	45.65	41.50	33.20
39F2249	37122-296	12	12	64.09	59.16	54.23	49.30	39.44
ALL-LOCK FUNCTION								
39F2250	37023-206	2	2	13.07	12.06	11.06	10.05	8.04
39F2251	37043-206	4	4	23.21	21.42	19.64	17.85	14.28
39F2252	37063-206	6	6	33.35	30.78	28.22	25.65	20.52
39F2253	37083-206	8	8	43.81	40.44	37.07	33.70	26.96
39F2254	37103-206	10	10	53.95	49.80	45.65	41.50	33.20
39F2255	37123-206	12	12	64.09	59.16	54.23	49.30	39.44
PUSH-PUSH FUNCTION								
39F2256	37027-206	2	2	13.07	12.06	11.06	10.05	8.04
39F2257	37047-206	4	4	23.21	21.42	19.64	17.85	14.28
39F2258	37067-206	6	6	33.35	30.78	28.22	25.65	20.52
39F2259	37087-206	8	8	43.81	40.44	37.07	33.70	26.96
39F2260	37107-206	10	10	53.95	49.80	45.65	41.50	33.20
39F2261	37127-206	12	12	64.09	59.16	54.23	49.30	39.44

SERIES 21000 ILLUMINATED "MULTI SWITCH" SUPPLIED WITH DPDT CIRCUITRY EACH STATION

Mounts on panels up to ⅜" thick, 3⁵⁄₁₆" depth behind panel. Square illuminated buttons on ⅛" centers. Knurled collar holds 1 amp in socket, diffuses light. Up front lamp replacement. Buttons light in "In" positions. Function and circuit changes can be made in field. Interlock can be changed to non-lock or all lock switches supplied with 2 "C" stack switches per stations.

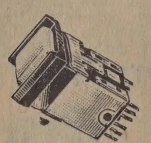
INTERLOCK FUNCTION-EASILY CONVERTED TO NON-LOCK OR ALL-LOCK

Stock No.	Mfrs. Type	Stations	Each 1-9	10-24	25-49	50-99	100-24
39F2262	21200K-506	2	15.24	14.07	12.90	11.73	9.38
39F2263	21400K-506	4	25.32	23.37	21.42	19.48	15.58
39F2264	21600K-506	6	35.36	32.64	29.92	27.20	21.76
39F2265	21800K-506	8	45.47	41.97	38.47	34.98	27.98
39F2266	211000K-506	10	56.03	51.72	47.41	43.10	34.48
39F2267	211200K-506	12	66.27	61.17	56.07	50.98	40.78

PUSH TO LOCK PUSH TO RELEASE FUNCTION

Stock No.	Mfrs.	Stations	EACH 1-9	10-24	25-49	50-99	100-249
39F2268	21207-506	2	14.43	13.32	12.21	11.10	8.88
39F2269	21407-506	4	25.32	23.37	21.42	19.48	15.58
39F2270	21607-506	6	36.14	33.36	30.58	27.80	22.24
39F2271	21807-506	8	47.06	43.44	39.82	36.20	28.96
39F2272	211007-506	10	58.27	53.79	49.31	44.83	35.86
39F2273	211207-506	12	69.16	63.84	58.52	53.20	42.56

SERIES PL-PUSHLIGHT SWITCH



"Push-Life" switch is the first completely enclosed, lighted pushbutton switch which features long-life, highly-reliable leafspring switching. Available in momentary or PLPR functions; single or twin lamps; with or without barriers; full or split-face display; 1-C to 4-C switching; black switch housing. Standard pushbutton color is white, other colors available on special order. Molded cross-bar palladium contacts rated at 2 amps, 200 watts, max; A.C., non-inductive load are standard. Mount with clamp-type bracket, no screws, washers or nuts needed. Flange mounting requires 1" x .875" panel cutout. Barrier mounting requires 1³⁄₁₆" x .875" panel cutout. Can be mounted in vertical or horizontal rows and in matrixes. Depth behind panel only 1¾". "Push-Life" switch accepts std. T-1¾ flange base lamps (not furnished with switch) in either 6V or 28V. Specify one lamp for single lamp type or two lamps for twin-lamp type when redundant or split-face lighting is required. Optional molded mounting barriers can be used to separate "Push-Life" switches and prevent accidental operation of adjacent switches. Light divider is used in "Push-Lite" switch pushbutton to separate lighting between twin-lamps for split-face lighting indication.

MOUNTING BARRIERS (BLACK)

Stock No.	Mfrs. Type	Description	Each 1-24	25-49	50-99	100-249
39F2200	PL-102	End Barrier	.09	.825	.075	.06
39F2201	PL-202	Center Barrier	.09	.825	.075	.06

MOMENTARY ACTION-SINGLE LAMP

Stock No.	Mfrs.-Type	Contacts	EACH 1-24	25-49	50-99	100-249
39F2202	PL-1032-05	1-C	5.55	5.09	4.63	3.70
39F2203	PL-1062-05	2-C	5.70	5.23	4.75	3.80
39F2204	PL-1122-05	4-C	6.15	5.64	5.13	4.10
MOMENTARY ACTION-TWIN LAMP						
39F2205	PL-2032-05	1-C	5.70	5.23	4.75	3.80
39F2206	PL-2062-05	2-C	5.85	5.36	4.88	3.90
39F2207	PL-2122-05	4-C	6.30	5.78	5.25	4.20
PUSH-LOCK/PUSH-RELEASE-SINGLE LAMP						
39F2208	PL-1037-05	1-C	5.85	5.36	4.88	3.90
39F2209	PL-1067-05	2-C	6.00	5.50	5.00	4.00
39F2210	PL-1127-05	4-C	6.45	5.91	5.38	4.30
PUSH-LOCK/PUSH-RELEASE-TWIN LAMP						
39F2211	PL-2037-05	1-C	6.45	5.91	5.38	4.30
39F2212	PL-2067-05	2-C	6.60	6.05	5.50	4.40
39F2213	PL-2127-05	4-C	7.05	6.46	5.88	4.70
LIGHT DIVIDER						
39F2214	PL-551	...	.06	.055	.05	.04

Multi-Switches

21000

35000

37000

65000

67000

COMPONENTS FOR FIELD ASSEMBLY

Components on this page may be used to assemble a complete "Multi-Switch" in the field. For a complete assembly you must order the proper frame and the necessary stack switches for each station on the frame. Other optional accessories are also shown on this page.

SERIES 21000 ILLUMINATED FRAMES

Mounts on panels up to 3/8" thick, 3 5/16" depth behind panel. Buttons on 5/8" centers. Interlock function easily converts to non-lock or all-lock. Up-front lamp removal. Lights in actuated position. Supplied less stack switches.

Stock No.	Mfrs. Type	Stations	Wt. Oz.	EACH 1-9	10-24	25-49	50-99	100-249
26F728	21200	2	8	12.76	9.57	8.77	7.98	6.88
26F730	21400	4	11	21.56	16.17	14.82	13.48	10.78
24F732	21600	6	15	30.36	22.77	20.87	18.95	15.18
24F734	21800	8	17	39.20	29.40	26.95	24.50	19.00
24F736	211000	10	21	48.40	36.30	33.28	30.25	24.20
24F738	211200	12	24	57.20	42.90	39.33	35.75	28.60

LOCK-OUT BAR

Prevents operation or more than one button at a time. Mounts on back of 21000 Series frame. Supplied with mounting hardware.

22F280	K-02	2	5	2.64	1.98	1.82	1.65	1.32
22F282	K-04	4	5	2.88	2.16	1.98	1.80	1.44
22F284	K-06	6	5	3.08	2.31	2.12	1.93	1.54
22F286	K-08	8	5	3.32	2.49	2.28	2.08	1.66
22F288	K-10	10	5	3.76	2.82	2.59	2.35	1.88
22F290	K-12	12	5	4.20	3.15	2.89	2.63	2.10

LAMPS FOR SERIES 21000 AND 37000

Stk. No.	Ind. No.	Volt	Lamp Hrs.	1-9	10-99
25F122	327	28V	1000	.71	.43
25F123	328	6V	1000	.55	.34

SERIES 35000 NON-ILLUMINATED FRAMES

Compact, low silhouette design. Only 3/4" height. 2 5/16" depth behind panel. Modern, square black buttons on 5/8" centers. Part numbers shown below indicate interlock function with "built-in" lockout. For other functions substitute following number for last digit of part number. Non-lock (2), All-Lock (3). Push-to-Lock, Push-to-Release (7). Supplied less stack switches.

Stock No.	Mfrs. Type	Stations	Wt. Oz.	EACH 1-9	10-24	25-49	50-99	100-249
26F867	35021	2	2	6.80	5.10	4.68	4.25	3.40
26F868	35041	4	4	9.60	7.20	6.60	6.00	4.80
26F869	35061	6	6	12.80	9.60	8.80	8.00	6.40
26F870	35081	8	8	16.00	12.00	11.00	10.00	8.00
26F871	35101	10	10	19.20	14.40	13.20	12.00	9.60
26F872	35121	12	12	22.40	16.80	15.40	14.00	11.20

SERIES 37000 ILLUMINATED FRAMES

Similar to Series 35000 except with illuminated rectangular buttons. Up-front lamp replacement. Interlock with lock-out function is standard. Order other functions in same manner as for 35000 Series. Supplied less lamps and stack switches.

26F873	37021	2	2	9.52	7.14	6.55	5.95	4.76
26F874	37041	4	4	15.44	11.58	10.62	9.65	7.72
26F875	37061	6	6	21.36	16.02	14.69	13.35	10.88
26F876	37081	8	8	27.68	20.76	19.03	17.30	13.84
26F877	37101	10	10	33.60	25.20	23.10	21.00	16.80
26F878	37121	12	12	39.52	29.64	27.17	24.70	19.76

STACK SWITCHES FOR LITTEL "MULTI-SWITCH" SWITCHES

Switch Stacks for Series 35000, 37000. Series 80P cross-bar welded palladium contacts rated at 3 amps, 300 watts, max. A C non-inductive load. Order series 80P for switching circuit only. Order H83P (2 per station) for lighting circuit on series 37000. Supplied with pressure plate and screws. Shipping weight, 1 oz.

Stock No.	Contacts	Mfrs. Type	EACH 1-9	10-24	25-49	50-99	100-249
26F882	1-A	81P	.64	.48	.44	.40	.32
26F883	1-B	82P	.64	.48	.44	.40	.32
26F884	1-C	83P	.84	.63	.58	.53	.42
26F885	1-C	H-38P	1.16	.87	.80	.73	.58

SERIES 65000 AND 7000 FACTORY ASSEMBLED "DW" SERIES "MULTI-SWITCH"

Series 65000 non-illuminated "Multi-Switch". With DPDT switch module per station. Double-wipe bifurcated silver plated brass contacts rated 3A, A C, 0.5A DC; 125 V non-inductive load. 1 1/16" depth behind panel. 3/4" length plus 5/8" for each station. 27/32" height.

Series 67000 illuminated version of above. Front of panel lamp replacement. Accepts Ind. #327 and #328 lamps. Av. Shipping weight 4 oz.

Stock No.	Mfrs. Type	Function	Stations	EACH 1-24	25-49	50-99	100-249
22F137	65021K-206	Interlock	2	1.68	1.54	1.40	1.12
22F090	65022-206	Non-Lock	2	1.59	1.46	1.33	1.06
22F143	65023-206	All-Lock	2	1.68	1.54	1.40	1.12
22F138	65041K-206	Interlock	4	3.00	2.75	2.50	2.00
22F091	65042-206	Non-Lock	4	2.91	2.67	2.43	1.94
22F144	65043-206	All-Lock	4	3.00	2.75	2.50	2.00
22F139	65061K-206	Interlock	6	4.32	3.96	3.60	2.88
22F092	65062-206	Non-Lock	6	4.20	3.85	3.50	2.80
22F145	65063-206	All-Lock	6	4.32	3.96	3.60	2.88
22F140	65081K-206	Interlock	8	5.64	5.17	4.70	3.76
22F093	65082-206	Non-Lock	8	5.52	5.06	4.60	3.68
22F146	65083-206	All-Lock	8	5.64	5.17	4.70	3.76
22F141	65101K-206	Interlock	10	6.93	6.35	5.78	4.62
22F094	65102-206	Non-Lock	10	6.78	6.22	5.65	4.52
22F147	65103-206	All-Lock	10	6.93	6.35	5.78	4.62
39F2300	67021K-506	Interlock	2	2.22	2.04	1.85	1.48
39F2301	67022-506	Non-Lock	2	2.04	1.87	1.70	1.36
39F2302	67023-506	All-Lock	2	2.22	2.04	1.85	1.48
39F2303	67041K-506	Interlock	4	4.02	3.69	3.35	2.68
39F2304	67042-506	Non-Lock	4	3.66	3.36	3.05	2.44
39F2305	67043-506	All-Lock	4	4.02	3.69	3.35	2.68
39F2306	67061K-506	Interlock	6	5.82	5.34	4.85	3.88
39F2307	67062-506	Non-Lock	6	5.28	4.84	4.40	3.52
39F2308	67063-506	All-Lock	6	5.82	5.34	4.85	3.88
39F2309	67081K-506	Interlock	8	7.62	6.99	6.35	5.08
39F2310	67082-506	Non-Lock	8	6.90	6.88	5.75	4.60
39F2311	67083-506	All-Lock	8	7.62	6.99	6.35	5.08
39F2312	67101K-506	Interlock	10	9.42	8.64	7.85	6.28
39F2313	67102-506	Non-Lock	10	8.52	7.81	7.10	5.68
39F2314	67103-506	All-Lock	10	9.42	8.64	7.85	6.28

SWITCH STACKS FOR SERIES 21000

Series 70P welded cross-bar palladium contacts rated 3 amps 300 watts, max. AC non-inductive load. Supplied with pressure plate and screws. Shpg. wt., 1 oz.

Stock No.	Contacts	Mfrs. Type	EACH 1-9	10-24	25-49	50-99	100-249
22F369	1-A	71-P	.64	.48	.44	.40	.32
22F370	1-B	72-P	.64	.48	.44	.40	.32
22F371	1-C	73-P	.84	.63	.58	.53	.42
22F372	2-A	74-P	1.08	.81	.74	.68	.54
22F373	2-B	75-P	1.08	.81	.74	.68	.54
22F375	2-C	76-P	1.32	.99	.91	.83	.66

SOLENOID RELEASE

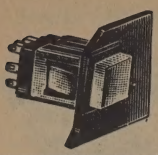
For series 21000, 35000, 37000. Provides remote electrical release of depressed stations. For 115 VAC, 60 Hz. Series "J" 21000, "NJ" for 35000 and 37000. with mounting bracket and screws. Shpg. wt., 4 oz.

Stock No.	Mfrs. Type	Function	EACH 1-9	10-24	25-49	50-99	100-249
22F295	J-1	Interlock	7.60	5.70	5.23	4.75	3.80
22F296	J-3	All-Lock	8.00	6.00	5.50	5.00	4.00
39F2315	NJ-1	Interlock	8.00	6.00	5.50	5.00	4.00
39F2316	NJ-3	All-Lock	8.00	6.00	5.50	5.00	4.00

NEWARK offers custom engraving of switches and legend panels—Fast turn around time

SWITCHCRAFT INC. Switches

BOX SWITCH



A flush mounted, momentary action pushbutton switch. Offers broad switching capacilities in minimum panel space. For control panel application in computers, data processors, ground support equipment, machine and process controls, test equipment, and telephones. 1 1/16" square. 4 switching poles; 2 limited to single throw. Solder lug terms. Silver plated, brass integral contacts.

Stock No.	Type	Contact Assembly	Button Color	1-24	25-49	50-99	100-249	250-499	500-999
22F960	BX-01-1	1-A	Red	2.07	1.90	1.73	1.38	1.31	1.24
22F961	BX-01-3	1-C	Red	2.16	1.98	1.80	1.44	1.37	1.30
22F962	BX-01-6	2-C	Red	2.37	2.17	1.98	1.58	1.50	1.42
22F963	BX-01-10	2C,2-A	Red	2.70	2.48	2.25	1.80	1.71	1.62
22F964	BX-02-1	1-A	Black	2.07	1.90	1.73	1.38	1.31	1.24
22F965	BX-03-3	1-C	Black	2.16	1.98	1.80	1.44	1.37	1.30
22F966	BX-02-6	2-C	Black	2.37	2.17	1.98	1.58	1.50	1.42
22F967	BX-02-10	2-C,2-A	Black	2.70	2.48	2.25	1.80	1.71	1.62
22F968	BX-03-1	1-A	Green	2.07	1.90	1.73	1.38	1.31	1.24
22F969	BX-03-3	1-C	Green	2.16	1.98	1.80	1.44	1.37	1.30
22F970	BX-03-6	2-C	Green	2.37	2.17	1.98	1.58	1.50	1.42
22F971	BX-03-10	2-C,2-A	Green	2.70	2.48	2.25	1.80	1.71	1.62
22F972	BX-05-1	1-A	White	2.07	1.90	1.73	1.38	1.31	1.24
22F973	BX-05-3	1-C	White	2.16	1.98	1.80	1.44	1.37	1.30
22F974	BX-05-6	2-C	White	2.37	2.17	1.98	1.58	1.50	1.42
22F975	BX-05-10	2C,2-A	White	2.70	2.48	2.25	1.80	1.71	1.62

Button Switch

Tiny Switches

Cord Switch

BUTTON SWITCHES

Non-locking, push button switch. Rated at 250 mils., non-inductive load, AC, 30 watts max. Size: 1/2" Dxl" L. Wt. 2 oz. *Numeral indicates No. of sets of contacts.

Stk. No.	Type	Description	Contact*	1-24	25-49	50-99	100-249
22F229	903	Red button	1C				
22F230	903D	Red button	1D	.93	.858	.775	.62
22F233	913	Black button	1C				
22F234	913D	Black button	1D				
22F231	923	Red button	1C				
24F232	923D	Red button	1D	.99	.908	.825	.66
22F235	933	Black button	1C				

TINY SWITCHES

Subminiature design. Integral silver contacts for low level circuits where low contact resistance is not a factor. Size: 3/16 D.x 11/16" L.

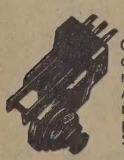
22F237	951	Red button	1A				
22F238	952	Red button	1B	.63	.578	.525	.42
22F240	961	Black button	1A				
22F241	962	Black button	1B				
22F239	953	Red button	1C				
22F242	963	Black button	1C	.75	.688	.625	.50

CORD OR PENDANT SWITCHES

Nickel plated housing incorporates Series 903 and 913 button switches shown above. Dia. 1 1/16". Approx. length 2 3/16". Wt. 3 oz.

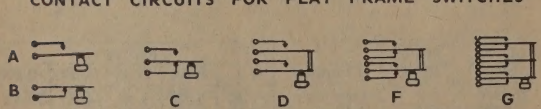
22F243	E903	Red button	1C	1.50	1.38	1.25	1.00
22F245	E913	Black button	1C	1.50	1.38	1.25	1.00

FLAT FRAME PUSH BUTTON SWITCHES



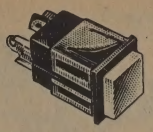
One piece, black plastic, push button, all common circuit model. Fine silver contacts used for minimum resistance. Rated at 3 amps, 300 watts, max. AC non-inductive load. Shaft and button need not be removed for mounting. Mounts in singe 3/8" hole, panels up to 1/4" thick. Size: 1 29/32" 1. by 3/4" w. Shpg. wt., each 2 oz.

CONTACT CIRCUITS FOR FLAT FRAME SWITCHES



Stock No.	Type	Circuit Figure	Switch Action	1-24	25-49	50-99	100-249
22F200	FF1001	A	SPST NO	.84	.77	.70	.56
22F202	FF1003	C	SPDT	.93	.853	.775	.62
22F203	FF1004	D	DPST NO	1.02	.935	.85	.68
22F205	FF1006	F	DPDT	1.17	1.07	.975	.78
22F206	FF1009	G	3PDT	1.68	1.54	1.40	1.12

"UNISWITCH" SWITCH



Low cost, compactly built, momentary action pushbutton, ideal for use on computers, data processing equipment, test & measurement devices, telephone apparatus. Illuminated, only 1 1/16" square, mount in a single panel, requiring only 1 3/64", min to 1 17/64" max. Terminals extruded for use with #5-40 machine screws, contacts rated at 250 ma., 30 watts max., AC non-inductive load. SPST- No circuit.

LUS SERIES

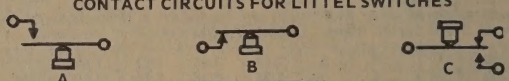
Stock No.	Type No.	Color	1-24	24-49	50-99	100-249	250-499	500-999
39F1613	LUS-01-1	Red						
29F1614	LUS-04-1	Blue						
39F1615	LUS-03-1	Green	1.14	1.05	.95	.76	.722	.684
39F1616	LUS-08-1	Yellow						
39F1617	LUS-05-1	White						

Stk. No.	Type	Desc.	Amp.	1-99	100-499	500-Up
27F1030	CM7377	6V. Bi-Pin Lamp	.200mi/i	.65	.52	.45

LITTEL SWITCHES

These are momentary contact switches, no bigger than a small phone jack. Available in three circuits with red or black, one-piece push-button (non-locking only). All contacts are thoroughly insulated from panel bushing with interlocking phenolic washers. Springs are special nickel-silver alloy. Integral contacts; recommended for low current circuits only. Plastic button and shaft need not be removed for mounting. Mounts in 3/8" dia. hole in panels up to 1/4". Complete with locknut and washer. Shpg. wt., 1 oz.

CONTACT CIRCUITS FOR LITTEL SWITCHES



BLACK BUTTON

Stock No.	Type	Circuit Figure	Switch Action	1-24	25-49	50-99	100-249
22F207	201	1-A	SPST NO	.63	.578	.525	.42
22F208	202	1-B	SPST NC	.63	.578	.525	.42
22F209	203	1-C	SPDT	.75	.688	.625	.50

RED BUTTON

22F210	101	1-A,	SPST NO	.63	.578	.525	.42
22F111	102	1-B	SPST NC	.63	.578	.525	.42
22F212	103	1-C	SPDT	.75	.688	.625	.50

ILLUMINATED "LITTEL-LITE" SWITCHES

Series 210 are small, momentary contact, illuminated pushbutton types. One piece, clear plastic button and shaft is illuminated by a single miniature lamp. Includes kit of 4-color chips (red, amber, green, and yellow). Recommended for low level circuits. Switches with suffix "S" have fine silver contacts rated at 3 amps. 300 watts, max., AC, non-inductive load. Lighting circuit is independent of switching circuit. Mounts on 3/8" centers, panels to 1/4" thick.

Stock No.	Type	Circuit Figure	Switch Action	1-24	25-49	50-99	100-249
26F800	211	1-A	SPST NO	1.17	1.07	.975	.78
26F802	213	1-C	SPDT	1.44	1.32	1.20	.96
26F803	211S	1-A	SPST NO	1.35	1.24	1.13	.90
26F805	213S	1-C	SPDT	1.59	1.46	1.33	1.06
26F806	K106	···	Chip Kit	.21	20	175	.14

LAMPS FOR "LEVER-LITE" AND "LITTEL-LITE" SWITCHES

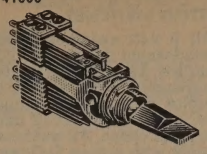
Stk. No.	Type	Volt.	Base	Current	Ea.	10 for	100 for
25F149	1768	6V	Screw	200 Ma	1.08	.81	.54
26F508	335	28V	Screw	40 Ma	1.60	1.20	.80

SERIES DA SWITCH

Miniature momentary action pushbutton switch. Meets Human Factor Engineering considerations. Mounts on 17/32" centers. Available in six colors for control panel coding. Body of anodized aluminum protects the contacts. Terminals come straight out in back for easy wiring. Data Switches provide an A-B arrangement, which may be wired externally to provide 1-C switching. Hard-gold contacts rated 500 ma., 50 watts max. A.C., non-inductive load.

Stock No.	Type No.	Color	1-24	25-49	50-99	100-249	250-499	500-999
27F000	DA-01-3	Red						
27F001	DA-02-3	Black						
27F002	DA-03-3	Green	1.59	1.46	1.33	1.06	1.01	.954
27F003	DA-04-3	Blue						
27F004	DA-05-3	White						
27F005	DA-08-3	Yellow						

"LT" SWITCH SERIES 41000



Telever telephone type lever switch. Features unique "U" shaped construction with a "Can't Cheat" detent guide which prevents accidental actuator bypass of a switching position. Welded cross bar palladium contacts rated at 3 amps., 200 watts max., A.C., non-inductive load are standard. Mounts on $^{23}/_{32}$" centers, in a $^{15}/_{32}$" dia. hole, in panels up to ¼". Insulation is paper base phenolic with plastic tubing through the stack assembly. Frame is steel, iridescent iridite finish over cadmium plating. With mtg. hdwe.

2-POSITION TYPE

Type	Non-Lock	Locking	Cont. Form	1-24	25-99	50-99	100-249	250-499	500-999
41203	22F341	22F345	1-C	2.67	2.45	2.23	1.78	1.69	1.60
41206	22F342	22F346	2-C	3.33	3.05	2.78	2.22	2.11	2.00
41208	22F343	22F347	4-A	3.66	3.36	3.05	2.44	2.32	2.20
41212	22F344	22F348	4-C	4.50	4.13	3.75	3.00	2.85	2.70
3-POSITION TYPE									
41306	22F377	22F381	1-C	3.33	3.05	2.78	2.22	2.11	2.00
41308	22F378	22F382	2-A	3.66	3.36	3.05	2.44	2.32	2.20
41312	22F379	22F383	2-C	4.50	4.13	3.75	3.00	2.85	2.70
41324	22F380	22F384	4-C	6.63	6.08	5.53	4.42	4.20	3.98

LEVER LITE 25000 SERIES SWITCH

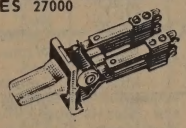
An illuminated switch to color code switching position. Available in 2 or 3 position models. Individual colors to indicate individual circuit. Requires only 2¼" behind panel. Ideal for multi operation. Complete with 6 volt 200 Ma lamp and five color chips. $2^{1}/_{4}$x$^{39}/_{64}$x$1\text{-}^{11}/_{32}$". Wt. 5 oz. *Kit contains 5 colors: green, amber, yellow, blue, white and red.

2 POSITION TYPE

Type	Non-lock	Locking	Cont. Form	1-24	25-49	50-99	100-249	250-499	500-999
25201	26F704	26F700	1-A	2.91	2.67	2.43	1.94	1.84	1.75
25203	26F705	26F701	1-C	3.09	2.83	2.58	2.06	1.96	1.85
25206	26F706	26F702	2-C	3.63	3.33	3.03	2.42	2.30	2.18
25209	26F707	26F703	3-C	4.17	3.82	3.48	2.78	2.64	2.50
3 POSITION TYPE									
25304	26F712	26F708	1-A	3.30	3.03	2.75	2.20	2.09	1.98
25306	26F713	26F709	1-C	3.63	3.33	3.03	2.42	2.30	2.18
25308	26F714	26F710	2-A	4.02	3.69	3.35	2.68	2.55	2.41
25312	26F715	26F711	2-C	4.35	3.99	3.63	2.90	2.76	2.61

K-105	26F716	Color Chip Kit*	.27	.248	.225	.18	.171	.162
531	26F740	Escutcheon Plate	.15	.138	.125	.10	.095	.09

"LEVER LITE" SWITCH SERIES 27000



Same as 25000 Series except lever and filters. Mounts on ¾" centers, panels to $^{3}/_{32}$" thk., depth $2^{3}/_{16}$". On 2 pos. AMBER in "Neutral"; GREEN in "Down". On 3 pos., RED in "Up"; AMBER in "Neutral"; GREEN in "Down". W/6V lamp. 2 oz.

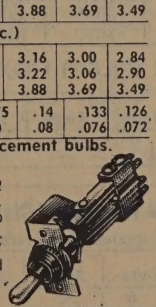
2 POSITION TYPE

Type	Non-lock	Locking	Cont. Form	1-24	25-49	50-99	100-249	250-499	500-999
27206	26F832	26F834	2-C	4.74	4.35	3.95	3.16	3.00	2.84
27212	26F833	26F835	4-C	5.82	5.34	4.85	3.88	3.69	3.49
3 POSITION TYPE (+Ea. sec.)									
27306	26F836	26F839	+1-C	4.74	4.35	3.95	3.16	3.00	2.84
27307	26F837	26F840	+1-C	4.83	4.43	4.03	3.22	3.06	2.90
27312	26F838	26F841	+2-C	5.82	5.34	4.85	3.88	3.69	3.49

532	26F842	Escutchen Pl.	.21	.193	.175	.14	.133	.126
P1864	26F879	Lt. shld. F/above	.12	.11	.10	.08	.076	.072

***n.o. center position off. @ See below replacement bulbs.**

SERIES 29000 FEATHER-LEVER SWITCH



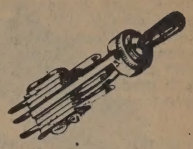
Steel frame, nylon roller, silver contacts at 2 amps., 200 W. max., A.C., non-inductive load. Bushing mount in $^{4}/_{16}$: O.D., hole in panels to ⅛" thk. Depth behind panel, $1^{9}/_{32}$", + n. o. cir. position off. ‡ InterCom "Talk-Listen" switch leverlock on one side of neutral and on-locking on other. 3 oz.

2 POSITION TYPE

Type	Non-lock	Locking	Cont. Form	1-24	25-49	50-99	100-249	250-499	500-999
29201	26F843	26F847	1-A	1.38	1.27	1.15	.92	.874	.828
29203	26F844	26F848	1-C	1.59	1.46	1.33	1.06	1.01	.954
29204	26F845	26F849	2-A	1.74	1.60	1.45	1.16	1.10	1.04
29206	26F846	26F850	2-C	1.92	1.76	1.60	1.28	1.22	1.15
3 POSITION TYPE (+ea. sec.)									
29304	26F852	26F857	1-A	1.80	1.65	1.50	1.20	1.14	1.08
29306	26F853	26F858	1-C	2.04	1.87	1.70	1.36	1.29	1.22
29312	26F855	26F860	2-C	2.64	2.42	2.20	1.76	1.67	1.58
‡ Intercom. switches									
29303T	26F861	·····	† 1-C	1.74	1.60	1.45	1.16	1.10	1.04
29307T	26F862	·····	† 2-C	2.07	1.90	1.73	1.38	1.31	1.24

532	26F842	Escutcheon Plate	.21	.193	.175	.14	.133	.126

LEV-R SWITCHES SERIES 3000 and 13000



Fine silver contracts rated at 3 amps, 300 watts max. AC non-inductive load. Non-locking types have spring return series 3000 mounts in panels up $^{3}/_{32}$ thick; series 13000 mounts in panels up to ¼ thick. Both series are ⅝" wide; requires 2¼" behind panel; mounts in single ½ dia. hole. No circuit center position off. ‡ "Talk-Listen" switches, lever locks on one side of neutral and non-locking on other side. 3 position switches have same contact for both sections. On each side except 3033, and 13033 and have one form C only. Supplied with lock nut and screw-on black knob. Wt.: 3 oz.

2 POSITION TYPE

Type	Stk. No. Non-lock	Stk. No. Locking	Cont. Form	1-24	25-49	50-99	100-249	250-499	500-999
3001	22F300	22F311	1-A	1.44	1.32	1.20	.96	.912	.864
3003	22F302	22F313	1-C	1.71	1.57	1.43	1.14	1.08	1.03
3006	22F305	22F316	2-C	2.07	1.90	1.73	1.38	1.31	1.24
13001	27F043	27F051	1-A	1.56	1.43	1.30	1.04	.988	.936
13003	27F044	27F052	1-C	1.80	1.65	1.20	1.14	1.08	.96
13006	27F045	27F053	2-C	2.16	1.98	1.80	1.44	1.37	1.30
13009	27F046	27F054	3-C	2.88	2.64	2.40	1.92	1.82	1.73
3 POSITION TYPE									
3033	22F306	22F317	1-C‡	1.86	1.71	1.55	1.24	1.18	1.12
3034	22F307	22F318	1-A	3.20	1.92	1.76	1.60	1.28	1.22
3035	22F308	22F319	1-B	1.71	1.57	1.43	1.14	1.08	1.03
3036	22F309	22F320	1-C	2.16	1.98	1.80	1.44	1.37	1.30
3037	22F310	22F321	1-C‡	2.22	2.04	1.85	1.48	1.41	1.33
13033	27F047	27F055	1-C‡	1.98	1.82	1.65	1.32	1.25	1.19
13034	27F048	27F056	1-A	2.04	1.87	1.70	1.36	1.29	1.22
13036	27F049	27F057	1-C	2.37	2.17	1.98	1.58	1.50	1.42
13037	27F050	27F058	1-C‡	2.37	2.17	1.98	1.58	1.50	1.42

SERIES 6000 TELEVER SWITCHES

Featuring "T-Beam" construction with Iridites finished steel frame. Palladium contacts rated at 3 A., 120 volts, non-inductive load. Size, $4^{9}/_{32}$x$1^{5}/_{8}$x$^{7}/_{8}$". Wt., 3 oz.

2-POSITION TYPE

Type	Non-Lock	Locking	Cont. Form	1-24	25-49	50-99	100-249	250-499	500-999
6006	22F322	22F331	2-C	3.33	3.05	2.78	2.22	2.11	2.00
60012	22F325	22F334	4-C	4.98	4.57	4.15	3.32	3.15	2.99
3-POSITION TYPE									
6036	22F327	22F336	1-C	3.33	3.05	2.78	2.22	2.11	2.00
60312	22F329	22F338	2-C	4.44	4.07	3.70	2.96	2.81	2.66
60324	22F330	22F339	4-C	6.78	6.22	5.65	4.52	4.29	4.07

22F340	530	Escut. Pl.	.63	.578	.525	.42	.399	.378
22F399	M1178-2	Knob	.27	.248	.225	.18	.171	.162

SERUES 16000 TELEVER SWITCHES

Similar to the 6000 Series. Single hole mounting; mounts in ½" dia. hole for panels up to ¼" thick. Size: $4^{7}/_{16}$x$1^{7}/_{8}$x$^{7}/_{8}$". Shpg. wt., 3 oz. **May be converted to "locking" by removing stop plate.**

2-POSITION TYPE

Non-locking Stk.No.	Non-locking Type	Contact Form	1-24	25-49	50-99	100-249	250-499	500-999
22F215	16006	2-C	3.48	3.19	2.90	2.32	2.20	2.09
22F216	16006D	2-D	3.90	3.58	3.25	2.60	2.47	2.34
22F217	16008	4-A	3.90	3.58	3.25	2.60	2.47	2.34
22F218	16009	3-C	4.17	3.82	3.48	2.78	2.64	2.50
22F219	160012	4-C	4.74	4.35	3.95	3.16	3.00	2.84
22F220	160012D	4-D	5.22	4.79	4.35	3.48	3.31	3.13
22F221	160024	8-C	6.93	6.35	5.78	4.62	4.39	4.16
3-POSITION TYPE								
22F222	16036	1-C	3.48	3.19	2.90	2.32	2.20	2.09
22F224	16038	2-A	3.90	3.58	3.25	2.60	2.47	2.34
22F225	160312	2-C	4.44	4.07	3.70	2.96	2.81	2.66
22F226	150312D	2-D	5.01	4.59	4.18	3.34	3.17	3.01
22F227	160316	4-A	5.85	5.36	4.88	3.90	3.71	3.51
22F228	160324	4-C	6.78	6.22	5.65	4.52	4.29	4.07

LAMPS FOR "LEVER-LITE" AND "LITTEL-LITE" SWITCHES

Stk.No.	Ind. Type	Volt.	Base	Current	1-9	10-99	100-499	500-up
25F149	1768	6V	Screw	200 Ma	.81	.743	.675	.54 .513 .486
26F508	335	28V	Screw	40 Ma	1.20	1.10	1.00	.80 .76 .72

NOTE: On all switches listed on this page add suffix letter L to manufacturer's type number to indicate locking type.

Switches Waldom-Molex

ILLUMINATED PUSHBUTTON SWITCHES

Both the 1175 and 1820 series are illuminated single pole single throw push button switches. Available in alternate Push-On and Push-Off (PP), Momentarily Open (MNO) and Momentarily Normally Closed (MNC). Nylon buttons are available in standard colors: white, red, green and amber. Blue and yellow are available on special order. Mechanical life minimum is 25,000 cycles. Both models easily snap mount into place. Terminals also have hole for soldering wire lead if desired.

1175 SERIES

Available as both illuminated pushbutton switches and as indicator lights. Compact design has precision molded, phenolic housing, 7/8" w. x 1 1/4" d. behind panel (less terminals). Terminals are standard 1/4" male tab and use Waldom female Q-D terminal SS-1090. Bezel, 1 1/4" l. x 15/64" w. Min. panel thickness, .031. *Indicates U.L. recognized.

All 6 volt switches have permanently installed Type 2114 incandescent lamp. All 125 volt switches have permanently installed Type NE-2H neon lamp with 35K ohm resistor. Bulb is dependent upon switch action. Legend is stamped in black, on white and amber buttons; in white, on red and green buttons. 14 volt and 28 volt (2 amp) type switches are also available on special order. All switches are attractively bubble packed, complete with proper Q-D terminals.

1820 SERIES

Quality molded nylon. Standard terms. With 3/16" male tabs use Waldom Q-D terms. SS-1187. Nylon bezel, 19/32" l. x 35/64" w. Panel thickness up to .070 positive lock; over .070 friction lock. Cut-out, .500" x 1.215". Housing, 31/32" w. x 29/64" d. *Indicates U.L. recognized.

1175 SERIES ILLUMINATED SWITCHES

Stock No.	Type	Volts AC	Amps	Lamp	Switch Action	Button Color	1-9 Each	10-24 Each	25-49 Each	50 Up Each
43F500	117510	6	2	Incandescent	PP	White	3.38	2.76	2.46	2.34
43F501	117510	6	2	Incandescent	PP	Red	3.38	2.76	2.46	2.34
43F502	117510	6	2	Incandescent	PP	Amber	3.38	2.76	2.46	2.34
43F503	117510	6	2	Incandescent	MNO	White	3.42	2.80	2.49	2.37
43F504	117510	6	2	Incandescent	MNO	Red	3.42	2.80	2.49	2.37
43F505	117510	6	2	Incandescent	MNO	Amber	3.42	2.80	2.49	2.37
43F506	117510	6	2	Incandescent	MNC	White	3.42	2.80	2.49	2.37
43F507	117510	6	2	Incandescent	MNC	Red	3.42	2.80	2.49	2.37
43F508	117510	6	2	Incandescent	MNC	Amber	3.42	2.80	2.49	2.37
43F509	117540	125*	8.5	Neon	PP	White	3.61	2.95	2.62	2.49
43F510	117540	125*	8.5	Neon	PP	Red	3.61	2.95	2.62	2.49
43F511	117540	125*	8.5	Neon	PP	Amber	3.61	2.95	2.62	2.49
43F512	117540	125*	8.5	Neon	MNO	White	3.70	3.02	2.69	2.56
43F513	117540	125*	8.5	Neon	MNO	Red	3.70	3.02	2.69	2.56
43F514	117540	125*	8.5	Neon	MNO	Amber	3.70	3.02	2.69	2.56
43F515	117540	125*	8.5	Neon	MNC	White	3.70	3.02	2.69	2.56
43F516	117540	125*	8.5	Neon	MNC	Red	3.70	3.02	2.69	2.56
43F517	117540	125*	8.5	Neon	MNC	Amber	3.70	3.02	2.69	2.56

Same as above type 1175 push button switches except have "on", or "off" legends hot stamped on button. Color of hot stamping: white on red and green buttons; black on amber and white buttons.

On	Off	Type	Volts	Amps	Lamp	Switch Action	Button Color	1-9 Each	10-24 Each	25-49 Each	50-Up Each
43F518	43F482	117560	6	2	Incandescent	PP	White	3.62	2.96	2.63	2.50
43F519	43F483	117560	6	2	Incandescent	PP	Red	3.62	2.96	2.63	2.50
43F520	43F484	117560	6	2	Incandescent	PP	Amber	3.62	2.96	2.63	2.50
43F521	43F485	117560	6	2	Incandescent	MNO	White	3.66	3.00	2.66	2.53
43F522	43F486	117560	6	2	Incandescent	MNO	Red	3.66	3.00	2.66	2.53
43F523	43F487	117560	6	2	Incandescent	MNO	Amber	3.66	3.00	2.66	2.53
43F524	43F488	117560	6	2	Incandescent	MNC	White	3.66	3.00	2.66	2.53
43F525	43F489	117560	6	2	Incandescent	MNC	Red	3.66	3.00	2.66	2.53
43F526	43F490	117560	6	2	Incandescent	MNC	Amber	3.66	3.00	2.66	2.53
43F527	43F491	117590	125*	8.5	Neon	PP	White	3.85	3.15	2.80	2.66
43F528	43F492	117590	125*	8.5	Neon	PP	Red	3.85	3.15	2.80	2.66
43F529	43F493	117590	125*	8.5	Neon	PP	Amber	3.85	3.15	2.80	2.66
43F530	43F494	117590	125*	8.5	Neon	MNO	White	3.94	3.22	2.86	2.72
43F531	43F495	117590	125*	8.5	Neon	MNO	Red	3.94	3.22	2.86	2.72
43F532	43F496	117590	125*	8.5	Neon	MNO	Amber	3.94	3.22	2.86	2.72
43F533	43F497	117590	125*	8.5	Neon	MNC	White	3.94	3.22	2.86	2.72
43F534	43F498	117590	125*	8.5	Neon	MNC	Red	3.94	3.22	2.86	2.72
43F535	43F499	117590	125*	8.5	Neon	MNC	Amber	3.94	3.22	2.86	2.72

1175 SERIES INDICATOR (PILOT) LIGHTS

White	Red	Amber	Green	Type	Switch Action	Volts	Amps	Legend	1-9 Each	10-24 Each	25-49 Each	50-Up Each
59F1762	59F1763	59F1764	59F1765	117515	—	6	—	—	3.06	2.50	2.22	2.11
59F1765	59F1766	59F1767	59F1768	117545	—	125	—	—	2.79	2.29	2.03	1.93

33F737 Type 731 Chassis hole punch for Series 1175 and 1820.....Each 6.90

1820 SERIES ILLUMINATED SWITCHES

Identical to the above 1175 switch series less switch action. Supplied with permanently installed lamp.

White	Red	Amber	Green	Type	Switch Action	Volts	Amps	Legend	1-9 Each	10-24 Each	25-49 Each	50-Up Each
59F1770	59F1771	59F1772	59F1773	182010	PP	6	2	—	3.84	3.14	2.79	2.65
59F1774	59F1775	59F1776	59F1777	182010	MNO	6	2	—	3.99	3.27	2.90	2.76
59F1778	59F1779	59F1700	59F1701	182010	MNC	6	2	—	3.99	3.27	2.90	2.76
59F1702	59F1703	59F1704	59F1705	182060	PP	6	2	On	4.08	3.34	2.97	2.82
59F1706	59F1707	59F1708	59F1709	182060	PP	6	2	Off	4.08	3.34	2.97	2.82
59F1710	59F1711	59F1712	59F1713	182060	MNO	6	2	On	4.24	3.47	3.08	2.93
59F1714	59F1715	59F1716	59F1717	182060	MNO	6	2	Off	4.24	3.47	3.08	2.93
59F1718	59F1719	59F1720	59F1721	182060	MNC	6	2	On	4.24	3.47	3.08	2.93
59F1722	59F1723	59F1724	59F1725	182060	MNC	6	2	Off	4.24	3.47	3.08	2.93
59F1726	59F1727	59F1728	59F1729	182040*	PP	125	9	—	3.73	3.05	2.71	2.57
59F1730	59F1731	59F1732	59F1733	182040*	MNO	125	9	—	3.88	3.18	2.82	2.68
59F1734	59F1735	59F1736	59F1737	182040*	MNC	125	9	—	3.88	3.18	2.82	2.68
59F1738	59F1739	59F1740	59F1741	182090*	PP	125	9	On	3.97	3.25	2.89	2.75
59F1742	59F1743	59F1744	59F1745	182090*	PP	125	9	Off	3.97	3.25	2.89	2.75
59F1746	59F1747	59F1748	59F1749	182090*	MNO	125	9	On	4.13	3.38	3.00	2.85
59F1750	59F1751	59F1752	59F1753	182090*	MNO	125	9	Off	4.13	3.38	3.00	2.85
59F1754	59F1755	59F1756	59F1757	182090*	MNC	125	9	On	4.13	3.38	3.00	2.85
59F1758	59F1759	59F1760	59F1761	182090*	MNC	125	9	Off	4.13	3.38	3.00	2.85

ELECTRONIC CONTROLS INC.

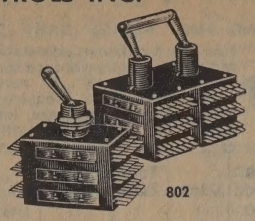
T-BAR SWITCHES

Multi-pole switches employing stacked-up enclosed contact wafers. Rated 5 amps at 115 VAC. Silver plated terminals fit T-Bar Connectors (listed under T-Bar Relays—see index), or may be soldered. Temperature rating: —55 to +85°C. Dielectric strength 1000V RMS, terminal to terminal.

SERIES 802 TOGGLE SWITCHES

All types are double throw (Form C). Contacts are in dust-tight plastic enclosures. Behind-panel depth, only $1\frac{5}{32}$" per 12 poles. Mechanical life: 50,000 cycles.

Stock No.	Type No.	Pls.	1-24	25-49	50-74	75-99
59F725	802-8C	8	11.44	10.87	10.33	9.84
59F726	802-12C	12	12.68	12.05	11.44	10.91
59F729	802-24C	24	24.86	23.62	22.44	21.38
59F731	802-36C	36	34.40	32.68	31.05	29.58
59F744	802-48C	48	56.29	50.66	45.59	41.09
59F746	802-72C	72	84.80	76.32	68.69	61.90



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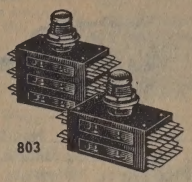

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SERIES 803 PUSHBUTTON SWITCHES

All types are momentary contact. Button travel, 0.07" approx. Electrically identical to Series 802: rated 5 amps at 115VAC, mechanical life 500,000 operations, dielectric strength 100 V RMS.

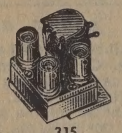
Stk. No.	Type	Action	1-24	25-49	50-74	75-99
59F732	803-4C	4PDT	7.13	6.77	6.43	6.13
59F733	803-8C	8PDT	9.54	9.06	8.61	8.20
59F734	803-12C	12PDT	10.77	10.23	9.72	9.26
59F737	803-24C	24PDT	22.96	21.81	20.72	19.75
59F740	803-36C	36PDT	32.50	30.88	29.33	27.95

AMPHENOL

COAXIAL SWITCHES—MANUAL AND SOLENOID-OPERATED

20 millisecond max. operate and release time. Mech. life exceeds 1,000,000 Hz. Silver plated for complete shielding. Gold-over-sil.plated contacts 100 watt RF power rating. Vacuum impregnated coils withstand high humidity. Rated for cont. duty from —65°C to +85°C. Terminations are all shorting except (*). ** INDICATES that the marked switches are either rotary manual (57F1108) or lever manual (571104 and 57F1106).

Stk. No.	Type No.	Freq. MC	Volts	Func.	Plug	1-4	5-9	10-24	25-49	50-Up
57F1100	315-010002-3*	1000	26DC	SPDT	BNC	25.30	21.00	18.10	15.94	14.05
57F1104	318-010381-0*	2750	**	SPDT	BNC	28.27	23.47	20.22	17.82	15.70
57F1106	321-011062-0*	1000	**	DPDT	BNC	38.94	32.33	27.85	24.54	21.62
57F1107	321-011064-3*	1000	26DC	DPDT	BNC	38.94	32.23	27.85	24.54	21.62
57F1108	322-011431-0*	2750	**	SP4T	BNC	62.70	52.04	44.84	39.50	34.80
57F1109	323-011506-3	900	26DC	SP4T	BNC	55.88	46.34	39.96	35.21	31.02
57F1110	324-011442-0*	900	26DC	SP6T	BNC	54.40	45.40	40.80	36.15	32.65
57F1141	316-010102-8	2750	115AC	SPDT	BNC	30.47	25.30	21.79	19.21	16.92
57F1142	323-011651-3	1250	26VDC	SP4T	BNC	55.80	46.39	39.96	35.21	31.02
57F1143	325-011641-3	500	26VDC	SP6T	BNC	70.40	58.43	50.34	44.35	39.07
57F1144	327-010582-3	1000	26VDC	Trans.	BNC	39.27	32.60	28.08	24.75	21.80



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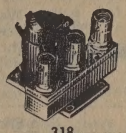

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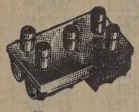


Type 323

324

WALDOM-MOLEX

LIGHTED PUSHBUTTON SWITCHES

Model 1175. Lighted pushbutton switches provide instantaneous identification of switching function. Low amperage circuits are well designed, mechanically sturdy and offer high operational life. Available in alternate action, momentary normally open or momentary normally closed models. Mechanical life is 25,000 cycles. Easily snap-mounts into place to simplify assembly and reduce assembly time. Mounting clips provided with integrally molded mounting ears. Bezels are high-gloss chrome-plated. Housings are precision molded of durable phenolic. Designed for panel mounting, minimum thickness .031". Terminals are standard ¼" male tab, use Waldom female Q-D terminal SS-1090. Tabs have solder hole for soldering wire lead, if desired. Includes permanently installed lamp. Type 117510 is 6 VAC, 2 A, incandescent lamp. Type 117540 is 125 VAC, 8.5 A, neon. Dimensions: 1-¼" lgth. x 1-¼" dpth. Shpg. wt., 1oz. State stock no. and switch type, color when ordering.

INCANDESCENT TYPES

Stock No.	Type	Switch Action	Button Color	1-24 Each	25-49 Each	50-Over Each
43F500	117510	PP	White	3.85	3.55	3.25
43F501	117510	PP	Red			
43F502	117510	PP	Amber			
43F503	117510	MNO	White			
43F504	117510	MNO	Red			
43F505	117510	MNO	Amber			
43F506	117510	MNC	White			
43F507	117510	MNC	Red			
43F508	117510	MNC	Amber			

Same as above switches except have "on" or "off" legends not stamped on button. Color of hot stamping: white on green; black on amber and white. 117560: 6 V, 2 A, incandescent lamp. 117590: 125 V, 8.5 A, neon lamp.

On	Off	Type	Switch Action	Button Color	1-24 Each	25-49 Each	50-Over Each
43F518	43F482	117560	PP	White	4.50	4.20	3.85
43F519	43F483	117560	PP	Red			
43F520	43F484	117560	PP	Amber			
43F521	43F485	117560	MNO	White			
43F522	43F486	117560	MNC	Red			
43F523	43F487	117560	MNO	Amber			
43F524	43F488	117560	MNC	White			
43F525	43F489	117560	MNC	Red			
43F526	43F490	117560	MNC	Amber			

NEON TYPES

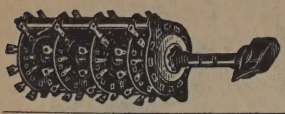
Stock No.	Type	Switch Action	Button Color	1-24 Each	25-49 Each	50-Up Each
43F509	117540*	PP	White	3.45	3.20	2.95
43F510	117540*	PP	Red			
43F511	117540*	PP	Amber			
43F512	117540*	MNO	White			
43F513	117540*	MNO	Red			
43F514	117540*	MNO	Amber			
43F515	117540*	MNC	White			
43F516	117540*	MNC	Red			
43F517	117540*	MNC	Amber			

On	Off	Type	Switch Action	Button Color	1-24 Each	25-49 Each	50-Up Each
43F527	43F491	117590*	PP	White	4.15	3.85	3.50
43F528	43F492	117590*	PP	Red			
43F529	43F493	117590*	PP	Amber			
43F530	43F494	117590*	MNO	White			
43F531	43F495	117590*	MNO	Red			
43F532	43F496	117590*	MNO	Amber			
43F533	43F497	117590*	MNC	White			
43F534	43F498	117590*	MNC	Red			
43F535	43F499	117590*	MNC	Amber			

*Component U.L. Recognized

MALLORY Quality Switches

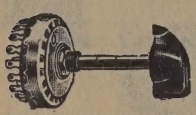
1200L AND 1300L SERIES GANG SWITCHES



Has one fixed, one adjustable stop, silver-plated contacts and phosphor-bronze springs. 3-and 4-gang spaced 1"; all others, ½". 2" notched shaft. Shorting-type make before break. Require 7/16" mtg. hole. With bar knob and mtg. hardware, less mtg. plate. *Has additional "off" position with all circuits open. Wt. av., 8 oz.

Shorting		Non-Shorting			Total	Pos.per			10-	25-	50-	100-
Stk. No.	Type	Stk. No.	Type	Gangs	Poles	Pole	1-4	5-9	24	49	99	249
22F000	1211L	22F016	311L	1	1	11	2.46	2.05	1.84	1.74	1.64	1.47
22F001	1215L*	22F107	1315L*	1	2	5	2.46	2.05	1.84	1.74	1.64	1.47
....	.....	22F018	1313L*	1	3	3	2.46	2.05	1.84	1.74	1.64	1.47
22F004	1221L	22F020	1321L	2	1	11	3.00	2.51	2.25	2.13	2.00	1.80
.....	.....	22F021	1325L*	2	2	5	3.00	2.51	2.25	2.13	2.00	1.80
.....	.....	22F023	1322L	2	4	2	3.00	2.51	2.25	2.13	2.00	1.80
.....	.....	22F024	1331L	3	1	11	3.78	3.16	2.84	2.68	2.52	2.27
.....	.....	22F025	1335L*	3	2	5	3.78	3.16	2.84	2.68	2.52	2.27
.....	.....	22F026	1341L	4	1	11	4.45	3.72	3.34	3.16	2.97	2.67
22F011	1245L*	22F027	1345L*	4	2	5	4.45	3.72	3.34	3.16	2.97	2.67
.....	.....	22F028	1351L	5	1	11	4.81	4.01	3.61	3.41	3.20	2.88
.....	.....	22F029	1356L	5	2	6	5.29	4.42	3.97	3.76	3.53	3.18
22F014	1261L	22F030	1361L	6	1	11	5.65	4.72	4.24	4.01	3.76	3.39
.....	.....	22F031	1366L	6	2	6	6.45	5.38	4.83	4.58	4.30	3.87
.....	.....	22F022	1323L*	2	3	3	3.00	2.51	2.25	2.13	2.00	1.80

SINGLE GANG SWITCHES



Well-constructed and versatile units for servicing and industrial use. Compact, enclosed switches with 2" notched shaft; 3/8" threaded bushing 3/8" long. With bar knob and nut. All have adjustable stops. For band switching, etc. Use plates listed at right. A volume plate and a 0-100 plate are also available. 1¼" dia. 30°; 1 11/16 dia. 20°. Shpg. wt., 4 oz.

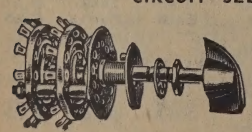
Shorting		Non-Shorting				Base			10-	25-	50-	100-
Stk. No.	Type	Stk. No.	Type	Poles	Pos.	Dia.	1-4	5-9	24	49	99	249
22F040	3115J	22F052	3215J	1	5	1¼"	1.20	1.00	.90	.85	.80	.72
22F041	31112J	22F053	32112J	1	12	1¼"	1.20	1.00	.90	.85	.80	.72
22F042	3122J	22F054	3222J	2	2	1¼"	1.20	1.00	.90	.85	.80	.72
22F043	3123J	22F055	3223J	2	3	1¼"	1.20	1.00	.90	.85	.80	.72
22F044	3126J	22F056	3226J	2	6	1¼"	1.20	1.00	.90	.85	.80	.72
22F045	3134J	22F057	3234J	3	4	1¼"	1.24	1.03	.93	.88	.83	.74
22F046	3142J	22F058	3242J	4	2	1¼"	1.24	1.03	.93	.88	.83	.74
22F047	3143J	22F059	3243J	4	3	1¼"	1.24	1.03	.93	.88	.83	.74
22F048	31117J	22F060	32117J	1	17	1 11/16"	1.83	1.52	1.37	1.30	1.22	1.10
.....	.....	22F061	3229J	2	9	1 11/16"	1.83	1.52	1.37	1.30	1.22	1.10
22F050	3136J	22F062	3236J	3	6	1 11/16"	1.93	1.61	1.45	1.37	1.29	1.16
22F051	3163J	22F063	3263J	6	3	1 11/16"	1.93	1.61	1.45	1.37	1.29	1.16

LEVER ACTION SWITCHES

5000 Series elongated mounting holes with mounting centers of 29/32". The 6000 Series have round holes spaced 1 5/8" ctrs. May be mounted singly or grouped with ¾" between lever arm centers. Voltage breakdown rating 500 V AC-DC. Maximum and minimum breaking currents. resistive load, .125A @ 300V DC, 3A@6V DC, .2A@300V AC and 5A@6V AC.

Shorting		Non-shorting		No. of	No. of			10-	25-	50-	100-
Stk. No.	Type	Stk. No.	Type	Poles	Position	1-4	5-9	24	49	99	249
22F131	5124	22F134	5224	2	4	1.62	1.35	1.21	1.15	1.08	.97
22F132	6142	22F135	6242	4	2	1.41	1.17	1.05	1.00	.94	.84
22F133	6143	22F136	6243	4	3	1.41	1.17	1.05	1.00	.94	.84

CIRCUIT SELECTOR SWITCHES



Ceramic-section switches with low RF losses. Adjustable stop. 2 gang spaced ½"; 3 gang, 1". With 2" grooved shaft, knob, and hardware. *Has 1 circuit and 11 positions. †Has 2 circuits and 5 positions and ‡has 3 circuits and 3 positions per gang. # additional "off" pos. Wt. 8 oz.

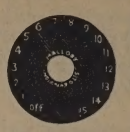
Stk. No.	Types	Gang	1-4	5-9	10-24	25-49	50-99	100-249
22F070	172C	1*	2.77	2.31	2.08	1.97	1.85	1.66
22F071	173C#	1†	2.77	2.31	2.08	1.97	1.85	1.66
22F072	174C#	1‡	2.77	2.31	2.08	1.97	1.85	1.66
22F073	176C#	2*	3.97	3.31	2.98	2.82	2.64	2.38
22F074	177C#	2†	3.97	3.31	2.98	2.82	2.64	2.38
22F075	178C#	2‡	3.97	3.31	2.98	2.82	2.64	2.38
22F077	180C	3*	5.04	4.21	3.78	3.58	3.36	3.02
22F078	181C#	3†	5.04	4.21	3.78	3.58	3.36	3.02

MALLORY DECADE SWITCHES

Use for capacitors or resistors for full decade. 153L for capacitors, 154L for resistors. Phenolic insulation. Mtg. depth behind panel 1". Lateral mtg. space 2". Steel shaft is ¼" dia. x 2" long. Complete with knob and instructions. Wt. 6 oz.

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
22F087	153L	3.15	2.63	2.36	2.24	2.10	1.89
22F088	154L	3.44	2.88	2.58	2.45	2.30	2.07

DIAL PLATES FOR ROTARY SWITCHES



Types 372 to 390 for switches 1200L. 1300L and 1¼" base 3100J, 3200J typs. Others are designed for 1 11/64" base 3100J and 3200J types. All are etched aluminum. Shpt. wt., 1 oz.

PLATES FOR 1¼" BASE SWITCHES 30° SPACING

Stk. No.	Type	Mark
22F150	372	1 to 2
22F151	373	1 to 3
22F152	374	1 to 4
22F153	375	1 to 5
22F154	376	1 to 6
22F155	377	1 to 7
22F156	378	1 to 8
22F157	379	1 to 9
22F158	380	1 to 10
22F159	381	1 to 11
22F160	382	1 to 12
22F161	383	off 1 to 3
22F162	384	off 1 to 4
22F163	385	off 1 to 5
22F164	386	off 1 to 6
22F166	388	off 1 to 8
22F167	389	off 1 to 9
22F168	390	off 1 to 10

NET EACH ..... .20

PLATES FOR 1-11 16" BASE SWITCHES 20° SPACING

Stk. No.	Type	Mark
22F169	453	1 to 3
22F170	454	1 to 4
22F174	458	1 to 8
22F175	459	1 to 9
22F176	460	1 to 10
22F177	461	1 to 11
22F178	462	1 to 12
22F179	467	1 to 17
22F180	473	off 1 to 3
22F181	474	off 1 to 4
22F184	477	off 1 to 7
22F185	478	off 1 to 8
22F186	479	off 1 to 9
22F187	480	off 1 to 10

NET EACH ..... .20

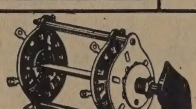
22F188. Type 369. 0-100 plate for either type switch. EA. ..... .35

22F189. Type 391. Volume plate for either type switch ..... .35

22190. Type 395. 0-10 plate for standard controls ..... .35

22F292. Type 399. 0-10 for "E" type potentiometers ..... .35

MALLORY "HAMSWITCHES"



Type 151L. 2-section. 5-position switch. Non-shorting type. For switching meter circuits. 2¼" spacing between sections. Rated at 1000 volts AC or 1500 volts DC, 60° indexing between positions. With knob, nut, washer. Shpg. wt., 6 oz.

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
22F080	151L	3.15	2.63	2.36	2.24	2.10	1.89

Type 1312L. Tap Switch. Single circuit 24-position non-shorting switch. Continuous rotation. 3/8" bushing. 2" notched shaft. 15° indexing between positions. With bar knob, dial plate and mtg. hardware. Wt., 6 oz.

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
22F085	13124L	3.23	2.70	2.43	2.30	2.16	1.94

Type 1400L. Circuit Opening Switch. Opens any one of 12 "lines" for insertion of current reading meter. Maintains circuit on other 11 lines. Resistors can be wired so that switch not only opens line, but also cuts in selected resistor. With bar knob, dial plate, and hardware. Wt., 6 oz.

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
22F086	1400L	5.46	4.56	4.10	3.88	3.64	3.28

LINEMASTER FOOT SWITCHES

SENIOR. Leave both hands free. Just press foot switch lightly with your foot or knee. You can conveniently mount this DPST single phase switch on a wall or on the side of a bench. Maintained contact unit. Precision-built for long life. Rated 20 amps. AC or DC, 125 to 250 volts. 1 horsepower. Size, 4x7x3¼". Shpg. wt., 5¼ lbs.
Model 4141-D1. Switch interior repl. for above.
Model 4141-S. Momentary contact.
Model 4141-S1. Switch interior repl. for above.

Stk. No.	Type	1-9	10-19	20-49
24F160	4141-D	11.50	10.35	9.20
24F172	4141-D1	4.40	3.96	3.52
24F164	4141-S	11.50	10.35	9.20
24F173	4141-S1	5.10	4.59	4.08

JUNIOR. A momentary contact switch for lightest pressure contact. Used as Single Pole, Norm. open or closed. Rated 20 A. at 125-250 VAC. Size, 5½x3¼x1¼". Shipping weight 1 lb.

Stk. No.	Type	1-9	10-19	20-49
24F161	121-S	8.50	7.65	6.80

The.. Executive... Two switches in one using the teeter-totter principle to operate only one circuit at a time. SPDT. Rated 15 A. at 125-250 VAC. Size, 4x4⅝x1⅛". Shpg. wt., 14 oz.

Stk. No.	Type	1-9	10-19	20-49
24F169	B-2-S	7.50	6.75	6.00

TREADLITE. A small yet versatile and rugged foot switch designed to give instantaneous and accurate control at low amperage loads. Less cord and plug set. 7 Amps at 125-250 VAC. 3½ x 2⅜ x 1". Shipping weight, 8 oz.
Model T-51-S. Single pole, double throw, momentary contact only. Can be used normally open or closed as desired.
Model T-51-SC. As above but SPNO with 2-prong series plug and 6' cord set.
Model T-51-SC3. As above but SPNO with 3-prong series plug and 6' cord set.
Model T-51-SC36. As above but SPNO with 6 foot 18/3 SJ cord. No plug. Green lead grounded.
Model T-51-S1. Replacement interior for T-51-S.
Model T-52-S. Has interiors so constructed and positioned that a partial downward stroke of the treadle actuates one interior and either opens or closes a circuit. Continued heavier pressure will either open or close a second circuit. Both are SPDT.

Stk. No.	Type	1-9	10-19	20-49
24F163	T-51-S	2.90	2.61	2.32
24F155	T-51-SC	4.35	3.92	3.48
24F156	T-51-SC3	5.60	5.04	4.48
24F180	T-51-SC36	5.10	4.59	4.08
24F175	T-51-S1	.85	.77	.68
24F167	T-52-S	4.80	4.32	3.84

DUPLEX. . . . . 2-SPDT switches in double-pressure housing. Light spring for seated operation, may be wired as Single Pole, normally open or closed, are 8½x3½x2". Shipping weight, 1¾ lbs.

Stk. No.	Type	1-9	10-19	20-49
24F166	476S	14.00	12.60	11.20

LECTRO-LOK. Switch has mechanical interlock that prevents both circuits from being operative at the same time. SPDT. Can be wired normally open or normally closed. Rated 15 amps at 125-250 Volts. AC only. 10 oz. Size, 5"x2¼"x1⅛".

Stk. No.	Type	1-9	10-19	20-49
24F168	L-2-S	5.80	5.22	4.64

CLIPPER. Unit designed for operation under heavy loads. Rated 20 Amps at 125-250 VAC. SPDT 4½ x 3½ x 1½". Shpg. wt., 2¼ lbs. Two models. 632-S momentary, 632-D maintained contact.

Stk. No.	Type	1-9	10-19	20-49
24F170	632-S	8.25	7.43	6.60
24F171	632-D	11.00	9.90	8.80

COMPACT. Compact, and lightweight SPDT switch. Precision-made for accurate operation and long life. Steel housing. Skidproof rubber base pad. Less cord and plug. Ratings: 10 amps. at both 125-250 VAC. Wt., 7 oz.
Model 491-SC. As above but with 2-prong series plug & 6' cord.
Model 491-S1. Replacement interior for above.
Model 491-SC3. As above but with 3-prong series plug & 8' cord.
Model 491-SC36. As above with 6 foot 18/3 SJ cord. No plug. Green lead grounded.

Stk. No.	Type	1-9	10-19	20-49
24F165	491-S	3.50	3.15	2.80
24F162	491-SC	5.45	4.91	4.36
24F174	491-S1	1.80	1.62	1.44
24F154	491-SC3	6.45	5.81	5.16
24F181	491-SC36	6.20	5.58	4.96

STACKPOLE SWITCHES

SIZE CHART
A $17/32 \times 13/8 \times 9/32$"
B $17/32 \times 13/8 \times 11/32$"
C $17/32 \times 157/64 \times 31/64$"
D $17/32 \times 157/64 \times 9/32$"
E $17/32 \times 57/64 \times 11/32$"

Attractive low-cost AC-DC switches for hundreds of different applications. Mtg. holes are 136 .140" clearance holes. All switches are non-shorting types, break before make. Solder lug terminals designed to accept AMP Faston Series 110 or the equivalent. U.L. and CSA listed except SS-47 and SS-47-1.

SLIDE SWITCHES

The triggers are made of a high impact resistant molded black phenolic or nylon. 11/32" high. †Push button, momentary contact.

Stock No.	Type	Action	Amps@ 125VAC	Sz.	1-24	25-49	50-99	100-499	500-999
60F3300	SS-15-1	SPST†	3.0	A	.34	.27	.22	.179	.129
60F3301	SS-26	SPST	4.0	A	.28	.22	.17	.142	.092
60F3302	SS-26-1	SPDT	4.0	A	.29	.23	.18	.144	.094
60F3303	SS-50	DPDT	3.0	B	.30	.24	.19	.158	.108
60F3304	SS-16	DP3T	6.0	C	.40	.32	.26	.212	.162
60F3305	SS-18	DP4T	6.0	C	.44	.35	.28	.233	.183
60F3306	SS-34	3PDT	6.0	C	.55	.44	.35	.287	.237
60F3308	SS-36-1	SPDT	6.0	A	.30	.24	.19	.159	.109
60F3309	SS-31	SP3T	6.0	A	.35	.28	.23	.185	.135
60F3310	SS-33	DPDT	6.0	C	.39	.31	.25	.209	.159
60F3311	SS-38	DP3T	6.0	C	.44	.35	.28	.233	.183
60F3312	SS-47	SPST	10.0	A	.38	.30	.24	.198	.148
60F3313	SS-47-1	SPDT	10.0	A	.41	.33	.26	.214	.164

Slide Switch

Flush Bracket

Offset Bracket

ROCKER SWITCHES

Rocker knobs made of molded Delrin. Approx. 11/16" above switch body. Three bracket configurations available. Fig. A, flush bracket (FB), Fig. B offset bracket (OB). SPST and SPDT types rated 4 amps @ 125 VAC, DPDT rated 3 amps @ 125 VAC.

Stock No.	Type & Bracket	Action	Knob Color	Sz.	1-24	25-49	50-99	100-499	500-999
60F3314	RS-26-FB	SPST	Blk	A	.48	.38	.30	.248	.198
60F3315	RS-26-FB	SPST	Wt	A	.53	.42	.33	.273	.209
60F3316	RS-26-FB	SPST	Red	A	.53	.42	.33	.273	.209
60F3317	RS-26-OB	SPST	Blk	D	.49	.39	.31	.255	.205
60F3318	RS-26-OB	SPST	Wt	D	.54	.43	.34	.28	.216
60F3319	RS-26-OB	SPST	Red	D	.54	.43	.34	.28	.216
60F3320	RS-26-1-FB	SPDT	Blk	A	.48	.38	.30	.248	.198
60F3321	RS-26-1-FB	SPDT	Wt	A	.53	.42	.33	.273	.209
60F3322	RS-26-1-FB	SPDT	Red	A	.53	.42	.33	.273	.209
60F3323	RS-26-1-OB	SPDT	Blk	D	.49	.39	.31	.255	.205
60F3324	RS-26-1-OB	SPDT	Wt	D	.54	.43	.34	.28	.216
60F3325	RS-26-1-OB	SPDT	Red	D	.54	.43	.34	.28	.216
60F3326	RS-50-FB	DPDT	Blk	B	.50	.40	.32	.266	.216
60F3327	RS-50-FB	DPDT	Wt	B	.59	.47	.37	.291	.227
60F3328	RS-50-FB	DPDT	Red	B	.59	.47	.37	.291	.227
60F3329	RS-50-OB	DPDT	Blk	E	.53	.42	.33	.273	.223
60F3330	RS-50-OB	DPDT	Wt	E	.60	.48	.38	.298	.234
60F3331	RS-50-OB	DPDT	Red	E	.60	.48	.38	.298	.234

MAKE NEWARK YOUR DEPENDABLE SOURCE FOR ALL ELECTRONIC COMPONENTS

Whether ordering in quantity for production or in small lots for specialized use, make Newark your headquarters for every electronic component. — Get the exact part you need from an inventory of over 70,000 units! Top Quality, Lowest Prices, Fastest Service.

Industrial Timer Controls

AUTOMATIC RESET TIME DELAY SERIES TDAB AND TDAF

TDAB

TDAF

Have SPDT switches rated 10 amps, 115 V, 60 Hz. TDAF, panel mount. TDAB, behind panel mount. Shpg. wt. 4 lbs. TDAB is UL recognized.

BACK MOUNT

Stk. No.	Type
24F1848	TDAB-3S
24F1810	TDAB-6S
24F302	TDAB-15S
24F1849	TDAB-30S
24F1811	TDAB-60S
24F1812	TDAB-15M
24F303	TDAB-30M
24F304	TDAB-60M
24F1871	Type K Steel Housing Enclosure for TDAB

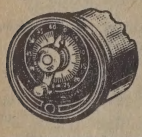
Type	1-3	4-5	6-11	12-24	25-49	50-99
TDAB	43.00	40.85	38.70	36.55	34.40	32.25
K	6.50	6.18	5.85	5.33	5.20	4.88

PANEL MOUNT

Stk. No.	Type	Time Cy.	Calibration
24F1850	TDAF-3S	3 sec	1/20 sec
24F305	TDAF-6S	6 sec	1/10 sec
24F1806	TDAF-15S	15 sec	1/4 sec
24F1807	TDAF-30S	30 sec	1/2 sec
24F1838	TDAF-60S	60 sec	1 sec
24F1808	TDAF-15M	15 min	15 sec
24F1809	TDAF-30M	30 min	30 sec
24F1839	TDAF-60M	60 min	60 sec
24F1871	Type K Steel Housing Enclosure for TDAB		

Type	1-3	4-5	6-11	12-24	25-49	50-99
TDAF	43.00	40.85	38.70	36.55	34.40	32.25
K	6.50	6.18	5.85	5.33	5.20	4.88

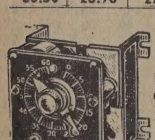
AUTOMATIC RESET SERIES TD and CTD



Designed for "through the panel" mounting. 3" dia. extra strong bakelite case with terminals at rear. 115V. 60 Hz Wt. 1½ lbs. *2 23/32 dep. †4 5/32 depth. UL. recognized C.S.A. approved.

Stock No.	Type No.	Time Cycle	Calibration
24F1851	TD-6S	6 sec	1/10 sec.
24F275	TD15S*	15 sec	1/4 sec.
24F1852	TD-30S	30 sec	1/2 sec.
24F276	CTD1M†	60 sec	1 sec.
24F277	CTD3M†	3 min	3 sec.
24F278	CTD5M†	5 min	5 sec.

1-3	4-5	6-11	12-24	25-49	50-99
30.50	28.98	27.45	25.93	24.40	22.88



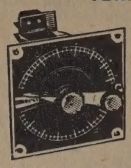
AUTOMATIC RESET SERIES SF AND CSF

Designed for back of panel or chassis installation. 115V. 60 Hz. 2¾x3 1/16x7⅝". UL recognized C.S.A. approved.

Stock No.	Type No.	Time Cycle	Calibration
24F1853	SF15S	6 sec.	1/10 sec.
24F279	SF-6S	15 sec.	1/4 sec.
24F1854	SF-30S	30 sec.	1/2 sec.
24F280	CSF1M	60 sec.	1 sec.
24F281	CSF3M	3 min.	3 sec.
24F282	CSF5M	5 min.	5 sec.

1-3	4-5	6-11	12-24	25-49	50-99
23.00	21.85	20.70	19.55	18.40	17.25

AUTOMATIC RESET SERIES H AND CH



Designed for panel mounting. Four screws hold timer in place. Terminals at rear. 115V. 60 Hz. 3 9/16 x 3 7/16 x 3½". UL recognized. C.S.A. approved. Shpg. wt. 1½ lbs.

24F1855	CC-6S	6 sec.	1/10 sec.
24F296	CC-15S	15 sec.	1/4 sec.
24F1856	CC-30S	30 sec.	1/2 sec.
24F297	CH1M	60 sec.	1 sec.
24F298	CH3M	3 min.	3 sec.
24F299	CH5M	5 min.	5 sec.

1-3	4-5	6-11	12-24	25-49	50-99
26.50	25.18	23.85	22.53	21.20	19.88

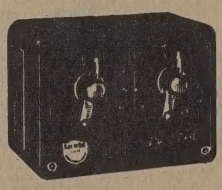
SERIES 90 DELAY TIMERS

Requires little or no field adjustments. No calibrated dial is supplied with it. Time cycle changed by offsetting one cam arm. Contacts are SPDT, 10 amps. rated at 115/60. Dimensions: 2⅝x2¼x2¼". UL recognized and C.S.A. approved. Shpg. wt. 1 lb.

Stk. No.	Type	Time Cycle	Calibration
24F1843	90-6S	6 sec.	1/2 sec.
24F1844	90-15S	15 sec.	1½ sec.
24F1845	90-30S	30 sec.	3 sec.
24F1846	90-60S	60 sec.	6 sec.
24F1847	90-90S	90 sec.	9 sec.

1-3	4-5	6-11	12-24	25-49	50-99
17.00	16.15	15.30	14.45	13.60	12.75

SERIES "DUAL TROL" RECYCLING TIMERS



Dual-Trol is a compact recycling timer that continuously closes and opens a SPDT load switch. A complete unit consists of two TM timer modules—one to set the ON interval. Second to fit the OFF interval—and a control cabinet. Any two modules from listing below may be used to achieve the desired combination of time cycles. TM modules are complete timing mechanisms, with 4-prong plugs that match receptacles within cabinet, for easy installation. Isolated SPDT load switch connects to terminal strip within cabinet; switch is rated 10A non-inductive at 115 VAC. 115 VAC/60 hz. 4½x5 9/16 x7½" Wt. 2 lbs.

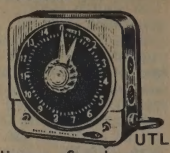
TIMING ELEMENTS (2 REQUIRED)

Stock No.	Type	Max. Time	Min. Time
24F1860	TM-6S	6 sec.	1/10 sec.
24F1861	TM-15S	15 sec.	1/4 sec.
24F1862	TM-30S	30 sec.	1/2 sec.
24F1863	TM-60S	60 sec.	1 sec.
24F1864	TM-3M	3 min.	3 sec.
24F1865	TM-5M	5 min.	5 sec.
24F1866	TM-15M	15 min.	15 sec.
24F1867	TM-30M	30 min.	30 sec.
24F1868	TM-60M	60 min.	1 min.
24F1869	TM-3H	3 hours	3 min.
24F1870	Control	Cabinet	

Type	1-3	4-5	6-11	12-24	25-49
TM	27.50	26.13	24.75	23.38	22.00
24F1870	39.00	21.38	20.25	19.13	18.00

UTILITY TIMERS

UTF


UTL

Manual set interval timers. Synchronous motor driven. Contact rating-10 amps, non-inductive @115 VAC. Power Reg. 115/60.

Series **UTL** 7" diameter dial. Will control a circuit both during and after timed interval. Joggle switch controlled buzzer enables unit to serve as signaling timer or count-down clock.

Series **UTF** panel mount timer. Concentric knob and hand simplify interval settings. SPDT switching enables a load circuit to be operated during and at completion of timed interval through terminal strip connections.

BENCH MOUNT

Stk. No.	Type	Max. Time	Dial Div.	Price
62F2114	UTL-15M	15 Min.	1/4 Sec.	A
62F2115	UTL-60M	60 Min.	1 Sec.	B
62F2116	UTL-15H	15 Hour	15 Min.	A
62F2117	UTL-60H	60 Hour	2 Hour	A

PANEL MOUNT

62F2118	UTF-15M	15 Min.	1/4 Sec.	C
62F2119	UTF-60M	60 Min.	1 Sec.	D
62F2120	UTF-15H	15 Hour	15 Min.	C
62F2121	UTF-60H	60 Hour	1 Hour	C

	Key	1-3	4-5	6-11	12-24	25-49
Prices	A	37.00	35.20	33.80	25.90	24.10
	B	30.00	28.50	27.00	21.00	19.50
	C	26.00	24.70	23.40	18.20	16.90
	D	24.00	22.80	21.60	16.80	15.60

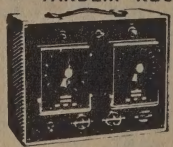
AUTOMATIC RESET TIME DELAY RELAY MTD.

Timing cycle begins when power is applied to timer, motor; contacts transfer when progress indicator reaches zero point on timer dial. Operates from 115V, 60 Hz. SPDT contacts rated 10A/115V. Underwriters lab recognized.

Stock No.	Model No.	Max. Setting	Min. Setting
62F2036	MTD-15S	15 sec.	1/4 sec.
62F2037	MTD-60S	60 sec.	1 sec.
62F2038	MTD-5M	5 min.	5 sec.
62F2039	MTD-60M	60 min.	1 min.

1-3	4-5	6-11	12-24	25-49	50-99
30.50	28.97	27.45	25.93	24.40	22.88

TANDEM RECYCLING TIMER



Type A. Provides 2 adjustable and continuous time cycles. Controls: load control switch, pilot lamps, and male load plugs. Load circuit carried by SPDT relay, contact rating: 15 amps AC non-inductive.

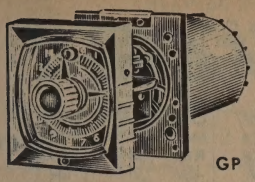
Type B. Similar to Type A but designed for built-in tamper-proof applications. Load control switch located inside cabinet. 9x11x6". 11 lbs.

TIMING ELEMENT (2 REQUIRED)

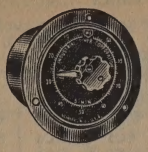
Stock No.	Type	Max. Time	Dial Calib.
24F1840	ET-3S	3 sec.	1/20 sec.
24F286	ET-6S	6 sec.	1/10 sec.
24F287	ET-15S	15 sec.	1/4 sec.
24F288	ET-30S	30 sec.	1/2 sec.
24F289	ET-60S	60 sec.	1 sec.
24F290	ET-3M	3 min.	3 sec.
24F291	ET-5M	5 min.	5 sec.
24F292	ET-15M	15 min.	15 sec.
24F293	ET-30M	30 min.	30 sec.
24F294	ET-60M	60 min.	60 sec.
24F295	ET-3M	3 hours	3 min.
24F285	Type A control unit		
24F1826	Type B control unit		

Type	1-3	4-5	6-11	12-24	25-49
ET	44.00	41.80	39.60	37.40	35.20
A or B	54.50	51.78	49.05	46.33	43.50

Industrial Timer Controls



GP



Series PC

SC-100

• NEW SERIES GP PLUG-IN AUTOMATIC RESET DELAY/INTERVAL TIMER, WITH SPIDER CLUTCH

The GP is an automatic reset, synchronous motor driven plug-in timing control and is completely interchangeable with all popular plug-in timers. In its primary function the timer provides two delayed sets of contacts and two sets of instantaneous contacts with rating of 10 amps. Non-inductive at 125/250 VAC. The patented Spider Clutch is a new and unique concept that incorporates the high accuracy of infinite engagement clutches with the mechanical integrity of toothed clutches. Accuracy ¼ of 1%. Reset time - less than ½ sec. for full scale. For 120 VAC 60 Hz. Wt. 2 lb. 7 oz.

Stock No.	Type	Max. Time Cyc.	Dial Cal.	1-6	7-49	50-99	100-249
62F1990	GP-6S	6 sec.	1/10 sec.				
62F1991	GP-15S	15 sec.	¼ sec.				
62F1992	GP-30S	30 sec.	½ sec.				
62F1993	GP-60S	60 sec.	1 sec.	39.53	37.20	34.88	32.55
62F1994	GP-3M	3 min.	3 sec.				
62F1995	GP-5M	5 min.	5 sec.				
62F1996	GP-15M	15 min.	15 sec.				
62F1997	GP-30M	30 min.	30 sec.				
62F1998	GP-60M	60 min.	60 sec.				
62F1999	GP-3H	3 hrs.	180 sec.				

PERCENTAGE TIMERS

Series PC. Calibrated in percentage of a given time delay. Designed to close an electrical circuit within any desired percentage of rated time cycle for timer. Knob for setting of "on" time from 3% to 97%, with 100% position for continuous circuit operation. Cam operated snap switch rated at 15 amps. 3 7/8 dia. x 4 5/16 deep. 115V., AC. 60 hz. 12 oz.

Stock No.	Type	Time Cycle	1-3	4-5	6-11	12-24	25-49	50-99
24F243	PC-15S	15 seconds						
24F244	PC-30S	30 seconds	31.00	29.35	27.90	26.35	24.80	23.25
24F245	PC-60S	60 seconds						

ELECTRIC STOP-CLOCK

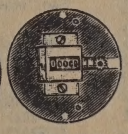
Model SC-100. Provides functions of mechanical stopwatch with advantage of electrical control. Measures intervals from .01 to 60 seconds; ideal for research, time-and-motion study, sporting events. Remote-control provision permits start/stop with push-button on cord, etc.; reset with button unit or remotely with a series switch. Compound dial has 2 pointers measuring 1-60 sec in 1-sec increments and .01-.99 sec in .01 sec increments respectively. Synchronous motor, automatic wear compensation. 115V 60 hz AC only. 5x5x4 25/32". Shpg. wt. 5 lbs.

Stock No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
24F300	SC-100	68.50	65.08	61.65	58.23	54.80	51.38

ELAPSED TIME METERS

Provide exact record of operating hours of AC machines and appliances. Long-life synchronous self-lubricating motors, connected to counters. Series C-2A enclosed in a 3½" bakelite meter case; requires a 2 7/8" diameter hole in panel for mounting. Series C-5 is resettable to zero, has a ¾" square flange and requires a 2¾" diameter mounting hole. Series C-4 open type 2½" round flange. 2" diam. mtg. holes. All 115 V 60 hz except C-2* which is 230 volts. Shpg. wt., 1 lb. Max. no. of minutes.

Type C-2



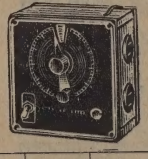
Type C-4

Type C-5

Stk. No.	Type	Max. Hrs.	Calib.	1-3	4-5	6-11	12-24	25-49	50-99
55F670	C-2	10,000	1/10 hr	20.00	19.00	18.00	17.00	16.00	15.00
55F671	C-2*	10,000	1/10 hr.	22.50	20.43	19.35	18.28	17.20	16.13
55F680	C-5	10,000	1/10 hr.	42.50	40.38	38.25	36.13	34.00	31.88
24F1816	C-2-A	100,000	1 hr.	20.00	19.00	18.00	17.00	16.00	15.00
24F1817	C-4	10,000	1/10 hr.	16.50	15.68	14.85	14.03	13.20	12.38
24F1841	C-2-F	100,000†	1 min.	20.00	19.00	18.00	17.00	16.00	15.00

SIGNALLING TIMER—AUTOMATIC RESET SERIES SAR

Provides an audible signal at the end of a pre-set time cycle. Load receptacles are provided on the side of the case for either a load to be operated during the time cycle or at the end of the time cycle. Toggle switch on front of unit. SPDT contacts rated at 10 amps. 115 volt 60 hz. Shipping weight: 3 lbs.



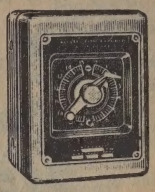
Stock No.	Type	Time Cycle	Calibration	1-3	4-5	6-11	12-24	25-49	50-99
24F343	SAR-1M	1 min.	1 sec.						
24F344	SAR-5M	5 min.	5 sec.						
24F345	SAR-15M	15 min.	15 sec.	39.50	37.52	36.55	33.58	31.60	29.63
24F346	SAR-30M	38 min.	30 sec.						
24F347	SAR-1H	1 hr.	1 min.						
24F348	SAR-3H	3 hr.	3 min.						

INTERVAL TIMERS

For applications where dependable one-unit timers are required. Feature positive adjustments automatic reset. These units are all manufactured to high standards of quality and will stand up under hard usage. Heavy-duty synchronous motors operate on 115 volts-60 hz. Type PAB and Type P contacts rated at 15 amps non-inductive load, all others 10 amps.

INSTANTANEOUS RESET PAB

Designed for process control where longevity and trouble-free operation is essential. Features automatic reset. In steel enclosure, 7⅛x5⅛x4⅛". Two ½" knockouts for easy access to internal terminal strip. Shpg. wt., 6 lbs.



Stock No.	Type No.	Time Cycle	Calibration
24F283	PAB6S	6 sec.	1/10" second
24F1872	PAB15S	15 sec.	¼ second
24F1800	PAB30S	30 sec.	½ second
24F1801	PAB60S	60 sec.	1 second
24F1802	PAB3M	3 min.	3 seconds
24F1803	PAB15M	15 min.	15 seconds
24F1804	PAB30M	30 min.	30 seconds
24F1873	PAB60M	60 min.	60 seconds
24F1805	PAB3H	3 hr.	3 minutes

1-3	4-5	6-11	12-24	25-49	50-99
55.00	52.25	49.50	46.75	44.00	41.25

ECONOMY SERIES P

Low-cost timing units complete with AC line cord, built-in actuating start button and two receptacles on side of case for load and remote control circuits. 5 x 5 x 3¾". Shpg. wt., 3 lbs.

Stock No.	Type No.	Time Cycle	Calibration
24F269	P4R	15 sec.	¼ second
24F1813	P2R	30 sec.	½ second
24F256	P1M	60 sec.	1 second
24F274	P3M	3 min.	3 seconds
24F257	P5M	5 min.	5 seconds

1-3	4-5	6-11	12-24	25-49	50-99
33.00	31.35	29.70	28.05	26.40	24.75

MANUAL RESET SERIES S

Manual reset signaling timers are designed to command visual and audible attention when a time interval is completed. Sockets on side of timer provide for connection of additional lights, alarms or controlled circuits 115v 60 hz operation. 5x5x3¾". Wt., 3 lbs.

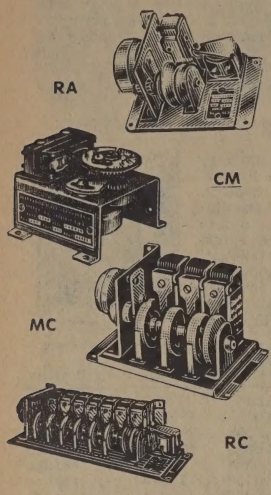
Stock No.	Type No.	Time Cycle	Calibration
24F1836	S-1M	1 min.	1 second
24F1837	S-5M	5 min.	5 seconds
24F1814	S-15M	15 min.	15 seconds
24F1815	S-30 M	30 min.	30 seconds
24F266	S-1H	1 hr.	1 minute
24F267	S-3H	3 hrs.	3 minutes

1-3	4-5	6-11	12-24	25-49	50-99
29.00	27.55	26.10	24.65	23.20	21.75

Industrial Timer Controls

HOW TO ORDER CAM TIMERS

Locate desired time cycle duration in "Gear Assemblies" chart below, order gear-and-rack assembly listed in left-hand column. Appropiate foundation (motor-switch) units appear at top of "Time Cycle" columns. Example: 4 circuits are to be controlled, with a 30-second time cycle, recyling. Order gear-and-rack assembly, A12, stk. no. 24F315, and note that foundation unit MC2 is required. At bottom of page, locate MC2 under heading "4 SWITCH CHASSIS". Order stk. no. 62F2010. U/L & CSA approved.



GEAR ASSEMBLIES—TOTAL TIME CYCLE*

Stock No.	Mfrs. Type	CM0 RC0 MC0	MC1 CM1 RC1	CM2 MC2 RC2	CM3 RC3	CM4 MC4 RC4	CM5 RC5 MC5	CM6 MC6 RC6	CM7 MC7 RC7	CM8 MC8 RC8	CM9 MC9 RC9	CM10 MC10 RC10	CM12 MC12 RC12	NET
24F306	E12	40c	4S	10S	20S	40S	2M	3M20S	10M	20M	40M	2H	8H	
24F307	E15	50c	5S	12.5S	25S	50S	2M30S	4M10S	12M30S	25M	50M	2H30M	10H	
24F308	C12	1S	6S	15S	30S	60S	3M	5M	15M	30M	60M	3H	12H	
24F309	C14	70c	7S	17.5S	35S	70S	3M30S	5M50S	17M30S	35M	70M	3H30M	14H	
24F310	C15	75c	7.5S	18.75S	37.5S	75S	3M45S	6M15S	18M45S	37M30S	75M	3H45M	15H	
24F311	B12	80c	8S	20S	40S	80S	4M	6M40S	20M	40M	80M	4H	16H	
24F312	C18	90c	9S	22.5S	45S	90S	4M30S	7M30S	22M30S	45M	90M	4H30M	18H	
24F313	B15	100c	10S	25S	50S	100S	5M	8M20S	25M	50M	100M	5H	20H	
24F314	C22	110c	11S	27.5S	55S	110S	5M30S	9M10S	27M30S	55M	110M	5H30M	22H	
24F315	A12	2S	12S	30S	60S	2M	6M	10M	30M	60M	2H	6H	24H	
24F316	C26	2S10c	13S	32.5S	65S	130S	6M30S	10M50S	32M30S	65M	2H10M	6H30M	26H	
24F317	A14	2S20c	14S	35S	70S	140S	7M	11M40S	35M	70M	2H30M	7H	28H	
24F318	A15	2S30c	15S	37.5S	75S	150S	12M30S	12M30S	37M30S	75M	2H30M	7H30M	30H	1.75
24F319	A16	2S40c	16S	40S	80S	160S	8M	13M20S	40M	80M	2H40M	8H	32H	
24F320	C34	2S50c	17S	42.5S	85S	170S	8M30S	14M10S	42M30S	85M	2H50M	8H30M	34H	
24F321	A18	3S	18S	45S	90S	3M	9M	15M	45M	90M	3H	9H	36H	
24F322	A20	3S20c	20S	50S	100S	200S	10M	16M40S	50M	100M	3H20M	10H	40H	
24F323	A22	3S40c	22S	55S	110S	220S	11M	18M20S	55M	110M	3H40M	11H	44H	
24F324	A24	4S	24S	60S	2M	4M	12M	20M	60M	2H	4H	12H	48H	
24F325	A26	4S20c	26S	65S	130S	260S	13M	21M40S	65M	2H10M	4H20M	13H	52H	
24F326	A28	4S40c	28S	70S	140S	280S	14M	23M20S	70M	2H20M	4H40M	14H	56H	
24F327	A30	5S	30S	75S	150S	5M	15M	25M	75M	2H30M	5H	15H	60H	
24F328	A32	5S20c	32S	80S	160S	320S	16M	26M40S	80M	2H40M	5H20M	16H	64H	
24F329	A34	5S40c	34S	85S	170S	340S	17M	28M20S	85M	2H50M	5H40M	17H	68H	
24F330	A36	6S	36S	90S	3M	6M	18M	30M	90M	3H	6H	18H	72H	

* C=cycles (refers to 60 cps current; e.g. 50 c=⅘ sec), S=seconds, M=minutes, H=hours..

SERIES RA SINGLE-CAM SINGLE-CYCLE TIMER

Performs a single electrical cycle upon momentary actuation from a remote position. 115V 60 Hz. Order with any gear assembly (above) for time cycles from 2 to 18 minutes. Wt., 1 lb.

Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
62F2000	RA5	28.75	27.31	25.87	24.43	23.00	21.57

SERIES CM SINGLE-CAM RECYCLING TIMER

Snap action totally-enclosed, dustproof SPDT switch. Rated 10A-115V, 10A-220V, non-inductive AC, Cam and gear train interchangeable for longer or shorter time cycle, attach to motor chassis by single 6-32 screw. Can be set so switch is actuated from 2% to 98% of total time cycle; each cycle automatically repeats until power is turned off. $3\frac{1}{16}$x$2\frac{13}{16}$x$2\frac{1}{4}$". 115 volts 60 Hz operation. Order motor switch chassis covering required time range, and gear asemblies for specific time cycles. Wt., 1 lb.

Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
24F1827	CM0	24F1829	CM3	24F252	CM6	24F1820	CM9	18.75	17.81	16.88	15.94	15.00	14.06
24F1828	CM1	24F250	CM4	24F1819	CM7	24F254	CM10						
24F268	CM2	24F251	CM5	24F253	CM8	24F255	CM12						

SERIES MC MULTI-CAM RECYCLING TIMER

Recycling type identical in operation to CM timer but with multiple cams to operate more than one switch. The cams are mounted on a single driving shaft, coupled to the motor by a gear and rack assembly (see gear assembly chart above). Cams can be adjusted in any combination of timed sequences. Each cam is individually adjustable from 2 to 98% of the total time cycle. Order Motor-Switch chassis plus any gear assembly to achieve required time cycle. For 115 v.-60 Hz. *With heavy torquemotor.

SERIES RC SINGLE CYCLE MULTI-CAM TIMER

Similar to MC series, except operates one cycle only. See "How to Order," above. For 115VAC, 60 Hz.

2 SWITCH CHASSIS *

Stk. No.	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
62F2001	MC0	62F2052	MC6						
62F2050	MC1	62F2053	MC7						
62F2002	MC2	62F2054	MC8						
62F2051	MC3	62F2055	MC9	33.75	32.06	30.37	28.69	27.00	25.51
62F2005	MC4	62F2056	MC10						
62F2006	MC5	62F2057	MC12						
62F2003	RC0	62F2061	RC6						
62F2004	RC1	62F2062	RC7						
62F2007	RC2	62F2008	RC8						
62F2058	RC3	62F2063	RC9	48.75	46.31	43.87	41.44	39.00	36.56
62F2059	RC4	62F2064	RC10						
62F2060	RC5	62F2065	RC12						

4 SWITCH CHASSIS *

Stk. No	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
.....	....	62F2068	MC6						
.....	....	62F2069	MC7						
62F2010	MC2	62F2070	MC8						
62F2067	MC3	62F2071	MC9	50.75	48.21	45.67	43.14	40.60	38.06
62F2013	MC4	62F2072	MC10						
62F2014	MC5	62F2073	MC12						
.....	....	62F2077	RC6						
.....	....	62F2078	RC7						
62F2015	RC2	62F2016	RC8						
62F2074	RC3	62F2079	RC9	66.25	62.94	59.63	56.31	53.00	49.69
62F2075	RC4	62F2080	RC10						
62F2076	RC5	62F2081	RC12						

6 SWITCH CHASSIS *

.....	....	62F2084	MC6						
.....	....	62F2085	MC7						
62F2018	MC2	62F2086	MC8						
62F2083	MC3	62F2087	MC9	67.25	63.89	60.53	57.17	53.80	50.44
62F2021	MC4	62F2088	MC10						
62F2022	MC5	62F2089	MC12						
.....	....	62F2093	RC6						
.....	....	62F2094	RC7						
62F2023	RC2	62F2024	RC8						
62F2090	RC3	62F2095	RC9	83.75	79.56	75.38	71.19	67.00	62.81
62F2091	RC4	62F2096	RC10						
62F2092	RC5	62F2097	RC12						

8 SWITCH CHASSIS *

.....	....	62F2100	MC6						
.....	....	62F2101	MC7						
62F2026	MC2	62F2102	MC8						
62F2099	MC3	62F2103	MC9	84.25	80.04	75.82	71.61	67.40	69.19
62F2029	MC4	62F2104	MC10						
62F2030	MC5	62F2105	MC12						
.....	....	62F2109	RC6						
.....	....	62F2031	RC7						
62F2110	RC2	62F2032	RC8						
62F2106	RC3	62F2111	RC9	100.25	95.24	90.23	85.21	80.20	65.16
62F2107	RC4	62F2112	RC10						
62F2108	RC5	62F2113	RC12						

4 SWITCH CHASSIS *

62F2009	MCO	86.25	81.94	77.63	73.31	69.00	64.69
62F2066	MCI	88.25	83.84	79.43	75.01	70.60	66.19
62F2011	RCO	101.75	96.66	91.58	86.49	81.40	76.31
62F2012	RCI	103.75	98.56	93.38	88.19	83.00	77.81

6 SWITCH CHASSIS *

62F2017	MCO	102.75	97.61	92.18	87.34	82.20	77.06
62F2082	MCI	104.75	99.51	94.28	89.04	83.80	78.56
62F2019	RCO	119.25	113.29	107.33	101.36	95.40	89.44
62F2020	RCI	121.25	116.19	109.13	103.06	97.00	90.94

8 SWITCH CHASSIS *

62F2025	MCO	119.75	113.76	108.78	101.79	95.80	89.81
62F2098	MCI	121.75	115.66	109.58	103.49	97.40	91.31

8 SWITCH CHASSIS *

62F2027	RCO	135.75	128.96	122.18	115.39	108.60	101.81
62F2028	RCI	137.75	130.86	123.98	117.09	110.20	103.31

Timers and Motors

Cramer

ELAPSED TIME INDICATORS

Type 635

Type 636

Meter registers cumulative operating or idle time of machinery or electrical apparatus. Instant start-stop accuracy ±50 milliseconds per operation. Large diameter counting wheels provide legible display. 115V 60 Hz. Shpg. wt., 1 lb.

TYPE 635—NON-RESET
635WX 2½" ROUND BEZEL

Stk.No.	Range	1-9	10-24	25-49	50-99	100-Up
55F3197	999999 min.	17.00	14.45	13.43	12.92	12.41
55F3198	99999.9 min.					
55F3199	999999 hrs.					
55F4391	99999.9 hrs.					

635W4 2½" SQUARE BEZEL

55F4392	999999 min.	17.00	14.45	13.43	12.92	12.41
55F4393	99999.9 min.					
55F4394	999999 hrs.					
55F4395	99999.9 hrs.					

635WE 3½" ROUND BEZEL

55F4396	999999 min.	17.00	14.45	13.43	12.92	12.41
55F4397	99999.9 min.					
55F4398	999999 hrs.					
55F4399	99999.9 hrs.					

635WS 3½" SQUARE BEZEL

55F3140	999999 min.	17.00	14.45	13.43	12.92	12.41
55F3141	99999.9 min.					
55F3142	999999 hrs.					
55F3143	99999.9 hrs.					

TYPE 635-G—ELAPSED TIME INDICATORS

Same as type 635 listed above. Utility model 635G differs only in the type bezel and sealing arrangement used.

635GM 2½" ROUND BEZEL

Stk.No.	Range	1-9	10-24	25-49	50-99	100-Up
55F3145	999999 min.	11.75	9.99	9.28	8.93	8.58
55F3146	99999.9 min.					
55F3174	999999 hrs.					
55F3148	99999.9 hrs.					

TYPE 636—PUSHBUTTON RESET

2½" Round 636WX	2½" Square 636WY	Range	1-9	10-24	25-49
55F4444	55F4452	9999.9 sec.	28.25	24.01	23.32
55F4446	55F4454	999.99 min.			
55F4447	55F4455	9999.9 min.			
55F4450	55F4458	9999.9 hrs.			

3½" Round 636WE	3½" Square 636WS	Range	1-9	10-24	25-49
55F4460	55F4468	9999.9 sec.	28.25	24.01	23.32
55F4462	55F4470	999.99 min.			
55F4463	55F4471	9999.9 min.			
55F4466	55F4474	9999.9 hrs.			

CRAMER MOTORS

Type 117P. Permanent magnet type snychronous motors. Instant start and stop. Shaft is .125" dia., .375" long with flat, 1115 V, 60 hz 117P series 30" oz. @ 1 rpm. 117 H series 60" oz. 1 rpm.

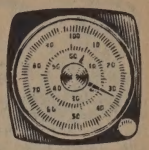
SERIES 117P

Stk. No.	Type	Speed (Rev.)	1	2-4	5-9	10-24	25-49
55F390	10FAA3612AIXA08A	1/day	22.10	12.35	11.30	10.45	9.25
55F391	19VAB3612AIXA08A	1/12 hr					
55F392	18PAA3612AIXA08A	1/hour					
55F393	2C7AB3612AIXA08A	1/30 m					
55F394	16HAA3612AIXA08A	1/5 min					
55F395	24JAA3612AIXA08A	1/min	22.10	12.35	11.30	10.45	9.25
55F4400	15EAA3612AIXA08A	2/min					
55F4401	13MAD3612AIXA08A	4/min					
55F397	13BAC3612AIXA08A	10/min					
55F398	114CC3612AIXA08A	30/min					
55F399	11BCC3612AIXA08A	60/min					

SERIES 117A

55F4402	24KAA3612AIXA08A	2/min	22.10	12.35	11.30	10.45	9.25
55F4403	13MAD3612AIXA08A	4/min					
55F4404	13BAC3612AIXA08A	10/min					
55F4405	11HCC3612AIXA08A	30/min					
55F4406	11BCC3612AIXA08A	60/min					

•NEW TYPE 691-E-A ELECTRIC STOP CLOCKS



Precision totalizer or stop clock. Measures elapsed time to an accuracy of .02 seconds. Safety swtich incorporated prevents damage when resetting pointer while still timing. 115 Volts 60 Hz clutch and motor. Power consumption: Motor 3 Watts, clutch 7.5 Watts, reset 25 Watts. Reset solenoid duty cycle 20% on, 80% off, maximum 5 seconds on. Size: square, $3\frac{11}{32}$" x $3\frac{11}{32}$"; diameter behind bezel 3.062". Depth behind dial with A.C. motor $4\frac{7}{32}$".

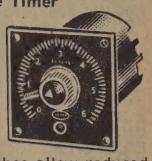
Stk. No.	Type	Time Range		NET
55F369	691EB600-A020802	60	seconds	85.00
55F5661	691EN100-A020802	60	minutes	85.00

TYPE 241E AUTOMATIC RESET INTERVAL TIMER

Start button integral with setting knob turns on the load and starts the timer. SPDT contacts rated 15 amps at 115 VAC, 60 Hz. Repeat accuracy: ±.25% except 15 sec. time range ±0.5%. Case dia. $3\frac{1}{16}$", depth $3\frac{3}{32}$". Timer has three hole mounting on 1.687 radius. 115 VAC, 60 hz. Shpg. wt. 3 lbs.

Stk. No.	Type	Time Range	Calibration	NET
55F350	241EB150A0008A	15 seconds	0.25 second	33.50
55F351	241FB600A0008A	60 seconds	1 second	
55F352	241EH150A0008A	15 minutes	15 seconds	
55F378	241EH300A0008A	30 minutes	0.5 minute	
55F353	241EN100A0008A	60 minutes	1 minute	
55F4476	241EV100A0008A	24 hours	30.0 minute	

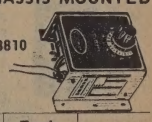
Type 474A-A & 474A-AE All-Purpose Timer



Two basic functions these reset timers perform: INTERVAL TIMING, where the timer controls the time during which the load is energized; and DELAY TIMING, where the time delay is required before a load is energized. The 474A-AE timer can be operated from a sustained or momentary contact switch. The 474A-A timer differs from 474A-AE in that it does not have a solenoid actuated switch or pilot light. Cam actuated switches allow reduced actuator over-travel and greatly extend switch life. Switches are rated at 10 amp, 125 or 250 VAC. ⅓ HP at 125 or 250 VAC; 15 amp switches special order. Repeat accuracy ±0.4% full scale. Motor, 2.7 watts; clutch 4.0 watts AC at rated voltage 115VAC/60Hz.

Stk. No.	Mfg. Type	Time Range	1-4	5-9	10-24	25-49
55F5662	474AB150AE0208A	15 sec.	42.25	34.65	33.38	32.11
55F5663	474AB600AE0208A	60 sec.				
55F5664	474AH150AE0208A	15 min.				
55F5665	474AH300AE0208A	30 min.				
55F5666	474AN100AE0208A	60 min.				
55F5667	474AB150A0208A	15 sec.	38.50	31.57	30.42	29.26
55F5668	474AB600A0208A	60 sec.				
55F5669	474AH150A0208A	15 min.				
55F5670	474AH300A0208A	30 min.				
55F5671	474AN100A0208A	60 min.				

TYPE 3810 TIME DELAY—CHASSIS MOUNTED



MODEL 3810. Provides adjustable time delay between closing of a control circuit and actuation of time load contacts. Resests when power is removed. 10 mil. oper. life. Accuracy ±5% DPDT 10 amp contacts. 115 VAC.

Stk. No.	Type	Time Range	1-4	Each 5-9	10-24
55F1900	3810A100-A0200A	1 sec.	22.50	22.50	22.50
55F1901	3810B100-A0200A	10 sec.			
55F1902	3810B300-A0200A	30 sec.			
55F1903	3810B600-A0200A	60 sec.			
55F1904	3810G500-A0200A	5 min.			

REVERSIBLE SYNCHRONOUS MOTORS

Type 0410. Operates on 2 single phase. Shaft is .125 dia. x .375 long flatted. 115 volt, 60 hz. operation. Shpg. wt., 7 oz.

Stk. No.	ODZ	Speed (Rev.)	1	2-4	5-9	10-24	25-49
55F4407	7A752x3627A	1/day	32.60	18.80	16.10	14.75	13.70
55F4408	7A762x3627A	1/12 hr					
55F4409	7A580x3627A	1/hr.	32.60	17.70	15.60	14.20	13.15
55F4410	6A628x3627A	1/30 min.					
55F4411	7A561x3627A	1/5 min.					
55F4412	7A551x3627A	1/min.					
55F4413	7A592x3627A	2/min.					
55F4414	6A655x3627A	4/min.					
55F4415	6A656x3627A	10/min.					
55F4416	7A519x3617A	30/min.					
55F4417	7A511x3617A	60/min.					

GENERAL TIME Timers and Elapsed Time Indicators

A Company of Talley Industries, Inc.

ELAPSED TIME INDICATORS

EF13

EF27

Highly accurate time measurement and readout. Ideal for preventive maintenance, lighting systems, test equipment, photographic and recording equipment. Non-resettable, synchronous motor driven units with white numerals on black. Operates at 125 VAC or (*) 240 VAC. Power input of 2.5 watts at 60 cps. Operating temperature range: —12°C. to +55°C. Mounts in 2⅛" diameter panel cutout. 6" wire leads. EF13-2.88" Dia. beze, mounted with #6 screws. EF27 2⅜" sq. bezel with mounting studs.

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-up
54F061	EF1333	9999.9 Min	9.56	9.08	8.61	8.13	7.65	7.17
54F062	EF1335	99999.9 Hrs	9.56	9.08	8.61	8.13	7.65	7.17
54F061	EF1333	9999.9 Min	9.56	9.08	8.61	8.13	7.65	7.17
54F168	EF2733	9999.9 Min	11.26	10.70	10.14	9.57	9.01	8.45
54F169	EF2733*	9999.9 Min	12.11	11.51	10.90	10.30	9.69	9.08
54F170	EF2735	9999.9 Hrs	11.26	10.70	10.14	9.57	9.01	8.45
54F171	EF2735*	9999.9 Hrs	12.11	11.51	10.90	10.30	9.69	9.08
54F091	EF1335*	99999.9 Hrs	10.41	9.89	9.37	8.85	8.33	7.81

ELAPSED TIME INDICATORS

ED

ER30

7010

EN

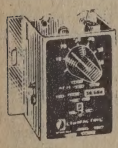
Provides readout. All units operate at 120VAC 60 Hz. except 7010-004 which is 115V 400 Hz. Oper. temp.: —12°C to 55°C. Except 7010-004 which is —55°C to +85°C and is hermetically sealed all units operate at 12 outlets 60 Hz. U.L. Recognized 7010-004 conforms to MIL-M 7793-C, MIL std. MS28053-5, Rev. "D".

SPECIFICATIONS

Type	Bezel	Depth	Mtg. Hole	Input @ 60 Hz	Leads or Terminals
ED71 Non-Reset	1¾" Sq	2³⁷/₆₄"	1⁹/₁₆"	2.5 wts	11¼" Leads
ED72 Non-Reset	1¾" Sq	2³⁷/₆₄"	1⁹/₁₆"	2.5 wts	Solder
EN30 Non-Reset	3" Sq	2¾"	2¾"	3.7 wts	8-32 Studs
ER30 Reset	3" Sq	2¾"	2¾"	3.7 wts	8-32 Studs
ER35 Reset	3½" Rd	2¾"	2¾"	3.7 wts	8-32 Studs
EN35 Non-Reset	3½" Rd	2¾"	2¾"	3.7 wts	8-32 Studs
7010 Non-Reset	1¾" Sq	2³⁷/₆₄"	1⁹/₁₆"	2.5 wts	Solder

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-up
54F063	ED7112	9999.9 Hrs	22.31	21.20	20.08	18.97	17.85	16.73
54F073	ED7212	99999.9 Hrs	24.23	23.01	21.80	20.59	19.38	18.17
54F064	EN3010	99999.9 Min	17.00	16.15	15.30	14.45	13.60	12.75
54F065	EN3012	99999.9 Hrs	17.00	16.15	15.30	14.45	13.60	12.75
54F066	EN3510	99999.9 Min	17.00	16.15	15.30	14.45	13.60	12.75
54F067	EN3512	99999.9 Hrs	17.00	16.15	15.30	14.45	13.60	12.75
54F068	ER3020	99999.9 Min	24.65	23.42	22.19	20.95	19.72	18.49
54F069	ER3022	99999.9 Hrs	24.65	23.42	22.19	20.95	19.72	18.49
54F070	ER3520	99999.9 Min	24.65	23.42	22.19	20.95	19.72	18.49
54F071	ER3522	99999.9 Hrs	24.65	21.42	22.19	20.95	19.72	18.49
54F060	7010-004	9999.9 Hrs	37.40	35.53	33.66	31.79	29.92	28.05
54F100	7010-010	9999.9 Hrs	37.40	35.53	33.66	31.79	29.92	28.05

SERIES QT21 REAR MOUNTING RESET TIMER



Solid state electronic timer provides reset timing control adjustable through time range. Ideal for application where delay, interval, or repeat cycle timing functions are required for adjustable time periods. SPDT switch, 10 amp. 117 VAC, 60 hz. Combination ¼" male spade-/solder terminals. Reset time: 130 milliseconds maximum. 3⅜x3⅜x2⁵⁷/₆₄.

Stk. No.	Type QT21-	Time Range	1-4	5-9	10-24	25-49	50-99	100-Up
54F042	003	3 Sec						
54F043	004	5 Sec						
54F044	005	10 Sec						
54F045	006	15 Sec	18.91	17.97	17.02	16.08	15.13	14.18
54F046	007	30 Sec						
54F047	008	60 Sec						

SERIES QT-52 SOLID STATE RESET TIMERS

Octal plug mounting provides reset timing control used as a delay, interval, or as a repeat cycle timer (2 required). Load switch: DPDT, 10A, 125 VAC. Min. time setting: 600 ms. Reset time: 130 msec. max. 117 VAC. 3.5 watts max. 4¾x2½x2⅛".

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-up
54F085	QT-52-003	3 sec.						
54F086	QT-52-004	5 sec.						
54F087	QT-52-005	10 sec.						
54F088	QT-52-006	15 sec.	21.61	19.58	18.55	17.52	16.49	15.46
54F089	QT-52-007	30 sec.						
54F090	QT-52-008	60 sec.						

SERIES DA11 & DA21 RESET TIMERS

Type DA-11. Manually adj. by knob. SPDT switch. 20 A. Solder lug term. Repeat acc. ±¾%. 5 watt motor. Rear mounted. Resets to start when power removed. Min. time setting 0 sec. U.L. Recognized Size: 3⅜x3⅛x2¹³/₁₆". Type DA21. Same as DA11 except locknut adjustment to eliminate tampering.

120 VOLTS AC

Maximum Setting	Reset	DA11 Stk. No.	Type	DA21 Stk. No.	Type
5.7 Sec	.25 Sec	54F000	DA11-036	. . . . .	. . . . .
14 Sec	1.0 Sec	54F001	DA11-031	54F006	DA21-001
57 Sec	1.5 Sec	54F002	DA11-032	54F007	DA21-002
114 Sec	9 Sec	54F003	DA11-035	54F008	DA21-005
4.5 Min	15 Sec	54F004	DA11-033	54F009	DA21-003
9.5 Min	120 Sec	54F005	DA11-034	54F010	DA21-004
1-4	5-9	10-24	25-49	50-99	100-Up
16.79	15.95	15.11	14.27	13.43	12.59

240 VOLTS AC

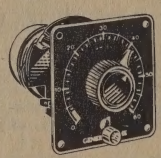
5.7 Sec	.25 Sec	54F074	DA11-036	. . . . .	. . . . .
14 Sec	1.0 Sec	54F075	DA11-031	54F080	DA21-001
57 Sec	1.5 Sec	54F076	DA11-032	54F081	DA21-002
114 Sec	9 Sec	54F077	DA11-035	54F082	DA21-005
4.5 Min	15 Sec	54F078	DA11-033	54F083	DA21-003
9.5 Min	120 Sec	54F079	DA11-034	54F084	DA21-004
1-4	5-9	10-24	25-49	50-99	100-Up
17.64	16.76	15.87	14.99	14.11	13.23

24 VOLTS AC

Maximum Setting	Reset	DA11 Stk. No.	Type
5.7 Sec	.25 Sec	54F095	DA11-036
14 Sec	1.0 Sec	54F096	DA11-031
57 Sec	1.5 Sec	54F097	DA11-032
114 Sec	9 Sec	54F098	DA11-035
4.5 Sec	15 Sec	54F118	DA11-033
9.5 Sec	120 Sec	54F099	DA11-034

1-4	5-9	10-24	25-49	50-99	100-Up
17.64	16.76	15.87	14.99	14.11	13.23

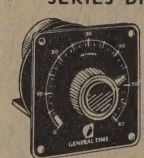
PUSH-BUTTON INTERVAL TIMER



BJ series panel-mount timer. For control of tumbling and platting equipment, copy machines, photographic equipment, etc. Indication of elapsed time by pointer in center of setting knob. SPDT switch rated 15 amps, 125 or 250 VAC resistive. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy = ½ of 1% of full scale. Combination solder and spade lugs. Size: 3⅝" square x 2²³/₃₂" deep. Requires 3⅛" dia. mounting hole. U.L. recognized.

Stk. No.	Type	Time Setting Max.	Time Setting Min.	Dial Grads. Major	Dial Grads. Minor
54F137	BJ12-004	30 sec.	1.5 sec.	5 sec.	0.5 sec.
54F138	BJ12-005	60 sec.	3.0 sec.	10 sec.	1.0 sec.
54F139	BJ12-006	120 sec.	6.0 sec.	20 sec.	2.0 sec.
54F140	BJ12-007	5 min.	0.2 sec.	1 min.	0.1 min.
54F141	BJ12-008	10 min.	0.4 sec.	1 min.	0.2 min.
54F142	BJ12-009	15 min.	0.8 sec.	1 min.	0.2 min.
54F143	BJ12-010	30 min.	1.5 sec.	5 min.	0.5 min.
54F144	BJ12-011	60 min.	3.0 sec.	10 min.	1.0 min.
1-4	5-9	10-24	25-49	50-99	100-249
19.13	18.17	17.21	16.26	15.30	14.34

SERIES DP-11 PANEL MOUNT RESET TIMERS



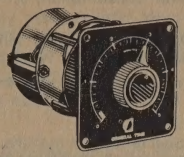
Applied wherever delay, interval, or repeat cycle timing (requires two timers) are needed. Simple pointer knob for timing adjustment. Reset to start position when power is removed. Time elapse readout in center of adjustment knob. SPDT switch, 10 amps, 5 watt timing motor, 120 VAC 60 hz. Repeat accuracy, +1% of total time. Screw term. Size: 3⅝ sq. x 3³/₃₂" depth. Requires 3⅛" dia. mounting hole.

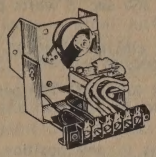
Stk. No.	Type DP11-	Time Setting Max	Time Setting Min	Maximum Reset Time	Dial Grads. Maj.	Dial Grads. Min.
54F072	007	6 Sec	0.3 Sec	.5 Sec	1 Sec	1 Sec
54F011	001	15 Sec	0.8 Sec	1.0 Sec	1 Sec	.2 Sec
54F012	006	30 Sec	1.5 Sec	1.5 Sec	5 Sec	.5 Sec
54F013	002	60 Sec	3.0 Sec	1.5 Sec	10 Sec	1 Sec
54F014	005	120 Sec	6.0 Sec	10 Sec	20 Sec	2 Sec
54F015	003	5 Min	0.2 Sec	15 Sec	1 Min	.1 Min
54F016	004	10 Min	0.4 Sec	120 Sec	1 Min	.2 Min
1-4	5-9	10-24	25-49	50-99	100-up	
20.40	19.38	18.36	17.34	16.32	15.30	

Timers and Elapsed Time Indicators

GENERAL TIME
A Company of Talley Industries, Inc.

SERIES BN BUILT IN RELAY ADJUSTABLE RESET TIMERS





BN series, apply to machine tools, production and processing equipment requiring a compact, dependable unit for direct control of electrical loads. Panel or rear mounting; interval or delay timing. Built in relay, adjustable time range.

BN41 (interval) and BN42 (delay) Panel Mount; Dial and setting knob with indicator of elapsed time in middle. SPDT relay rated 10 amps at 125 VAC. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy ±¾ of 1% total time range. Screw terminal block, 3⅝" sq. x 4⅜" deep. Requires 3 and 3/16" dia. mounting hole.

BN25 (interval) and BN22 (delay) Rear Mount. Same specifications as BN41 and BN42 except all BN25 and BN22 have back panel mount. Locknut setting adjustment, requires only occasional time period changes. U.L. Recognized.

Size 3.375"W. x 4.202" H. x 3.750" D.

PANEL MOUNTING 120 VOLTS

Interval

Stk. No.	Type	Time Setting Max.	Time Setting Min.	Max. Reset Time	Dials Grads Major	Dials Grads Minor
54F119	BN41-003	15 sec.	0.8 sec.	1.0 sec.	1 sec.	0.2 sec.
54F120	BN41-005	60 sec.	3.0 sec.	1.5 sec.	10 sec.	1.0 sec.
54F121	BN41-007	5 min.	0.2 min.	15 sec.	1 min.	0.1 min.
54F122	BN41-008	10 min.	0.4 min.	120 sec.	1 min.	0.2 min
		Delay				
54F123	BN42-003	15 sec.	0.8 sec.	1.0 sec.	1 sec.	0.2 sec.
54F124	BN42-005	60 sec.	3.0 sec.	1.5 sec.	10 sec.	1.0 sec.
54F125	BN42-007	5 min.	0.2 min.	15 sec.	1 min.	0.1 min.
54F126	BN42-008	10 min.	0.4 min.	120 sec.	1 min.	0.2 min.

REAR MOUNTING 120 VOLTS

Delay

54F127	BN25-001	13.5 sec.	0.7 sec.	0.5 sec.	1 sec.	0.5 sec.
54F128	BN25-002	54 sec.	3.0 sec.	1.5 sec.	5 sec.	1.0 sec.
54F129	BN25-003	4.5 min	15 sec.	5.0 sec.	1 min.	5.0 sec.
54F130	BN25-004	9.5 min	30 sec.	120 sec.	1 min.	5.0 sec.
		Interval				
54F131	BN22-001	13.5 sec.	0.7 sec.	0.5 sec.	1 sec.	0.5 sec.
54F132	BN22-002	54 sec.	3.0 sec.	1.5 sec.	5 sec.	1.0 sec.
54F133	BN22-003	4.5 min	15 sec.	5.0 sec.	1 min.	5.0 sec.
54F134	BN22-004	9.5 min	30 sec.	120 sec.	1 min.	5.0 sec.

INTERVAL PANEL MOUNTING 240 VOLTS

54F135	BN22-002	54 sec.	3.0 sec.	1.5 sec.	5 sec.	1.0 sec.
54F136	BN22-003	4.5 min	15 sec.	5.0 sec.	1 min.	5.0 sec.

PRICES

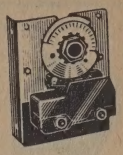
120 VOLTS

Mounting	1-4	5-9	10-24	25-49	50-99	100-249
Panel	28.69	27.25	25.82	24.38	22.95	21.52
Rear	23.80	22.61	21.42	20.23	19.04	17.85

240 VOLTS

Rear	24.65	23.42	22.19	20.95	19.72	18.49

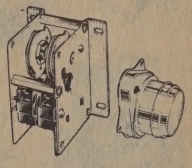
SERIES RG21 REPEAT CYCLE TIMERS



Cam-actuated, single switch timers for rear mounting. Runs continuously, repeating a set cycle of switching operations. Cam adjustable from 7° min. to 169° max. (±3%). SPDT switch. 20 A. 3.7 W. motor. 120 VAC. 60 Hz. Size 2 5/16 x 3⅛ x 2½". U.L. Recognized.

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-Up
54F017	RG21-090	7½ Sec						
54F092	RG21-100	10 Sec						
54F018	RG21-091	15 Sec						
54F019	RG21-092	30 Sec						
54F020	RG21-093	1 Min						
54F093	RG21-101	2 Min						
54F021	RG21-094	5 Min	12.96	12.31	11.67	11.02	10.37	9.72
54F022	RG21-095	10 Min						
54F094	RG21-102	24 Hrs						
54F023	RG21-096	15 Min						
54F024	RG21-097	30 Min						
54F025	RG21-098	60 Min						
54F026	RG21-099	4 Hrs						

SERIES RE REPEAT CYCLE MULTI-CAM TIMERS



Same specifications as RG21, except 2 to 6 switches may be actuated during cycle. Adjustable friction loaded cams. Complete unit requires one switch stack and one drive motor. Size: 2 5/16"H x 3 3/32"W x 3 3/16"D. Add 1 1/16" to depth for each additional switch. U.L. Recognized.

SWITCH STACKS

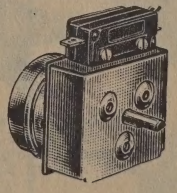
Stk. No.	Type	Swi.	1-4	5-9	10-24	25-49	50-99	100-Up
54F027	RE62-091	2	12.03	11.42	10.83	10.22	9.62	9.02
54F028	RE63-092	3	16.06	15.26	14.66	13.66	12.85	12.04
54F029	RE64-093	4	20.10	19.09	18.10	17.09	16.08	15.07
54F030	RE65-094	5	24.56	23.33	22.11	20.88	19.65	18.42
54F031	RE66-095	6	28.60	27.17	25.75	24.31	22.88	21.45

DRIVE MOTORS

Order with switch stack for complete unit

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-Up
54F032	MP10-390	7½ Sec						
54F115	MP10-400	10 Sec						
54F033	MP10-391	15 Sec						
54F034	MP10-392	30 Sec						
54F035	MP10-393	1 Min						
54F116	MP10-401	2 Min	6.25	5.94	5.62	5.31	5.00	4.69
54F036	MP10-394	5 Min						
54F037	MP10-395	10 Min						
54F038	MP10-396	15 Min						
54F039	MP10-397	30 Min						
54F040	MP10-398	1 Hr						
54F041	MP10-399	4 Hrs						
54F117	MP10-402	24 Hrs						

SERIES AB HAND SET INTERVAL TIMER



Type AB51. Rotation energizes the load and timing motor. On release motor drives timer to zero; motor and load is then de-energized. Setting can be changed during cycle without damage. Mount behind panel, using three equally spaced .180 dia. tapped holes on .562 R. Setting shaft: ¼" diam. flattened to .156 for ½". Flat is located 180° from "0" time. Single Pull Double Throw switch rated 25 amps. 125 or 250 Volts Alternating Current resistive ¼" spade terminals motor 120 VAC 60 Hz. Size: 2½"x3 3/16"x3". Weight: 1 lb. U. L. Recognized

SERIES A HAND SET INTERVAL TIMER

Stock No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-249	Dials Stk. No.	Dials Time Range	Each
54F145	AB51-001	1 Min.	7.65	7.27	6.89	6.50	6.12	5.74	54F155	1 min.	1.00
54F146	AB51-002	6 Min.	7.65	7.27	6.89	6.50	6.12	5.74	54F156	6 min.	1.00
54F147	AB51-003	15 Min.	7.65	7.27	6.89	6.50	6.12	5.74	54F157	15 min.	1.00
54F148	AB51-004	30 Min.	7.65	7.27	6.89	6.50	6.12	5.74	54F158	30 min.	1.00
54F149	AB51-005	60 Min.	7.65	7.27	6.89	6.50	6.12	5.74	54F159	60 min.	1.00
54F150	AB51-006	2 Hrs.	7.65	7.27	6.89	6.50	6.12	5.74	54F160	2 hrs.	1.00
54F151	AB51-007	6 Hrs.	7.65	7.27	6.89	6.50	6.12	5.74	54F161	6 hrs.	1.00
54F152	AB51-008	8 Hrs.	7.65	7.27	6.89	6.50	6.12	5.74	54F162	8 hrs.	1.00
54F153	AB51-010	12 Hrs.	7.65	7.27	6.89	6.50	6.12	5.74	54F163	12 hrs.	1.00
54F154	AB51-016	24 Hrs.	7.65	7.27	6.89	6.50	6.12	5.74	54F164	24 hrs.	1.00

ITT General Controls Counters

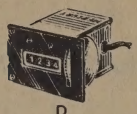
ELECTRIC COUNTERS

SERIES
CE40, CE50 CE60, CE600, CE800

A

B

C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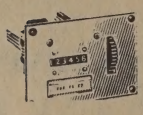

K

Series CE40. Operates in any position. Tamper proof construction, large white numerals for easy readability. Actuation by switch, relay, or device with a minimum closed period of .050 sec., and min. open period of .050 sec. 5 watts power consumption. 6" leads. 600 cpm. Shpg. wt. 10 oz.

Series CE50. 5 digit non-reset electric totalizer. Ambient operating temperature range of 0-160F. 600 counts per minute. 1,000,000 min. life. 1.563"x2.675x1.350. Wt. 5 oz.

Series CE60. Non reset 6-digit totalizer. Tamper resistant. Operates from —40 to +160°F. 600 counts per min. Ideal for outdoor applications. Min. life: 1 million on AC, 6 mil. on DC. 1.74x2.50x1.530". Wt. 5 oz.

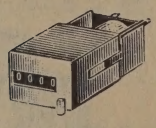
Series CE600. 6-digit. Operates in any position. Specialized armature, built-in rectification. 1000 cpm. with 50 million count life. Actuated by any switch, relay, or device with min. make and break of consump. Cont. duty coil housed in tamper-proof housing. Unbreakable plastic window. Shpg. wt. 1⅞ lbs.

Series CE800. Heavy duty 6-digit counter. Balanced armature & built-in rect. Gasket sealed and tamper proof. Plastic window. 1000 cpm. Actuated by any switch, relay, photo-electric cell or other device with min. make and break of .030 sec. Rectifier with capacitor gives top reliability to 240 V. Cont. duty coil. 200 million count life. Wt. 4⅝ lbs.

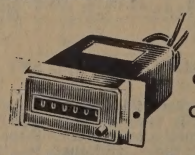
Series CE900. Resetable 1200-2000 CPM counter, 100 million count life. Wt. 11.5 oz.

Stk. No.	Type	Fig.	V/Freq.	Reset	Mount	Digit	1-9	10-24	24-49	50-99	100-249
57F1800	CE40AN501	A	24AC/60	Non	Base	5	7.75	6.59	6.20	5.81	5.43
57F1801	CE40AN502	A	120AC/60	Non	Base	5	7.75	6.59	6.20	5.81	5.43
46F109	CE40AN5015	A	12VDC	Non	Base	5	7.75	6.59	6.20	5.81	5.43
57F1842	CE40AN5016	A	24VDC	Non	Base	5	7.75	6.59	6.20	5.81	5.43
57F1802	CE40BN501	B	24AC/60	Non	Panel	5	8.35	7.10	6.68	6.26	5.81
57F1803	CE40BN502	B	120AC/60	Non	Panel	5	8.35	7.10	6.68	6.26	5.81
46F110	CE40BN5015	B	12VDC	Non	Panel	5	8.35	7.10	6.68	6.26	5.81
46F111	CE40BN5016	B	24VDC	Non	Panel	5	8.35	7.10	6.68	6.26	5.81
57F1804	CE40AS401	C	24AC/60	Knob	Base	4	15.25	12.96	12.20	11.44	10.68
57F1805	CE40AS402	C	120AC/60	Knob	Base	4	15.25	12.96	12.20	11.44	10.68
57F1845	CE40AS4015	C	12VDC	Knob	Base	4	15.25	12.96	12.20	11.44	10.68
57F1846	CE40AS4016	C	24VDC	Knob	Base	4	15.95	13.56	12.76	11.96	11.17
57F1806	CE40BS401	D	24AC/60	Wheel	Panel	4	15.95	13.56	12.76	11.96	11.17
57F1807	CE40BS402	D	120AC/60	Wheel	Panel	4	15.95	13.56	12.76	11.96	11.17
57F1848	CE40BS4015	D	12VDC	Wheel	Panel	4	15.95	13.56	12.76	11.96	11.17
57F1849	CE40BS4016	D	24VDC	Wheel	Panel	4	15.95	13.56	12.76	11.96	11.17
57F1897	CE50AN502	I	120AC/60	Non	Base	5	4.50	3.83	3.60	3.38	3.15
57F1898	CE50BN502	I	120AC/60	Non	Panel	5	4.50	3.83	3.60	3.38	3.15
57F1866	CE60AN601	E	24AC/60	Non	Base	6	8.25	7.01	6.60	6.19	5.77
57F1867	CE60AN602	E	120AC/60	Non	Base	6	8.25	7.01	6.60	6.19	5.77
57F1868	CE60AN6016	E	24VDC	Non	Base	6	8.25	7.01	6.60	6.19	5.77
57F1869	CE60BN602	E	120AC/60	Non	Panel	6	8.75	7.44	7.00	6.56	6.13
57F1852	CE600AS601	H	24AC/60	Knob	Base	6	20.00	17.00	16.00	15.00	14.00
57F1808	CE600AS602	H	12AC/60	Knob	Base	6	20.00	17.00	16.00	15.00	14.00
57F1850	CE600AS6015	H	12VDC	Knob	Base	6	20.00	17.00	16.00	15.00	14.00
57F1851	CE600AS6016	H	24VDC	Knob	Base	6	20.00	17.00	16.00	15.00	14.00
57F1853	CE600AS702	H	120AC/60	Knob	Base	7	22.00	18.70	17.60	16.50	15.40
57F1809	CE600BS602	F	120AC/60	Wheel	Panel	6	23.00	19.55	18.40	17.25	16.10
57F1810	CE600BK602	G	120AC/60	Key	Panel	6	30.00	25.50	24.00	22.50	21.00
57F1813	CE800AS602	J	120AC/60	Knob	Base	6	55.00	46.75	44.00	41.25	38.50
57F1814	CE800AK602	..	120AC/60	Key	Base	6	60.00	51.00	48.00	45.00	42.00
57F1815	CE800BS602	K	120AC/60	Wheel	Panel	6	48.75	41.44	39.00	36.56	34.12
57F1816	CE800BK602	..	120AC/60	Key	Panel	6	58.75	49.94	47.00	44.06	42.12
46F112	CE900AS602	H	120AC/60	Knob	Base	6	20.60	17.51	16.48	15.45	14.42
46F113	CE900AS6015	H	12VDC	Knob	Base	6	20.60	17.51	16.48	15.45	14.42
46F114	CE900AS6016	H	24VDC	Knob	Base	6	20.60	17.51	16.48	15.45	14.42
46F115	CE900BS602	F	120AC/60	Wheel	Panel	6	23.00	19.55	18.40	17.25	16.10
46F116	CE900BS6015	F	12VDC	Wheel	Panel	6	23.00	19.55	18.40	17.25	16.10
46F117	CE900BS6016	F	24VDC	Wheel	Panel	6	23.00	19.55	18.40	17.25	16.10
46F118	CE900BK602	G	120AC/60	Key	Panel	6	31.00	26.35	24.80	23.25	21.70
46F119	CE900BK6015	G	12VDC	Key	Panel	6	31.00	26.35	24.80	23.25	21.70
46F120	CE900BK6016	G	24VDC	Key	Panel	6	31.00	26.35	24.80	23.25	21.70

SERIES CE 59 AND CE63 PUSHBUTTON RESET ELECTRIC COUNTERS


CE59AP

Series CE59. Miniature, push button reset counter designed for quiet operation. Pwr. consum.: 5.5 watts AC. 1000 cpm. Life: 10 million counts. Basemount—3-digit: 1.04Wx2.87Dx.88"H. 4-digit: 1.26x3.31x.88". Panel mount, 3-digit: 1.38x3.31x1.54"; 4-digit: 1.58x3.60x1.53".


CE63AP
CE63BP

Series CE63. 4 and 6 digit counters. Counters per min. 1500cpm-6 digit, 1200 cpm-4 digit. Count life 30 million. Base mount 2.00W x 3.27 x 106H. Panel mount 1.94 x 2.81D x .99H. Power consump. 5W, 13" leads. Wt. 4 digit-½ lb. 6 digit-¾ lb.

BASE MOUNT

Stk. No.	Type No.	Volt Freq.	Digit	1-9	10-24	25-49	50-99	100-249
57F1879	CE59AP302	120/AC/60	3	14.95	12.71	11.96	11.21	10.47
46F128	CE59AP3015	12VDC	3	11.85	10.07	9.48	8.89	8.30
57F1880	CE59AP3016	24VDC	3	11.85	10.07	9.48	8.89	8.30
57F1883	CE59AP402	120/AC/60	4	16.75	14.32	13.48	12.64	11.80
46F129	CE59AP4015	12VDC	4	13.65	11.65	10.92	10.24	9.56
57F1884	CE59AP4016	24VDC	4	13.65	11.65	10.92	10.24	9.56
46F132	CE63AP602	120/AC/60	6	33.30	28.31	26.64	24.98	23.31
46F133	CE63AP6015	12VDC	6	28.70	24.40	22.96	21.53	20.09
46F134	CE63AP6016	24VDC	6	28.70	24.40	22.96	21.53	20.09

PANEL MOUNT

Stk. No.	Type No.	Volt Freq.	Digit	1-9	10-24	25-49	50-99	100-249
57F1881	CE59BP302	120/AC/60	3	14.95	12.71	11.96	11.21	10.47
46F121	CE59BP3015	12VDC	3	11.85	10.07	9.48	8.89	8.30
57F1882	CE59BP3016	24VC	3	11.85	10.07	9.48	8.89	8.30
57F1885	CE59BP402	120/AC/60	4	16.75	14.32	13.48	12.64	11.80
46F122	CE59BP4015	12VDC	4	13.65	11.65	10.92	10.24	9.56
57F1886	CE59BP4016	24VDC	4	13.65	11.65	10.92	10.24	9.56
46F125	CE63BP602	120/AC/60	6	35.20	29.92	28.16	26.40	24.64
46F126	CE63BP6015	12VDC	6	30.80	26.18	24.64	23.10	21.56
46F127	CE63BP6016	24VDC	6	30.80	26.18	24.64	23.10	21.56

Counters, Controls, Actuators ITT General

SERIES CM4 MECHANICAL HAND TALLY

A four-digit hand tally reset counter which features small size (1¾"diameter), and a chrome finish. Counter fits comfortably into palm of hand. Weight: 3 oz.

Stock No.	Type	Description	Reset	1-9	10-24	25-49	50-99	100-249
57F1891	CM4CS454	Hand held	Knob	3.25	2.76	2.60	2.44	2.77

CM33 MECHANICAL STROKE COUNTER

Extremely compact, occupies only 1.5 sq. in. Directly interchangeable with VR series 1122. Knob reset. 2.5" x 1.44" x 1.30". Weight: 4 oz.

Stk. No.	Type	Digits	Reset	Shaft Ext.	Stroke Direction	1-9	10-24	25-49	50-99	100-249
57F1893	CM33AS501C	5	Knob	Right	Coming	7.25	6.16	5.80	5.44	5.07
57F1894	CM33AS502C	5	Knob	Left	Coming	7.25	6.16	5.80	5.44	5.07
57F1895	CM33BS501C	5	Knob	Right	Going	7.25	6.16	5.80	5.44	5.07
57F1896	CM33BS502C	5	Knob	Left	Going	7.25	6.16	5.80	5.44	5.07

SERIES CM52 MECHANICAL STROKE REVOLUTION COUNTERS

Series CM52 stroke counter. 200 million count life, 500 cpm. conservative rating. Large white figures ¼" high on black background. Registers one count for each stroke of operating arm. Unbreakable window. Weight: 1 lb. 9 oz.

Stk. No.	Type	Digits	Reset	Shaft Ext.	Shaft Rotating	1-9	10-24	25-49	50-99	100-249
57F1817	CM52AS501A	5	Knob	Right	Coming	17.00	14.45	13.60	12.75	11.90
57F1818	CM52AS502A	5	Knob	Left	Coming	17.00	14.45	13.60	12.75	11.90
57F1819	CM52BS501B	5	Knob	Right	Going	17.00	14.45	13.60	12.75	11.90
57F1820	CM62BS502B	5	Knob	Left	Going	17.00	14.45	13.60	12.75	11.90

SERIES CE62 4-DIGIT PREDETERMINED ELECTRIC COUNTER

900 cpm. Interlock mechanism. Predetermined output is held until reset is finished. 20 million count life. Switch rate: 5 amp at 125 VAC. Wattage: Count Coil-3 watts power consumption on DC models and 5 VA power consumption on AC models. Reset Coil-10 watts power consumption on DC models and 13 VA power consumption on AC models. Standard with 10" voil leads. Pushbutton reset: 2.91 x 2.74 x 3.78". Electric reset: 2.91 x 6.1 x 3.78". Weight 2½ lbs.

Stk. No.	Type	Reset	Volts	1-9	10-24	25-49	50-99	100-249
57F1889	CE62BP402	Pushbutton	120AC/60	57.70	49.04	46.16	43.27	40.39
57F1890	CE62BE402	Electric	120AC/60	73.00	62.05	58.40	54.75	51.10
46F100	CE62BP4015	Pushbutton	12VDC	57.70	49.05	46.16	43.28	40.39
46F101	CE62BE4015	Electric	12VDC	73.00	62.05	58.40	54.75	51.10
46F102	CE62BP4016	Pushbutton	24VDC	77.70	66.05	62.16	58.28	54.39
46F103	CE62BE4016	Electric	24VDC	73.00	62.05	58.40	54.75	51.10

• NEW SERIES CM67 HEAVY DUTY MECHANICAL STROKE COUNTER

Series CM67. Knob or key reset standard. A reliable long lasting unit of high speed combined with superior accuracy. Useful in machine shops, plastic moulding plants, laundries and other industries. Speed: 1000 cpm. Count life 200 million. Number wheels white figures 5/16" high on black background. Shpg. wt. 19 Oz.

Stk. No.	Type	Digits	Reset	Shaft Ext.	Shaft Rotation	1-9	10-24	25-49	50-99	100-249
46F104	CM67AS601	6	Knob	Right	Coming	18.40	15.95	14.75	13.70	12.48
46F105	CM67AS602	6	Knob	Left	Coming	18.40	15.95	14.75	13.70	12.48
46F106	CM67BS601	6	Knob	Right	Going	18.40	15.95	14.75	13.70	12.48
46F107	CM67BS602	6	Knob	Left	Going	18.40	15.95	14.75	13.70	12.48

SERIES ES4, ES5, ES1B SMALL SENSITIVE ACTUATORS

Series ES41 & ES43 small sensitive actuators. 300 cpm. Arm motion: reciprocal 24° minimum, 59° maximum; overthrow 10°to 45°. Switching: SPST. Electrical rating: noninductive. Generally used where only lightweight objects are available to operate actuator. Weight: 3 oz.

Series ES5 heavy duty actuator. 300 cpm. Arm motion: reciprocal 31° minimum, 63° maximum by internal mechanical limit stops. Minimum operating torque: 3 inch-ounces. Switch is operated by steel arm equipped with spring return. Weight: 5 oz.

Series ES1BAR. For measuring lengths of paper, fabric, lumber, rope and wire-and-rotary switching to open and close a circuit with each shaft revolution—this heavy duty switch has an expected count or contact life of 100,000,000. Can be used to actuate any electric counter, cut-off device solenoid or other electrical equipment. Rated maximum speed: 1,000 RPM. Weight: 2 lbs. 1 oz.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99	100-249
57F1835	ES-41	Straight Spring Steel Arm,2¾" Long	8.40	7.14	6.72	6.30	5.88
57F1836	ES-43	Straight Spring Steel Arm, 6¼" Long	8.40	7.14	6.72	6.30	5.88
57F1838	ES-5	Actuating Switch	12.50	10.63	10.00	9.38	8.75
57F1837	ES-4B1	Normally closed 2¾" Spring Steel Arm	8.40	7.14	6.72	6.30	5.88
57F1861	ES-1BAR	Lineal Act. Switch with 2.12" wheels	20.00	17.00	16.00	15.00	14.00

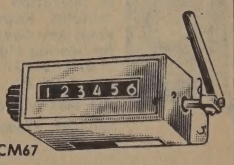
CM4

CM33

CM52

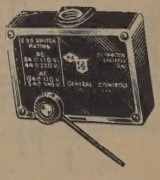
CE62

CM67

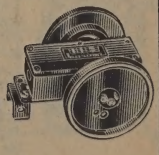


ES41 & EA43

ES5



ES-1BAR



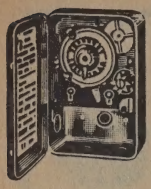
ATTENTION INDUSTRIAL BUYERS

NEWARK carries complete lines of top quality electronic components.

Newark can supply all your needs.

Intermatic Timers

7-DAY OPERATION "SKIPPER" TIME SWITCH



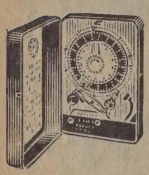
Model T171, T173 & 175. The Intermatic Skipper provides a program of operations for most commercial or industrial needs. For use where it is desired to skip operations on weekends or other selected days. Has 24-hour time dial and 7-day skipper dial. Small skipping screws are merely inserted into the respective day-holes for skipping operation. Contacts are rated up to 40 amps. per pole, 3 skipping screws, one cutout, one off tripper. Power requirements: 125 volt AC 60 Hz. Drawn steel case, gray finished. 7¾"x5"x3". 3 lbs.

Model T173. DPST.
24F1890. EACH **15.24**
Model T175. SPDT.
24F1891. EACH **15.24**
Model T171. SPST.
24F1892. EACH **13.94**
Set of extra trippers.
24F982. Each ..... **.50**

GENERAL PURPOSE TIMERS

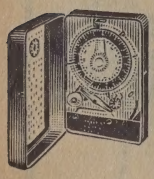
Type T101. Turns device on and off for any period over 1 hour . . . once every 24 hours. May be set up for more operations with additional trippers sets below. Can be manually operated without upsetting automatic sequence. SPST switch. U-beam blades, high-power switching mechanism, and tungsten rated at 40 amps, to carry incandescent lighting loads. 7¾x5x3". For 125 v. 60-hz AC. 3 lbs.
24F978. EACH **10.69**
Type T103. Same as above, but it has DPST contacts.
24F977. EACH **11.99**
24F982. Set of extra trippers each. ..... **.50**

SUPERVISOR DELUXE



Ideal for control of background music, industrial process operations, heating systems. Periods of operation can be varied in multiples of 5 minutes. Repeats program every 24 hours and skips any days desired. Includes toggle switches for testing signal and cutting off automatic operations. Gray steel case 10⅞"x7⅜"x3⅝". 125 V, 60 Hz. AC. Weight 8½ lbs.
24F1883. Model V37171 One Circuit **62.37**
24F1894. Model V37177 Two Circuit **58.47**

SCHEDULER

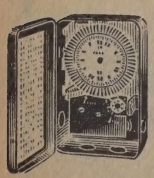


Provides 1 to 288 short interval operations per day. Operates for periods of from 4-60 second durations of 5 min. intervals. Has skipper feature which allows signals to be omitted for any 12 or 24 hour period. Furnished with 9 skipper trippers, 8 advance warning and 24 signal trippers. 120 V 60 Hz. AC. 10⅞"x7⅜"x3⅝". 8½ lbs.
43F042. Model V38171. 1 cir., 24 hr. **62.37**
43F043. Model V39177. 2 cir., 24 hrs. **66.27**

PORTABLE TIME SWITCH

Type P101. Will handle any appliance that plugs into regular outlets. Easily set for as many as 12 "on-off" operations per day with extra trippers. Minimum "on" or "off" time, 1 hour; maximum. 23 hours. May also be manually operated, 10 amps at 125 volts. Tungsten rated contacts. Gray steel case, 7¾"H x 5"W x 3"D. 125 V. 60 hz AC. 3 lbs.
24F1899. NET **11.99**

PROGRAM TIME SWITCH

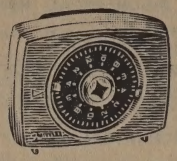


Type T1905. Provides up to 96 on and off operations in 15-minute steps every 24 hours! Ideal for devices requiring frequent control. Permanently attached trippers are spotted every 15 minutes around the dial. . . slide easily, and can't get lost. 20-amp. contacts can be set up for: SPST normally open or closed, or SPDT. Knockout box, 7¾"x5x3". For 125v, 60 hz. AC. Shpg. wt. 4 lbs.
24F973. EACH **21.74**

SAVE TIME! At Newark—fast, efficient service always!

SAVE MONEY! Quantity Prices Competitive with Manufacturer!

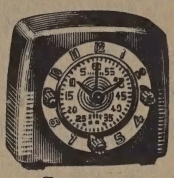
TIME ALL "400""



Whether you'll be gone 2 days or 2 weeks. Time-All will turn lights On and Off automatically at preselected times every evening. UL approved. Guaranteed for 1 year. Dawn White Cycolac housing. Operates on 125 volt, 60 cycle current. Size: 5" x 4" x 3". Shpg. wt. 2 pounds.
Type B-411. High capacity model. Walnut wood-grain face and Mocha Brown dial. Capacity control of 1875 watts and 15 amps. 5 foot heavy duty cord and plug.
Type B-421. Standard model. Twilight Charcoal face & dial. Capacity control of 875 watts and 7 amps. 5 ft. standard cord.

Stk. No.	Type	1-5	6-Up
43F044	B-411	8.64	7.77
43F045	B-421	7.97	7.17

TIME MINDER

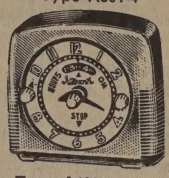


Type A301-4

Type A301-4. Plug it in and set for 1 to 60 minutes. At end of interval, buzzer sounds. Desert sand case, 4¾x4½x2¼". 125v, 60 hz AC. 2 lbs.

Stk. No.	Type	1-5	6-Up
24F967	A301-4	6.93	5.97

CLOCK TIMER

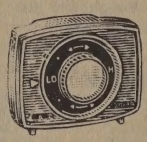


Type A401-4

Type A401-4. Super deluxe timepiece that turns lights and appliances on for periods of 15 minutes to 5½ hours. . . then turns them off again automatically. Handles up to 1875 watts (15 amps). Desert sand case, 4¾x4½x2¼". Operates on 125v, 60 hz AC. Shipping wt. 2 lbs.

Stk. No.	Type	1-5	6-Up
24F968	A401-4	8.69	7.77

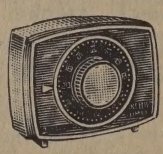
PD—140 PORTABLE LAMP DIMMER



Controls light volume from dim to full bright. No special installation required. Lamp plugs into dimmer—dimmer plugs into wall outlet. Not for use on motors or fluorescent lights. 400 watts. 125V, 60 hz. Shpg. wt.: 2 lbs.

Stk. No.	Type	1-5	6-Up
24F954	PD-140	9.97	8.97

SERIES PT,301 INTERVAL TIMER



Operates appliances with automatic shutoff at end of desired time period. Practical for the control of sun lamps, sterilizers, televisions, and electrical cooking appliances. 13 amps—1600 watts 125 volts, 60 hz. Shipping wt.: 2 lbs.

Stk. No.	Type	Interval	1-5	6-Up
24F951	PT-301	0-60 min.	7.29	6.57
24F952	PT-304	0-24 hrs.	7.29	6.57

SUPERVISOR PROGRAM TIMER

Type T1975. Has 96 trippers for 48 "on" and 48 "off" operations every 24 hours. Minimum interval is 15 minutes. "Skipper" dial omits operation on selected days. Snap-out mechanism. SPDT switch, rated 20 amps at 125 volts, 60 hz AC. Gray steel case, 7¾" x 5" x 3". 3¾ lbs.
24F980. NET **24.99**

RANGER TIME SWITCH

Type T185. Up to 12 "on-off" cycles of from 5-60 minutes. Minimum interval between cycles, 2 hours. Used as SPST, N.O.; SPST, N.C.; or SPDT, alternate open & closed 40 Amps (1 combination tripper for each "on-off" cycle). Gray steel case. 7¾"x5"x3". 60 hz AC. Shpg. wt.: 3 lbs.
24F1895. NET **14.27**
Extra Set of Trippers. Adjustable cam type tripper can be set for duration of "on" period. 4 oz.
24F1896. EACH **1.27**

SEVEN DAY PROGRAMMER

Type V26001. Provides different program for every day of week. Up to 4 operations per day with minimum of 3 hours between operations. 40 Amp tungsten rated contracts. 120 VAC 60 hz. Gray steel case, 10⅞" x 7⅜" x 3⅜". Shpg. wt.: 6¼ lbs.
24F1897. 4 PST switch **24.02**
24F1898. Type V26003 Same as above except 4P; 2 NO-2 NC switch **24.02**

Relay Application Information

Some Important Considerations Are:

A. TYPE

1. General purpose, buzzer, crystal can, impulse, latching, power, telephone, solid state, time delay, voltage, dry reed, mercury wetted contact, etc.

B. COIL REQUIREMENTS

1. Resistance
2. Voltage (AC or DC)
3. Power (AC or DC)
4. Duty (Continuous or intermittant)

C. CONTACT ARRANGEMENT

1. SPST, SPDT, DPDT, 3PDT, 4PDT, etc.

D. MOUNTINGS

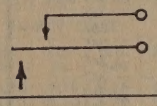
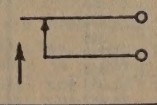
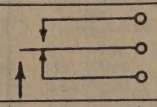
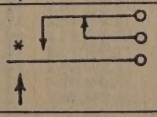
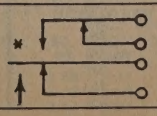
1. Stud, bracket, tapped core, etc.

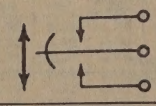
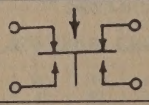
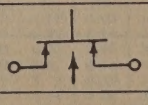
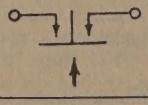
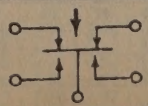
E. COVERS

1. None, metal, plastic, dust, environmental seal, etc.

F. TERMINALS

1. Screw-type, threaded stud, quick connect, pierced or wire solder lug, printed or dip solder circuitry, plug-in, etc.

DESIGN	SEQUENCE	SYMBOL
SPST NO	Make (1)	
SPST NC	Break (1)	
SPDT	Break (1) Make (2)	
SPDT	Make (1) Before Break (2)	
SPDT B-M-B	Break (1) Make 2 Before Break 3	

DESIGN	SEQUENCE	SYMBOL
SPDT NO	Center Off	
SPDT NC-NO DB-DM	Double Break (1) Double Make (2)	
SPST NO DM	Double Make (1)	
SPST NC DB	Double Break (1)	
SPDT NC	Double Break (1) Double Make (2)	

QUICK INDEX TO RELAYS

Newark's staff of merchandising experts have carefully selected these relays for a wide variety of electronic installations—from the simple to the highly sophisticated. All relays listed are in stock in depth, at factory OEM prices, for fast shipment. See page 71 for the Newark facility closest to you. Call your Newark man or write for additional data on prices.

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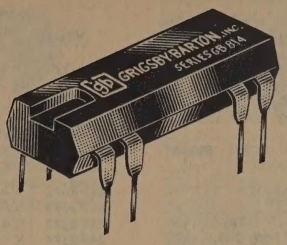
Grigsby Barton DIP Dry Reed, Mercury Relays

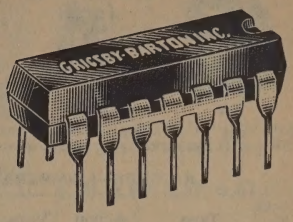
Shielding and Coil Suppression

Grigsby-Barton DIP Reed Relays are available with internal clamp diodes. These diodes are connected directly across the coil and are used to suppress back EMF from the coil where driver protection is necessary. Magnetic shielding is integral by virtue of lead frame design and eliminates magnetic coupling of adjacent relays.

SHIELD-DIODE CODE

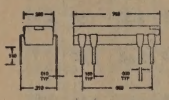
Code No.	Diode	Electrostatic Shield
1	No	No
2	Yes	No
3	Yes	Yes





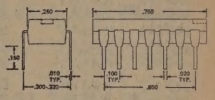
8-PIN TYPE

.260	.750
.010	.100
TYP.	TYP.
.310	.020
	TYP.
	.600



14-PIN TYPE

.260	.750
.010	.100
TYP.	TYP.
.300	.020
	TYP.
.320	.600



CONTACT RATINGS

Type of Relay D.C. Watts Contacts Grigsby Barton Type No.	DRY REED Lo-Level to 3WDC SPST and SPDT GB811A, 812A	DRY REED Lo-Level to 10WDC SPST and SPDT GB821A, 822A	DRY REED Lo-Level to .1 WDC SPDT Type GB811C	DRY REED Lo-Level to 3WDC SPDT Type GB822C	MERCURY WET Lo-Level to 3WDC SPST Type GB823A
Maximum Switching Voltage	28 VDC	100 VDC	10 VDC	28 VDC	28 VDC
Maximum D.C. Current Rating.	100 MA	250 MA	10 MA	250 MA	100 MA
Breakdown Voltage	150 VDC	250 VDC	100 VDC	250 VDC	250 VDC
Initial Contact Resistance	.200 Ohms	.150 Ohms	250 Ohms	150 Ohms	.100 Ohms
Typical Operate Time	.5 MSec.	.6 M Sec.	.5 M Sec.	1.0 M Sec.	1.0 M Sec.
Typical Release Time	.35 MSec.	.35 M Sec.	.35 M Sec.	1.5 M Sec.	.5 M Sec.

This family of dual in line Reed Relays offers a complete selection of contact configurations, coil voltages and packaging. Choose from JEDEC TO-116 case size or .275" high commercial version. Forms include dry-reed Form A, 2 Form A and Form C; mercury-wetted, position insensitive Form A. Coil voltages of 5, 12 and 24 volts interface directly with DTL, TTL and HTL logic without additional buffering. Contact ratings range up to 10 watts DC in Form A and 3 watts DC in Form C. Pin spacing conforms to the standard DIP lead spacing.

All models fit standard 14-pin receptacles and can be inserted automatically. 8-pin models are designed for direct printed circuit board mounting where it is desirable to drill only 8 holes. Internal clamp diodes available on some models, for protection of drivers, by suppressing back EMF. Electrostatic shielding is available on some models to eliminate magnetic coupling of adjacent relays. New techniques in semi-automated assembly, transfer-molding and automatic testing provide dependable and environmental protection at a low initial cost.

TYPE GB811A SPST – NO IN TO-116 14-PIN CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2900	811A-1	5	200	1	4.60	4.14	3.68	3.22	2.76
62F2901	811A-2	5	200	2	4.90	4.41	3.92	3.43	2.94
62F2902	811A-4	5	200	3	5.10	4.59	4.08	3.57	3.00
62F2903	811A-5	5	500	1	4.75	4.27	3.80	3.32	2.85
62F2904	811A-6	5	500	2	5.05	4.54	4.04	3.53	3.03
62F2905	811A-8	5	500	3	5.25	4.72	4.20	3.67	3.15

TYPE GB812A DPST – NO IN TO-116 14-PIN CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2906	812A-1	5	200	1	5.95	5.35	4.76	4.16	3.57
62F2907	812A-2	5	200	2	6.25	5.65	5.06	4.46	3.87

TYPE GB811C SPDT IN TO-116 14-PIN CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2908	811C-1	5	150	1	11.30	10.30	9.70	9.30	8.90
62F2909	811C-2	5	150	2	11.70	10.70	10.10	9.70	9.30

TYPE GB814A SPST – NO IN TO-116 8-PIN CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2910	814A-1	5	200	1	3.85	3.46	3.08	2.69	2.31
62F2911	814A-2	5	500	1	3.85	3.46	3.08	2.69	2.31

TYPE GB831A SPST – NO 8-PIN .275" HIGH CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2912	831A-1	5	200	1	3.30	2.97	2.64	2.31	1.98
62F2913	831A-2	5	200	2	3.60	3.24	2.88	2.52	2.18
62F2914	831A-3	5	500	1	3.30	2.97	2.64	2.31	1.98
62F2915	831A-4	5	500	2	3.60	3.24	2.88	2.52	2.18
62F2916	831A-5	12	500	1	3.30	2.97	2.64	2.31	1.98
62F2917	831A-6	12	500	2	3.60	3.24	2.88	2.52	2.18
62F2918	831A-7	24	2150	1	3.50	3.15	2.80	2.45	2.10
62F2919	831A-8	24	2150	2	3.80	3.42	3.04	2.66	2.26

TYPE GB821A SPST – NO 14-PIN .275" HIGH CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2920	821A-1	5	200	1	3.30	2.97	2.64	2.31	1.98
62F2921	821A-2	5	200	2	3.60	3.24	2.88	2.52	2.18
62F2922	821A-3	5	500	1	3.30	2.97	2.64	2.31	1.98

TYPE G821A SPST – NO 14-PIN (CONT.)

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2923	821A-4	5	500	2	3.60	3.24	2.88	2.52	2.18
62F2924	821A-5	12	500	1	3.30	2.97	2.64	2.31	1.98
62F2925	821A-6	12	500	2	3.60	3.24	2.88	2.52	2.18
62F2926	821A-7	24	2150	1	3.50	3.15	2.80	2.45	2.10
62F2927	821A-8	24	2150	2	3.80	3.42	3.04	2.66	2.26

TYPE 822A DPST – NO 14-PIN .275" HIGH CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2928	822A-1	5	200	1	5.95	5.35	4.76	4.16	3.85
62F2929	822A-2	5	200	2	6.25	5.62	5.00	4.37	4.15
62F2930	822A-3	12	500	1	5.95	5.35	4.76	4.16	3.85
62F2931	822A-4	12	500	2	6.25	5.62	5.00	4.37	4.15
62F2932	822A-5	24	2150	1	6.15	5.53	4.92	4.30	3.78
62F2933	822A-6	24	2150	2	6.45	5.80	5.16	4.51	3.99

TYPE GB821C SPDT 14-PIN .275" HIGH CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	500-Up
62F2934	821C-1	5	80	1	5.50	4.95	4.40	3.85	3.30
62F2935	821C-2	5	80	2	5.80	5.22	4.64	4.06	3.48
62F2936	821C-3	12	450	1	5.50	4.95	4.40	3.85	3.30
62F2937	821C-4	12	450	2	5.80	5.22	4.64	4.06	3.48
62F2938	821C-5	24	1750	1	5.70	5.13	4.56	3.99	3.42
62F2939	821C-6	24	1750	2	6.00	5.40	4.80	4.20	3.75

GB823A MERCURY FILM – SPST – NO POSITION INSENSITIVE 14-PIN .275" HIGH CASE

Stock No.	Type GB	Coil VDC	Coil Ohms	Diode Code	1-24	25-49	50-99	100-249	250-Up
62F2940	823A-1	5	100	1	4.70	4.23	3.76	3.29	2.82
62F2941	823A-2	5	100	2	5.00	4.50	4.00	3.50	3.00
62F2942	823A-3	12	350	1	4.70	4.23	3.76	3.29	2.82
62F2943	823A-4	12	350	2	5.00	4.50	4.00	3.50	3.00
62F2944	823A-5	24	1750	1	4.90	4.41	3.92	3.43	2.94
62F2945	823A-6	24	1750	2	5.20	4.68	4.16	3.64	3.32

Potter & Brumfield General Purpose Relays

KA AND KAP PURPOSE RELAYS

KA

KAP

For small power loads; 5 amp types are gold-flashed silver contacts. CSA and U.L. listed. 10 amp types are silver cadmium contacts. Size: KA $1\frac{11}{16}$" x $1\frac{27}{32}$" x $1\frac{15}{32}$". Mtg. #6-32 stud with locating tab.

KAP $1\frac{17}{32}$"x$1\frac{7}{16}$"x$2\frac{9}{32}$"; DPDT uses standard octal socket, 3PDT use 11 pin socket. Avg. shpg. wt. 4 oz.

KA OPEN—5 AMPERES—AC TYPES

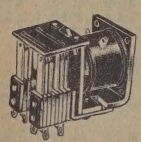
Stock No.	Type	Action	Volts	1-24	25-50	51-99	100-249	250-499
24F545	KA5AY	SPDT	6					
24F1308	KA5AY	SPDT	12	3.70	3.52	3.33	2.59	2.41
24F593	KA5AY	SPDT	24					
24F515	KA5AY	SPDT	120					
45F022	KA5AY	SPDT	240	4.20	3.99	3.60	2.80	2.73
24F547	KA11AY	DPDT	6					
24F1309	KA11AY	DPDT	12	4.50	4.28	4.05	3.15	2.93
24F594	KA11AY	DPDT	24					
24F517	KA11AY	DPDT	120					
24F1310	KA11AY	DPDT	240					
24F549	KA14AY	3PDT	6					
24F1213	KA14AY	3PDT	12	4.90	4.66	4.41	3.43	3.19
24F595	KA14AY	3PDT	24					
24F519	KA14AY	3PDT	120					
62F3089	KA14AY	3DPT	240	5.40	5.13	4.86	3.78	3.51
62F3090	KA14DG	3DPT	6	4.65	4.42	4.19	3.26	3.02

KA OPEN—5 AMPS—DC TYPE

24F552	KA5DY	SPDT	6					
24F1214	KA5DY	SPDT	12	3.55	3.37	3.20	2.49	2.31
24F596	KA5DY	SPDT	24					
24F1311	KA5DY	SPDT	110	4.25	4.04	3.83	2.98	2.76
24F553	KA11DY	DPDT	6					
24F1215	KA11DY	DPDT	12	3.95	3.75	3.56	2.77	2.55
24F597	KA11DY	DPDT	24					
24F554	KA11DY	DPDT	110	4.65	4.42	4.19	3.26	3.22
24F523	KA14DY	3PDT	6					
24F1216	KA14DY	3PDT	12	4.45	4.23	4.01	3.12	2.89
24F598	KA14DY	3PDT	24					
24F1217	KA14DY	3PDT	110	5.15	4.89	4.64	3.61	3.35

KAP ENCLOSED—5 AMPERES—AC TYPE

62F3091	KAP5AG	SPDT	24	6.40	6.08	5.76	4.48	4.16
24F2565	KAP11AY	DPDT	24	7.05	6.70	6.35	4.94	4.58
24F2566	KAP11AY	DPDT	120	7.05	6.70	6.35	4.94	4.58
24F2567	KAP11AY	DPDT	240	7.45	7.08	6.71	5.22	4.84
24F2576	KAP14AY	3PDT	24	8.70	8.27	7.83	6.09	5.66
24F2577	KAP14AY	3PDT	120	8.70	8.27	7.83	6.09	5.66
24F2578	KAP14AY	3PDT	240	9.10	8.65	8.19	6.37	5.92



GA GENERAL ALL PURPOSE RELAY

Multiple leaf relay with a wide range of contact combinations. Used for remote power switching and mobile communications equipment. (See GB for current actuated models.) Mounting: No. 8-32 tapped core with locating boss. Silver contacts rated at 5 amps. Size: $1\frac{1}{16}$" W x $1\frac{23}{32}$" L x $1\frac{25}{32}$" H. Weight: 3.5 ozs.

COIL DATA—GA SERIES

	DC Coils			AC Coils			
Volts	Ohms	Milliamps	Volts	Ohms	Milliamp		
6	18	333	6	1.7	1,000		
12	72	167	12	6.8	500		
24	288	83	24	26.0	260		
110	6,050	18	110	2,950	25		
110	6,050	18	120	690	50		
....	.....	...	240	2,950	25		

24F1183	GA11A	DPDT	6VAC	3.85	3.66	3.47	2.70	2.50
24F1184	GA11A	DPDT	24VAC					
24F1185	GA11A	DPDT	120VAC					
62F3094	GA11A	DPDT	12	3.85	3.66	3.47	2.70	2.50
62F3095	GA14A	3PDT	24	3.85	3.66	3.47	2.70	2.50
24F1186	GA17A	4PDT	6VAC	5.55	5.27	5.00	3.89	3.61
24F1187	GA17A	4PDT	12VAC					
24F1188	GA17A	4PDT	24VAC					
24F1189	GA17A	4PDT	120VAC					
24F1190	GA11D	DPDT	6VDC	3.85	3.66	3.47	2.70	2.50
24F1191	GA11D	DPDT	12VDC					
24F1192	GA11D	DPDT	24VDC					
24F1193	GA11D	DPDT	110VDC	4.35	4.13	3.92	3.05	2.83
24F1194	GA17D	4PDT	6VDC	5.55	5.27	5.00	3.89	3.61
24F1195	GA17D	4PDT	12VDC					
24F1196	GA17D	4PDT	24VDC					
24F1197	GA17D	4PDT	110VDC	6.05	5.75	5.45	4.25	3.93
62F3096	GA14A	3PDT	120	4.60	4.37	4.14	3.22	2.99
62F3097	GA14A	3PDT	240	4.60	4.37	4.14	3.22	2.99

COIL DATA—KA SERIES

	DC Coils			AC Coils	
Volts	Ohms	Milliamps	Volts	Ohms	Milliamps
6	32	188	6	6	335
12	120	100	12	21	168
24	472	51	24	75	84
...	...	...	120	2,250	17.5
110	10,000	11.5	240	9,110	8.75
220	Use 110 v. relay with 10K 5W wire-wound resistor in series				

KAP ENCLOSED—5 AMPS—DC TYPES

62F3092	KAP5DG	3PDT	24	6.30	5.99	5.67	4.41	4.10
62F3093	KAP5DG	3DPT	110	7.00	6.65	6.30	4.90	4.55
24F2573	KAP11DY	DPDT	12	7.00	6.65	6.30	4.90	4.55
24F2574	KAP11DY	DPDT	24	7.00	6.65	6.30	4.90	4.55
24F2575	KAP11DY	DPDT	110	7.70	7.32	6.93	5.39	5.00
24F2583	KAP14DY	3PDT	12	8.60	8.17	7.74	6.02	5.59
24F2584	KAP14DY	3PDT	24	8.60	8.17	7.74	6.02	5.59
24F2585	KAP14DY	3PDT	110	9.30	8.84	8.37	6.51	6.05

KA OPEN—TYPE 10 AMPERES—AC TYPE

Stock No.	Type	Action	Volts	1-24	25-50	51-99	100-249	250-499
24F1665	KA5AG	SPDT	6					
24F1666	KA5AG	SPDT	12	3.75	3.56	3.38	2.63	2.44
24F1667	KA5AG	SPDT	24					
24F1668	KA5AG	SPDT	120					
24F1669	KA5AG	SPDT	240	4.25	5.05	3.93	2.98	2.76
24F1670	KA11AG	DPDT	6					
24F1671	KA11AG	DPDT	12	4.60	4.37	4.14	3.22	2.99
24F1672	KA11AG	DPDT	24					
24F1673	KA11AG	DPDT	120					
24F1674	KA11AG	DPDT	240	5.00	4.75	4.50	3.50	3.25
24F1675	KA14AG	3PDT	6					
24F1676	KA14AG	3PDT	12	5.10	4.85	4.59	3.57	3.32
24F1677	KA14AG	3PDT	24					
24F1678	KA14AG	3PDT	120					
24F1679	KA14AG	3PDT	240	5.60	5.32	5.04	3.92	3.64

KA OPEN—10 AMPS—DC TYPE

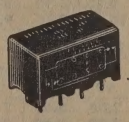
45F023	KA5DG	SPDT	6	3.60	3.42	3.06	2.38	2.34
45F024	KA5DG	SPDT	12	3.60	3.42	3.06	2.38	2.34
45F025	KA5DG	SPDT	24	3.60	3.42	3.06	2.38	2.34
45F026	KA5DG	SPDT	110	4.30	4.09	3.69	2.87	2.80
45F027	KA11DG	DPDT	6	4.10	3.90	3.51	2.73	2.67
45F028	KA11DG	DPDT	12	4.10	3.96	3.51	2.73	2.67
45F029	KA11DG	DPDT	24	4.10	3.96	3.51	2.73	2.67
45F030	KA11DG	DPDT	110	4.80	4.56	4.05	3.15	3.12
45F031	KA14DG	3PDT	12	4.65	4.42	3.96	3.08	3.02
45F032	KA14DG	3PDT	25	4.65	4.42	3.96	3.08	3.02
45F033	KA14DG	3PDT	110	5.35	5.08	4.59	3.57	3.48

KAP ENCLOSED—10 AMPS—AC TYPES

45F034	KAP5AG	SPD	120	6.40	6.08	5.49	4.27	4.16
24F2568	KAP11AG	DPDT	6	7.15	6.79	6.44	5.01	4.65
24F2569	KAP11AG	DPDT	24	7.15	6.79	6.44	5.01	4.65
24F2570	KAP11AG	DPDT	120	7.15	6.79	6.44	5.01	4.65
24F2579	KAP14AG	3PDT	24	8.85	8.41	7.97	6.20	5.75
24F2580	KAP14AG	3PDT	120	8.85	8.41	7.97	6.20	5.75

KAP ENCLOSED—10 AMPS—DC TYPES

24F2571	KAP11DG	DPDT	24	7.10	6.75	6.39	4.97	4.62
24F2572	KAP11DG	DPDT	110	7.80	7.41	7.02	5.46	5.07
24F2581	KAP14DG	3PDT	24	8.80	8.36	7.92	6.16	5.73
24F2582	KAP14DG	3PDT	110	9.50	9.03	8.55	6.65	6.18
24F2586	9KA1	hold down spring		.12	.115	.11	.09	.08



HP AND HPS SERIES

Microminiature, half crystal case size relay for applications in minimum area—as in TV cameras, dictating and copying machines. For circuit board or socket mounting. Terminals on .200" grid. 2 amps @ 30 VDC, resistive; 0.5 amps max. @ 120 VAC. Wt.: 0.26 oz. Range: —45 to +75°C. Continuous duty. Power .662W nom; 1.0W max. @ 25°C. .88 x .49 x .48".

Stk. No.	Type	Action	VDC	1-24	25-50	51-99	100-249
24F2898	HP11D	DPDT	12	8.35	7.93	7.52	5.85
24F2899	HP11D	DPDT	24	8.35	7.93	7.52	5.85
24F3367	HPS11D	DPDT	12	9.60	9.12	8.64	6.72
24F3368	HPS11D	DPDT	24	9.60	9.12	8.64	6.72
45F227	HP11D	DPDT	48	9.60	9.12	8.64	6.72

9HPI solder terminal socket and retainer for HP relay.

Stk. No.	Type	1-24	25-50	51-99	100-249
24F2950	9HPI	.48	.45	.43	.33

NEWARK—YOUR DEPENDABLE SOURCE FOR ALL YOUR ELECTRONIC NEEDS

General Purpose Relays POTTER & BRUMFIELD

KHU/KHP/KHS 4PDT RELAYS

Socket

KHP

KHS

Relay with long life operating 4PDT gold-flashed silver except * silver cadimum oxide (Suffix 12) contacts (+) gold-alloy contacts (Suffix 13) Switch loads from dry circuit to 3 amps at 30VDC or 120 VAC. Power: 0.5 W min. 0.9 W max. at 3 amps. Temp: —45°C to +70°C. Pick up less than 15 ms. KHU/KHP Size: $1\frac{17}{16}$ x $\frac{55}{64}$ x $1\frac{7}{64}$". Wt., 1½ oz.
KHS: Size $1\frac{5}{32}$ x $\frac{29}{32}$x$1\frac{9}{32}$". Wt. 2 oz.

DC VOLTS
Nylon Dust Cover

Stock No.	Type	Coil Volts	Coil Ohms	1-24	25-49	50-99	100-249	250-499
24F1390	KHP17D11	6	40	5.05	4.80	4.55	3.54	3.28
24F1391	KHP17D11	12	160	5.05	4.80	4.55	3.54	3.28
24F1392	KHP17D11	24	650	5.05	4.80	4.55	3.54	3.28
24F1393	KHP17D11	48	2600	5.25	4.99	4.73	3.68	3.41
24F1394	KHP17D11	90	9000	5.90	5.61	5.31	4.13	3.84
24F1395	KHP17D11	110	11000	5.90	5.61	5.31	4.13	3.84
24F1697	KHP17D12*	24	650	5.20	4.95	4.68	3.64	3.38
24F1698	KHP17D12*	110	11000	6.05	5.75	5.45	4.24	3.93
24F3280	KHS17D12	24	650	8.70	8.27	7.83	6.09	5.66
24F3281	KHP17D13†	24	650	7.10	6.75	6.39	4.97	4.62
		Hermetically Sealed Metal						
24F2561	KHS17D11	6	40	8.55	8.12	7.70	5.99	5.53
24F2562	KHS17D11	12	160	8.55	8.12	7.70	5.99	5.53
24F2563	KHS17D11	24	650	8.55	8.12	7.70	5.99	5.53
24F2564	KHS17D11	110	11000	9.40	8.93	8.46	6.58	6.11
		U.L. Approved Clear Plastic						
45F035	KHU17D11	6	40	5.05	4.80	4.55	3.54	3.28
45F036	KHU17D11	12	160	5.05	4.80	4.55	3.54	3.28
45F037	KHU17D11	24	650	5.05	4.80	4.55	3.54	3.28
45F038	KHU17D11	48	2600	5.25	4.99	4.73	3.68	3.41
62F3083	KHU17D11	90	9000	5.90	5.61	5.31	4.13	3.84
45F039	KHU17D11	110	11000	5.90	5.61	5.31	4.13	3.84
62F3082	KHU17A12	120	3900	6.20	5.89	5.58	4.34	4.03
45F140	KHU17D12	24	650	5.20	4.94	4.68	3.64	3.38
45F041	KHU17D12	110	11000	6.05	5.75	5.45	4.24	3.93
62F3080	KHU17D16	12	160	6.00	5.40	4.50	4.20	3.90
62F3082	KHU17D16	24	650	6.00	5.40	4.50	4.20	3.90

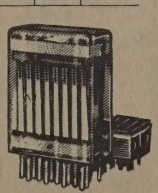
AC VOLTS
Nylon Dust Cover

24F1661	KHP17A11	6	10.5	5.55	5.27	5.00	3.89	3.61
24F1662	KHP17A11	12	43	5.55	5.27	5.00	3.89	3.61
24F1663	KHP17A11	24	160	5.55	5.27	5.00	3.89	3.61
24F1664	KHP17A11	120	3900	6.05	5.75	5.45	4.24	3.93
24F3282	KHP17A12	120	3900	6.20	5.89	5.58	4.34	4.03
		Hermetically Sealed Metal						
24F2557	KHS17A11	6	10.5	9.55	9.07	8.60	6.69	6.21
24F2558	KHS17A11	12	43	9.55	9.07	8.60	6.69	6.21
24F2559	KHS17A11	24	160	9.55	9.07	8.60	6.69	6.21
24F2560	KHS17A11	120	3900	9.90	9.41	8.91	6.93	6.44
24F3283	KHS17A12	120	3900	10.10	9.60	9.09	7.07	6.57
		UL Approved Clear Plastic						
45F042	KHU17A11	6	10.5	5.55	5.27	5.00	3.89	3.61
45F043	KHU17A11	12	43	5.55	5.27	5.00	3.89	3.61
45F044	KHU17A11	24	160	5.55	5.27	5.00	3.89	3.61
45F045	KHU17A11	120	3900	6.05	5.75	5.45	4.24	3.93

SOCKETS FOR KH SERIES

Stock No.	Type	Description	1-24	25-49	50-99	100-249	250-499
24F1396	9KH-1	Solder Term. Skt.	.66	.63	.59	.46	.43
24F1397	9KH-2	PC. Socket.	.66	.63	.59	.46	.43
24F1398	9KH-3	Hold Down Spring	.11	.105	.099	.077	.072

KDP GENERAL PURPOSE RELAY



Model KDP29D11. Highly compact 24 V relay in plastic case over providing 8 form C (8PDT) switching wiht bifurcated contacts. For dense packaging applications in electrical control systems. Provides simultaneous switching of several isolated outputs. Contacts are rated 1 amp at 30VDC or 0.5 amp at 120 VAC, resistive. Used with 9KD2 solder terminal sockets and 9KD3 hold down springs. Size: 1.19" max. x .50 max. x 154" max. Shpg. wt., 6 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
45F088	KDP29D11	9.35	8.88	8.42	6.55	6.08
45F089	9KD2 socket	.95	.90	.86	.67	.63
45F102	9KD3 springs	.11	.105	.099	.077	.071

KRP—N & KRP SERIES

Mounting; Standard 8 pin octal for KR… KRP-11 and KRP-N; 11 pin for KRP14. Co… tacts 3 amp gold-flashed silver or 10 amp sil… ver-cadmium oxide. KRP-N has built-in lamp, which lights when relay coil is energized. Operates on 1.2 watts DC or 2 volt amps AC. Lamp: AC 6 to 240 volts, DC 6 to 110 volts. Size: $1\frac{13}{32}$x$1\frac{13}{32}$x2". Wt. 3 oz.

Stock No.	Type	Coil Volts	Action	1-24	25-49	50-99	100-249	250-499
		AC VOLTS 5 AMPS						
24F522	KRP5A	6 V	SPDT	6.30	5.99	5.67	4.41	4.10
24F524	KRP5A	24 V	SPDT					
24F520	KRP5A	120 V	SPDT					
24F548	KRP11A	6 V	DPDT	7.00	6.65	6.30	4.90	4.55
24F1223	KRP11A	12 V	DPDT					
24F525	KRP11A	24 V	DPDT					
24F518	KRP11A	120 V	DPDT					
24F1324	KRP11A	240 V	DPDT	7.45	7.08	6.71	5.22	4.84
24F1224	KRP14A	6 V	3PDT	8.70	8.27	7.83	6.09	5.66
24F1225	KRP14A	12 V	3PDT					
24F526	KRP14A	24 V	3PDT					
24F527	KRP14A	120 V	3PDT					
45F103	KRP14A	240 V	3PDT	9.15	8.69	8.24	6.41	5.95
		DC VOLTS 5 AMPS						
24F1226	KRP5D	6 V	SPDT	6.25	5.94	5.63	4.38	4.06
24F1325	KPR5D	12 V	SPDT					
24F1227	KRP5D	24 V	SPDT					
24F1326	KRP5D	110V	SPDT	6.95	6.60	6.26	4.87	4.52
24F680	KRP11D	6V	DPDT					
24F683	KRP11D	12V	DPDT					
24F528	KRP11D	24V	DPDT					
24F682	KRP11D	110V	DPDT	7.65	7.27	6.89	5.36	4.97
24F1228	KRP14D	6V	3PDT	8.60	8.17	7.74	6.02	5.59
24F1229	KRP14D	12V	3PDT					
24F679	KRP14D	24V	3PDT					
24F1327	KRP14D	110v.	3PDT	9.30	8.84	8.37	6.51	6.05
		AC VOLTS 10 AMPS						
24F1330	KRP5AG	6V	SPDT	6.45	6.13	5.81	4.52	4.19
24F1331	KRP5AG	24V	SPDT					
24F1332	KRP5AG	120V	SPDT					
24F1333	KRP11AG	6V	DPDT	7.25	6.89	6.53	5.08	4.71
24F1334	KRP11AG	12V	DPDT					
24F1335	KRP11AG	24V	DPDT					
24F1336	KRP11AG	120V	DPDT					
24F1696	KRP11AG	240V	DPDT	7.70	7.32	6.93	5.39	6.18
24F1337	KRP14AG	6V	3PDT	9.05	8.60	8.15	6.34	5.88
24F1338	KRP14AG	12V	3PDT					
24F1339	KRP14AG	24V	3PDT					
24F1340	KRP14AG	120V	3PDT					
24F2947	KRP14AG	240V	3PDT	9.50	9.03	8.55	6.55	6.18
		AC VOLTS-10 AMPS-WITH INDICATOR LAMP						
24F1435	KRP11AN	6V	DPDT	8.30	7.89	7.47	5.81	5.40
24F1436	KRP11AN	12V	DPDT					
24F1437	KRP11AN	24V	DPDT					
24F1438	KRP11AN	120V	DPDT					
24F1439	KRP11AN	240V	DPDT	8.75	8.31	7.88	6.13	5.69
62F3085	KRP14AN	6V	6	10.10	9.60	9.09	7.07	6.54
62F3086	KRP14AN	12V	21	10.10	9.60	9.09	7.07	6.59
62F3087	KRP14AN	24V	75	10.10	9.60	9.09	7.07	6.59
24F1329	KRP14AN	120V	DPDT	10.10	9.60	9.09	7.07	6.59
62F3084	KRP13AN	240V	9110	10.55	10.02	9.50	7.39	6.86
		DC VOLTS 10 AMPS						
62F3088	KRP5DG	6V	32.1	6.40	6.08	5.76	4.48	4.16
45F104	KRP5DG	12V	SPDT	6.40	6.08	5.76	4.48	4.16
24F1343	KRP5DG	24V	SPDT	6.40	6.08	5.76	4.48	4.66
24F1344	KRP5DG	110V	SPDT	7.10	6.75	6.39	4.97	4.62
24F1345	KRP11DG	6V	DPDT	7.20	6.84	6.48	4.97	4.68
24F1346	KRP11DG	12V	DPDT					
24F1347	KRP11DG	24V	DPDT					
24F1348	KRP11DG	110V	DPDT	7.90	7.51	7.11	5.53	5.14
24F1349	KRP14DG	6V	3PDT	8.95	8.50	8.06	6.27	5.82
24F1350	KRP14DG	12V	3PDT					
24F1359	KRP14DG	24V	3PDT					
24F1351	KRP14DG	110V	3PDT	9.65	9.17	8.69	6.76	5.82
		DC VOLTS WITH INDICATOR LAMP						
24F1440	KRP11DN	6V		8.20	7.79	7.38	5.74	5.33
24F1441	KRP11DN	12V						
24F1442	KRP11DN	24V						
24F1443	KRP11DN	110V		8.95	8.50	8.06	6.27	6.27

KCP-KRP HOLD DOWN SPRING

Type 9-KR-15. Fits all KCP and KRP plug-in relays. Steel spring can be moved aside for relay removal and installation. Mounting: $2\frac{5}{32}$" dia. holes on $1\frac{5}{16}$" centers. Wt. 3 oz. for 50.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
24F1358	9-KR-15	.12	.11	.10	.08	.075

POTTER & BRUMFIELD General Purpose Relays

R10-E1: SOLDER TERMINALS, STUD OR PLUG-IN SOCKET MOUNTING.

Two times more pull force-optimum distribution between magnetic core and pole piece cross sections and coil volume, and a low reluctance armature bearing produces a fore-displacement product of 140 gm/mm at .050". This results in higher contact pressure and greater over-travel. DC operated industrial relays provide sensitivities to 125 mW per pole. Three custom contact styles available for 100 mA, 2 amp or 5 amp load. DPDT to 6PDT contact arrangements. U/L recognized file# E42810. Operating temperature -55- to +72-C. Weight 22 to 40 grams. (Final suffix of type number signifies coil ohms.) Sockets include wire retainer and pre-installed grounding provision.

2 AMP

Stock No.	Type	Volts	Action	1-9	10-49	50-99	100-499	500-999
45F105	R10-E1-Y2-V52	6 DC	2 PDT	3.25	2.92	2.44	2.27	2.11
45F106	R10-E1-Y2-V185	12 DC	2 PDT	3.25	2.92	2.44	2.27	2.11
45F107	R10-E1-Y2-V700	24 DC	2 PDT	3.25	2.92	2.44	2.27	2.11
62F3043	R10-E1-Y2-V2.5K	48 DC	2PDT	3.25	2.93	2.44	2.27	2.11
62F3044	R10-E1-Y2-V15.	115 DC	2PDT	4.95	4.46	3.71	3.47	3.22
45F108	R10-E1-Y4-V52	6 DC	4 PDT	3.60	3.24	2.70	2.52	2.34
45F109	R10-E1-Y4-V185	12 DC	4 PDT	3.60	3.24	2.70	2.52	2.34
45F110	R10-E1-Y4-V700	24 DC	4 PDT	3.60	3.24	2.70	2.52	2.34
45F111	R10-E1-Y4-V2.5K	48 DC	4 PDT	3.60	3.24	2.70	2.52	2.34
45F112	R10-E1-Y4-V15K	115 DC	4 PDT	5.30	4.77	3.98	3.71	3.45
60F3045	R10-E1-Y6-V25	6 DC	6PDT	4.65	4.19	3.49	3.26	3.02
45F113	R10-E1-Y6-V90	12 DC	6PDT	4.65	4.19	3.49	3.26	3.02
45F114	R10-E1-Y6-V430	24 DC	6PDT	4.65	4.19	3.49	3.26	3.02
60F3046	R10-E1-Y6-V1.5K	48 DC	6PDT	4.65	4.19	3.49	3.26	3.02
60F3047	R10-E1-Y6-V9.0K	115 DC	6PDT	5.55	5.00	4.16	3.86	3.61

5 AMP

62F3048	R10-E1-X2V52	6 DC	2PDT	3.35	3.02	2.51	2.35	2.18
45F115	R10-E1-X2-V185	12 DC	2 PDT	3.35	3.02	2.51	2.35	2.18
45F116	R10-E1-X2-V700	24 DC	2 PDT	3.35	3.02	2.51	2.35	2.18
62F3049	R10-E1-X2-V2.5K	48 DC	2PDT	3.35	3.02	2.51	2.35	2.18
62F3050	R10-E1-X2-V15K	115 DC	2PDT	5.05	4.55	3.79	3.54	3.28
45F117	R10-E1-X2-115VAC	115 AC	2 PDT	4.50	4.05	3.36	3.15	2.93
62F3051	R10-E1-X4-V52	6 DC	2PDT	3.85	3.47	2.89	2.70	2.50
45F118	R10-E1-X4-V185	12 DC	4 PDT	3.85	3.47	2.89	2.70	2.50
45F119	R10-E1-X4-V700	24 DC	4 PDT	3.85	3.47	2.89	2.70	2.50
62F3052	R10-E1-X4-V2.5K	48 DC	4PDT	3.38	3.47	2.89	2.70	2.50
62F3053	R10-E1-X4-V15K	110 DC	4PDT	5.55	5.00	4.16	3.86	3.61
45F120	R10-E1-X4-115V	115 AC	4PDT	5.40	4.86	4.10	3.83	3.51
62F3054	R10-E1-X6-V25	6 DC	6PDT	5.05	4.55	3.79	3.54	3.28
45F121	R10-E1-X6-V90	12 DC	6PDT	5.05	4.55	3.79	3.54	3.28
45F122	R10-E1-X6-V430	24 DC	6PDT	5.05	4.55	3.79	3.54	3.28
62F3055	R10-E1-X6-V1.5K	48 DC	6PDT	5.05	4.55	3.79	3.54	3.28
62F3056	R10-E1-X6-V90K	110 DC	6PDT	5.05	4.55	3.79	3.54	3.28

Continued next column

R10-F2 PRINTED CIRCUIT TERMINAL

Mount Direct to PC Board; No. Socket.
2 AMP. CONTACTS

Stock No.	Type	Volts	Action	1-9	10-49	50-99	100-499	500-999
45F138	R10-E2-Y2-V185	12 DC	2 PDT	3.25	2.93	2.44	2.28	2.11
45F139	R10-E2-Y2-V700	24 DC	2 PDT	3.25	2.93	2.44	2.28	2.11
45F140	R10-E2-Y4-V185	12 DC	4 PDT	3.60	3.24	2.70	2.52	2.34
45F141	R10-E2-Y4-V700	24 DC	4 PDT	3.60	3.24	2.70	2.52	2.34
62F3057	R10-E2-Y6-V90	12 V	6 PDT	5.30	4.77	3.98	3.71	3.45
62F3058	R10-E2-Y6-V430	24 V	6 PDT	5.30	4.77	3.98	3.71	3.45
62F3059	R10-E2-Y6-V1.5K	48 V	6 PDT	5.30	4.77	3.98	3.71	3.45

BIFURCATED CONTACTS 100 MA

45F142	R10-E2-Z4-V185	12DC	4 PDT	4.10	3.69	3.08	2.87	2.67
45F143	R10-E2-Z4-V700	24DC	4 PDT	4.10	3.69	3.08	2.87	2.67
62F3060	R10-Ez-Z6-V90	12 V	6 PDT	5.30	4.77	3.98	3.71	3.45
62F3061	R10-E2-Z6-V430	24 V	6 PDT	5.30	4.77	3.98	3.71	3.45
62F3062	R10-E2-Z6-V1.5K	48 V	6 PDT	5.30	4.77	3.98	3.71	3.45

5 AMP (Cont'd)

Stock No.	Type	Volts	Action	1-9	10-49	50-99	100-499	500-999
62F3065	R10-E1-Y2-J10.0K	3.1 mA	2PDT	4.45	4.01	3.34	3.12	2.89
62F3066	R10-E1-Y4-J10.0K	4.5 mA	4PDT	4.85	4.37	3.64	3.40	3.15

BIFURCATED LOW LEVEL CONTACTS 100 MA

45F125	R10-E1-Z2-V185	6 DC	2PDT	3.65	3.29	2.74	2.56	2.37
45F126	R10-E1-Z2-V700	24 DC	2PDT	3.65	3.29	2.74	2.56	2.37
62F3067	R10-E1-Z2-V52	6 DC	2PDT	3.65	3.29	2.74	2.56	2.37
62F3068	R10-E1-Z2-V2.5K	48 DC	2PDT	3.65	3.29	2.74	2.56	2.37
62F3069	R10-E1-Z2-V15.0K	115 DC	2PDT	5.35	4.82	4.12	3.75	3.48
62F3070	R10-E1-Z4-V52	6 DC	4PDT	4.10	3.69	3.08	2.87	2.67
45F127	R10-E1-Z4-V185	12 DC	4PDT	4.10	3.69	3.08	2.87	2.67
42F128	R10-E1-Z4-V700	24 DC	4PDT	4.10	3.69	3.08	2.87	2.67
62F3071	R10-E1-Z4-V2.5K	48 DC	4PDT	4.10	3.69	3.08	2.87	2.67
62F3072	R10-E1-Z4-V15.0K	115 DC	4PDT	5.80	5.22	4.35	4.06	3.77
62F3073	R10-E1-Z6-V25	6 DC	6PDT	5.30	4.77	3.98	3.71	3.45
45F129	R10-E1-Z6-V90	12 DC	6PDT	5.30	4.77	3.98	3.71	3.45
45F130	R10-E1-Z6-V430	24 DC	6PDT	5.30	4.77	3.98	3.71	3.45
62F3074	R10-E1-Z6-V1.5K	48 DC	6PDT	5.30	4.77	3.98	3.71	3.45
62F3075	R10-E1-Z6-V9.1K	115 DC	6PDT	6.20	5.58	4.65	4.34	4.03

SENSITIVE CURRENT 2 AMP.

Stock No.	Type	Current Ma	Action	1-9	10-49	50-99	100-499	500-999
45F131	R10-E1-Y2-J2.5K	5.8	2 PDT	3.55	3.20	2.66	2.49	2.31
45F132	R10-E1-Y2-J5.0K	4.1	2 PDT	4.05	3.65	3.04	2.84	2.63
45F133	R10-E1-Y4-J2.5K	8.4	4 PDT	3.95	3.56	2.96	2.77	2.57
45F134	R10-E1-Y4-J5.0K	6.2	4 PDT	4.45	4.01	3.34	3.12	2.89

SENSITIVE CURRENT—BIFURCATED CONTACTS 100 MA

45F135	R10-E1-Z4-J1.0K	13.0	4 PDT	4.45	4.01	3.34	3.12	2.89
45F136	R10-E1-Z4-J2.5K	8.4	4 PDT	4.45	4.01	3.34	3.12	2.89
45F137	R10-E1-Z4-J5.0K	6.2	4 PDT	4.95	4.46	3.71	3.47	3.22

SOCKETS

Large contact surface area, closed entry floating type contacts — gold plated. Wire retainer and pre-installed grounding provision included with sockets.

FOR R10 SERIES RELAYS

Stock No.	Type	Action	Terminals	1-9	10-49	50-99	100-499	500-999
45F070	9XR10-1	2 PDT	Solder	.55	.50	.42	.385	.358
45F071	9XR10-2	4 PDT	Solder	.70	.63	.53	.49	.455
45F072	9XR10-3	6 PDT	Solder	.90	.81	.68	.63	.585
45F073	9XR10-4	2 PDT	Pr. Circuit	.55	.50	.42	.385	.358
45F074	9XR10-5	4 PDT	Pr. Circuit	.70	.63	.53	.49	.455
45F075	9XR10-6	6 PDT	Pr. Circuit	.90	.81	.68	.63	.585
62F3076	9XR10-7	DPDT	Solder	.55	.50	.42	.385	.358
62F3077	9XR10-8	4 PDT	Solder	.70	.63	.53	.49	.455
62F3078	9XR10-9	6 PDT	Solder	.90	.81	.68	.63	.585
62F3079	9XR10-10	Strap retainers for PC Sockets		.50	.45	.38	.35	.325

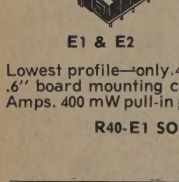
FOR R12 SERIES TIME RELAYS

45F076	9XR12-1	2 PDT	Solder	.90	.81	.68	.63	.585
45F077	9XR12-2	2 PDT	Pr. Circuit	.90	.81	.68	.63	.585

FOR R40 SLIMLINE SERIES RELAYS

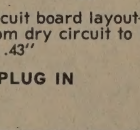
45F078	9XR40-1	4 PDT	Rt. Ang. PC	1.35	1.22	1.02	.945	.878
45F079	9XR40-2	4 PDT	Vert. PC	.95	.86	.72	.665	.618
45F080	9XR40-3	4 PDT	Chassis	1.00	.90	.75	.70	.65

R40 SLIMLINE 4PDT RELAY



E1 & E2

- For printed circuit board use.
- Allows .6" board mounting centers.
- A variety of contacts.
- Wide range of coil voltages.



E3

Lowest profile→only.43" thick. Easy printed circuit board layout—.6" board mounting center. Switching range from dry circuit to 10 Amps. 400 mW pull-in power. Size: 1.20" x 1.40" x .43"

R40-E1 SOLDER TERMINALS OR PLUG IN SOCKET MOUNTING
2 AMP

Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F144	R40-E1-Y4-V50	6 DC	5.35	4.82	4.01	3.75	3.48
45F145	R40-E1-Y4-V200	12 DC	5.35	4.82	4.01	3.75	3.48

2 AMP Cont'd

Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F146	R40-E1-Y4-V800	24 DC	5.35	4.82	4.01	3.75	3.48
45F147	R40-E1-Y4-V3.2K	48 DC	5.35	4.82	4.01	3.75	3.48

5 AMP

45F148	R40-E1-X4-V200	12 DC	5.60	5.04	4.20	3.92	3.64
45F149	R40-E1-X4-V800	24 DC	5.60	5.04	4.20	3.92	3.64

BIFURCATED CONTACTS

45F150	R40-E1-Z4-V200	12 DC	5.85	5.27	4.39	4.10	3.80
45F151	R40-E1-Z4-V800	24 DC	5.85	5.27	4.39	4.10	3.80

DRY CIRCUIT/CROSSBAR

45F152	R40-E1-L4-V200	12 DC	6.80	6.12	5.10	4.76	4.42
45F153	R40-E1-L4-V800	24 DC	6.80	6.12	5.10	4.76	4.42
45F154	R40-E1-L4-V3.2K	48 DC	6.80	6.12	5.10	4.76	4.42

R40-E2 PRINTED CIRCUIT TERMINAL VERTICAL

2 AMP

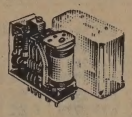
Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F155	R40-E2-Y4-V200	12 DC	5.35	4.82	4.01	3.75	3.48
45F156	R40-E2-Y4-V800	24 DC	5.35	4.82	4.01	3.75	3.48
5 AMP							
45F157	R40-E2-X4-V50	6 DC	5.60	5.04	4.20	3.92	3.64
45F158	R40-E2-X4-V200	12 DC	5.60	5.04	4.20	3.92	3.64
45F159	R40-E2-X4-V800	24 DC	5.60	5.04	4.20	3.92	3.64
BIFURCATED CONTACTS							
45F160	R40-E2-Z4-V200	12 DC	5.85	5.27	4.39	4.10	3.80
45F161	R40-E2-Z4-V800	24 DC	5.85	5.27	4.39	4.10	3.80
45F162	R40-E2-Z4-V3.2K	48 DC	5.85	4.27	4.39	4.10	3.80

R40-E3 MOUNTED FLAT ON PRINTED CIRCUIT BOARD

2 AMP

Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F163	R40-E3-Y4-V200	12 DC	5.35	4.82	4.01	3.75	3.48
45F164	R40-E3-Y4-V800	24 DC	5.35	4.82	4.01	3.75	3.48
45F165	R40-E3-Y4-V3.2K	48 DC	5.35	4.82	4.01	3.75	3.48
5 AMP							
45F166	R40-E3-X4-V200	12 DC	5.60	5.04	4.20	3.92	3.64
45F167	R40-E3-X4-V800	24 DC	5.60	5.04	4.20	3.92	3.64
BIFURCATED CONTACTS							
45F168	R40-E3-Z4-V200	12 DC	5.85	5.27	4.39	4.10	3.80
45F169	R40-E3-Z4-V800	24 DC	5.85	5.27	4.39	4.10	3.80
45F170	R40-E3-Z4-V3.2K	48 DC	5.85	5.27	4.39	4.10	3.80
DRY CIRCUIT/CROSSBAR CONTACTS							
45F171	R40-E3-L4-V200	12 DC	6.80	6.12	5.10	4.76	4.42
45F172	R40-E3-L4-V800	24 DC	6.80	6.12	5.10	4.76	4.42
45F173	R40-E3-L4-V3.2K	48 DC	6.80	6.12	5.10	4.76	4.42

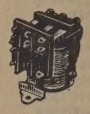
R12 ADJUSTABLE TIME DELAY RELAY-15 TURN POT



Small size, 2 PDT 5 amp contact. Silicon transistors, delay range .1 to 120 seconds. No false operations. Critical timing capacitor meets mil-specs, high resolution 15 turn pot. Size: 1.580" x .735" x 1.187.

Stock No.	Type	Volts	Coil Ohms	1-9	10-49	50-99	100-499	500-999
45F081	R12-2-12-X2-E1	12 DC	125	18.10	16.29	13.57	12.67	11.77
45F082	R12-2-24-X2-E1	24 DC	650	18.10	16.29	13.57	12.67	11.77
45F083	R12-30-12-X2-E1	12 DC	125	18.60	16.74	13.95	13.02	11.77
45F084	R12-30-24-X2-E1	24 DC	650	18.60	16.74	13.95	13.02	11.77
45F085	R12-120-12-X2-E1	12 DC	125	20.10	18.09	15.07	14.07	13.07
45F086	R12-120-24-X2-E1	24 DC	650	20.10	18.09	15.07	14.07	13.07

KLT SERIES



Relays are designed for DC applications in transistor circuits. Contacts at 3PDT and are rated 3 amperes at 120 volts. For continuous duty @ +25 on open types. Life is 10 million mechanical operations. Mounting; two No. 6-32 tapped holes. Weight 4 Ozs.

Stock No.	Type	Coil Volts	Coil Ohms	1-24	25-49	50-99	100-249	250-499
24F3284	KLT5D	12	1,080	4.20	3.99	3.78	2.94	2.73
24F3285	KLT5D	24	4,320	4.20	3.99	3.78	2.94	2.73
24F3286	KLT11D	6	200	5.35	5.08	4.82	3.75	3.48
24F3287	KLT11D	12	810	5.35	5.08	4.82	3.75	3.48
45F218	KLT11D	24	3,240	5.35	5.08	4.82	3.75	3.48
45F219	KLT11D	48	13,000	5.75	5.46	5.18	4.03	3.74
24F3288	KLT14D	12	540	5.95	5.65	5.36	4.17	3.87
45F3289	KLT14D	24	2,160	5.95	5.65	5.36	4.17	3.87

JR-JRM-JRL COMPUTER TYPE RELAYS

JR and JRM. Have reed switches. Glass supported nylon insulated. Voltage: 500 volts rms 60 Hz, between insulated points. 250 volts rms 60 Hz, between open contacts. Operate time: 3ms. @ nom. coil voltage @ 25°. Coil power: 1 capsule-240 mw; 2 capsules-360 mw; 3 capsule-720 mw; 4 capsules-960 mw. Size; 2.715 x 656H max. JRM is 1.125" long; .468" high; width varies with contact arrangement. Oper. time; 1ms Release time: .05ms. Pickup: 75% nom. @ 25°C. Rating: 10 watts.

JRL Mount on PC board.1 Form a and 2 Form A contacts rated 15 watts, resistive. Operate time at 25° is 1.0 millisecond (including bounce). Wt. 2 ozs.

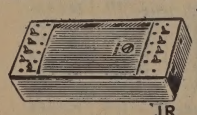
JR STANDARD

Stock No.	Type JR	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-9	10-24	25-99
24F2860	1000	1	6	150	1A	15	3.20	2.39	2.03
24F2861	1001	2	6	100	2A	15	4.30	3.21	2.73
24F2864	1040	1	6	150	1C	10	8.05	6.01	5.11
24F3300	1041	2	6	100	2C	10	8.80	6.34	5.57
62F2988	1060	2	6	100	1B	15	4.30	3.21	2.73
24F2865	1020	1	6	150	1A	50	4.50	3.36	2.86
24F2867	1005	1	12	600	1A	15	3.20	2.39	2.03
24F2868	1006	2	12	400	2A	15	4.30	3.21	2.73
62F2989	1008	4	12	150	4A	15	6.00	4.47	3.81
24F2870	1086	3	12	200	1A& 1B	15	5.30	3.95	3.37
24F2871	1045	1	12	600	1C	10	8.05	6.01	5.11
24F2872	1025	1	12	600	1A	50	4.50	3.36	2.86
24F3301	1046	2	12	400	2C	10	8.80	6.34	5.57
62F2990	1063	2	12	400	1B	15	4.30	3.21	2.73
24F2874	1010	1	24	2400	1A	15	3.75	2.80	2.38
24F2875	1011	2	24	1600	2A	15	4.55	3.39	2.89
24F2876	1013	4	24	600	4A	15	6.30	4.70	4.00
24F2877	1088	3	24	800	1A& 1B	15	5.65	4.21	3.59
24F2878	1050	1	24	2400	4A	10	8.40	6.27	5.33
62F2991	1051	2	24	1600	2C*	10	8.90	6.64	5.65
24F2879	1030	1	24	2400	1A	50	4.85	3.62	3.08
24F3302	1031	2	24	1600	2C	50	7.25	5.41	4.60
62F2992	1066	2	24	1600	1B	15	4.35	3.25	2.76
62F2993	1089	5	24	384	2A& 2B	15	8.75	6.53	5.56

JRM MINIATURE

Stock No.	Type JRM	No. Cav.	Coil VDC	Con. Arr.	W. In.	Wt. Oz.	1-9	10-24	25-99
62F2994	1003	4	6	4A	.813	.620	8.05	6.01	5.11
62F2995	1036	2	6	1B	.562	.395	4.40	3.28	2.79
62F2996	1037	3	6	2B	.703	.530	5.90	4.40	3.75
62F2997	1048	3	6	1A	.968	.781	9.05	6.75	
62F2998	1049	5	6	2B	.968	.781	9.05	6.75	5.75
24F2909	1006	1	12	1A	.432	.366	3.45	2.57	2.19
24F2910	1007	2	12	2A	.557	.395	5.05	3.77	3.21
62F2999	1041	3	12	2B	.703	.530	5.90	4.40	3.75
24F2912	1012	1	24	1A	.432	.366	3.80	2.83	2.41
24F2913	1013	2	24	2A	.557	.395	5.20	3.88	3.30
24F2914	1015	4	24	4A	.808	.620	8.15	6.08	5.18
24F2919	1040	2	12	1B	.557	.395	4.40	3.28	2.79

JR-JRM-JRL Series



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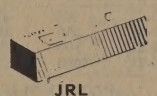
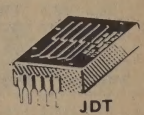


JRL



JDT

JRM MINIATURE Cont'd

Stock No.	Type JRM	No. Cav.	Coil VDC	Con. Arr.	W. In.	Wt. Oz.	1-9	10-24	25-99
24F2921	1044	2	24	1B	.557	.395	4.50	3.36	2.86
24F2923	1050	3	12	1A& 1B	.698	.530	5.90	4.40	3.75
24F2925	1052	3	24	1A& 1B	.698	.530	6.05	4.51	3.84
24F3303	1000	1	6	1A	.437	.366	3.45	2.57	2.19
24F3304	1001	2	6	2A	.562	.395	5.05	3.77	3.21
24F3305	1009	4	12	4A	.813	.620	8.05	6.00	5.11
24F3306	1051	5	12	2A 2B	.968	.781	9.05	6.75	5.65
24F3307	1045	3	24	2B	.703	.530	6.05	4.51	3.84
24F3308	1053	5	24	2A 2B	.968	.781	9.20	8.21	6.99

JRL LATCHING

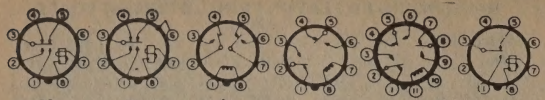
Stock No.	Type JRL	No. Cav	Coil VDC	Con. Arr.	Coil Ohms	1-9	10-24	25-99
24F3309	1000	2	6	1A	400	4.75	3.54	3.02
24F3310	1001	2	12	1A	1600	4.75	3.54	3.02
24F3311	1002	2	24	1A	6400	5.25	3.92	3.33
24F3312	1012	3	6	2A	300	6.75	5.04	4.29
24F3313	1013	3	12	2A	1200	6.75	5.04	4.29
24F3314	1014	3	24	2A	4800	7.10	5.97	5.08

JDT DUAL THIN-LINE

Ideal for high density packaging applications, Reed relays have low profile (only 0.275" max. height). Hermetically sealed glass capsules are completely encapsulated in epoxy. Terminals are on .100" grid centers for ease of printed circuit board mounting and layout. Operate time is 3.5 milliseconds including bounce. Release time if 3.5 milliseconds maximum. Weight: ½ to ¾ oz. max.

Stock No.	Type JDT	No. Cav.	Coil VDC	Con Arr.	Coil Ohms	1-9	10-24	25-99
24F3315	15DB1	4	6	4A	115	7.65	5.71	4.86
24F3316	15DB1	4	12	4A	480	7.65	5.71	4.86
24F3317	15DB1	4	24	4A	1850	8.30	6.19	5.27
24F3318	27DD1	8	6	8A	60	12.95	9.06	8.22
24F3319	27DD1	8	12	8A	260	12.95	9.06	8.22
24F3366	27DD1	8	24	8A	1050	13.70	10.22	7.70
62F3000	7DA1	2	6	2A	115	5.75	4.29	3.65
62F3001	7DA1	2	12	2A	460	5.75	4.29	3.65
62F3002	7DA1	2	24	2A	1840	6.40	4.77	4.06
62F3003	21DC1	6	6	6A	100	10.95	8.17	6.95
62F3004	21DC1	6	12	6A	400	10.95	8.17	6.95
62F3005	21DC1	6	24	6A	1600	11.60	8.65	7.36

POTTER & BRUMFIELD Relays



11 12 21 22 31 81

Last Two Digets in Type Number Indicates Contact Form

JM MERCURY-WETTED CONTACT RELAYS

Has long high speed versatility of operation. Glass capsule contains 2 sets of contacts with mercury reservoir. Hermetically sealed in hydrogen. Rating—500V-54; 250 VA contact protection. Timing—Contact speed up to 100 operations/second; 60 operations—2 and 4 capsule—3 Mi/sec.; 4 Mi/sec.—2 capsule; 5 Mi/sec.—4 capsule. Resistance 25-50 milliohms. Dielectric—Double buffer coils. 1000V-60 Hz. Will withstand 10G's 10-500 Hz Wt., 4 oz.

SINGLE CAPSULE—SINGLE COIL—SPDT

Stk. No.	Type	Ohms	1-9	10-24	25-99
62F2950	JM1-106-12	40	16.95	12.64	10.76
24F1680	JM1-109-12	130	16.95	12.64	10.76
24F1681	JM1-112-11	500	16.95	12.64	10.76
24F1682	JM1-114-11	700	16.95	12.64	10.76
24F1683	JM1-114-12	700	16.95	12.64	10.76
24F1684	JM1-118-11	2500	17.25	12.87	10.95
24F1685	JM1-119-11	4000	8.55	8.55	8.55
24F1686	JM1-120-11	7000	17.85	13.32	11.32
24F1687	JM1-121-11	11000	17.85	13.32	11.32
24F1688	JM1-123-11	25000	17.85	13.32	11.32

DOUBLE CAPSULE—SINGLE COIL—DPDT

24F2157	JM2-104-22	50			
45F017	JM2-106-21	140			
24F2158	JM2-109-22	315			
24F2159	JM2-110-22	500			
24F1690	JM2-111-22	700	27.50	20.52	17.46
24F2160	JM2-112-22	1250			
24F2162	JM2-115-21	5000			
24F1691	JM2-115-22	5000			

THREE CAPSULE—SINGLE COIL

62F2951	JM3-110-31	500	35.60	26.56	22.61
45F018	JM3-109-31	315	35.60	26.56	22.61
24F2166	JM3-111-31	700	35.60	26.56	22.61
24F2168	JM3-115-31	5000	35.60	26.56	22.61

4PDT-SINGLE COIL

62F2952	JM4-106-41	65	45.90	34.24	29.15
62F2953	JM4-110-41	390	45.90	34.24	29.15

SPDT-SINGLE COIL

62F2954	JMD-1060-63	150	11.45	8.54	7.27
62F2955	JMD-1090-63	450	11.45	8.54	7.27
62F2956	JMD-1100-63	750	11.45	8.54	7.27

JML NON-BRIDGING MERCURY-WETTED CONTACT RELAYS

Employ a Form C non-bridging contact arrangement. They provide greater sensitivity, faster operation than JMP relays. Speeds from 3 ms to 1.1 ms are possible, depending upon coil power. Contacts are rated 2 amps max., 500V max. with contact protection. All JML relays mount in Amphenol 77-MIP-8 sockets. Size: Diameter 1.312" max.; Overall height 3.303" max. Weight: 4-ozs.

SINGLE-SIDE-STABLE

Stk.No.	Type JML	Ohms	1-9	10-24	25-99
24F2189	1061-81	40			
24F2190	1110-81	350	14.00	10.44	8.89
24F2191	1160-81	1000			
24F2192	1190-81	2500			
24F2193	1200-81	4000	14.95	11.15	9.49
45F019	1240-81	11000			

BI-STABLE

24F2197	5200-81	4000	14.95	11.15	9.49
62F2957	5430-82	1100	16.40	12.23	10.41

CHOPPER

24F2199	8130-81	600	14.60	10.89	9.27

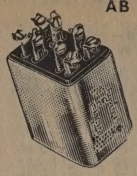
SL LATCHING

Dual coil latching relay for low power, high shock/vibration uses. Requires connections to both coils or a reversing power source applied to the two coils in series. All DPDT

Stk.No.	Type	Ohms	VDC	Stk. No.	Type	Ohms	VDC
62F2958	SL11D	35	6	62F2960	SL11DB	40	6
45F212	SL11D	160	12	24F1380	SL11DB	160	12
24F1283	SL11D	630	24	24F1285	SL11DB	630	24
62F2959	SL11DA	40	6	24F1388	SL11DC	630	24
24F1377	SL11DA	160	12	24F1389	SL11DD	630	24
24F1284	SL11DA	630	24	45F213	SLG11D	630	24

Prices	Type	1-24	25-50	51-99	100-249	250-499
	SL	21.45	20.38	19.31	15.02	13.99

AB AND ABC POWER RELAYS



AB: Have 10 Amp DPDT silver contacts. Mounting: #8-32 tapped holes on 1¼" centers. Weight: 5 oz. Size 3" Lg. 1 13/32" Wd. x 1 15/16" Hg. UL listed. **ABC:** Like AB, with dust cover. 2 25/32" x 1 31/64" x 2 3/32". Wt., 7 oz.

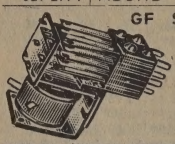
AC TYPE

Stock No.	Type	Coil Volts	Ohms	1-24	25-49	50-99	100-249
62F2961	AB11AY	6VAC	1.3	6.15	5.84	5.54	4.31
62F2962	AB11AY	24VAC	15	6.15	5.84	5.54	4.31
24F1121	AB11AY	120VAC	510	6.15	5.84	5.57	4.31
45F000	AB11AY	240VAC	2050	6.65	6.32	5.99	4.66
62F2963	ABC11AY	6VAC	1.3	7.40	7.03	6.66	5.18
62F2964	ABC11AY	24VAC	15	7.40	7.03	6.66	5.18
24F1129	ABC11AY	120VAC	510	7.40	7.03	6.66	5.18
45F001	ABC11AY	240VAC	2050	7.90	7.51	7.11	5.53

DC TYPE

62F2965	AB11D	12VDC	72	6.00	5.70	5.40	4.20
62F2966	AB11D	24VDC	288	6.00	5.70	5.40	4.20
62F2967	AB11D	110VDC	6050	6.50	6.18	5.85	4.55
62F2968	ABC11D	6VDC	18	7.30	6.94	6.57	5.11
62F2969	ABC11D	12VDC	72	7.30	6.94	6.57	5.11
62F2970	ABC11D	24VDC	288	7.30	6.94	6.57	5.11
62F2971	ABC11D	110VDC	6050	7.80	7.41	7.02	5.46

GF SERIES POWER RELAYS



GF SERIES. Silver contacts rated at 10 amps at 120V AC or 28V DC resistive. Tinned, pierced solder terminals. Mounting: 8-32 tapped core with locating boss. Wt., 4.75 ozs.

Stk. No.	Type	Coil Volts	Action	1-24	25-49	50-99	100-249
62F2972	GF17A	6.8	12VAC	7.60	7.22	6.84	5.32
62F2973	GF17A	24	24VAC	7.60	7.22	6.84	5.32
24F2590	GF17A	4PDT	120VAC	7.60	7.22	6.84	5.32
24F2591	GF17A	4PDT	240VAC	8.05	7.65	7.25	5.64
62F2974	GF17D	18	GVDC	7.60	7.22	6.84	5.32
24F2593	GF17D	4PDT	12VDC	7.60	7.22	6.84	5.32
24F2594	GF17D	4PDT	24VDC	7.60	7.22	6.84	5.32
24F2595	GF17D	4PDT	110VDC	8.15	7.74	7.34	5.71

JM MERCURY WETTED CONTACT RELAYS

JMF and JMF2 (dual capsule*) relays have SPDT break-before-make (Form C) non-bridging contacts. JMP and JMS relays have SPDT make-before-break (Form D) bringing contacts. All may be operated up to 5 times rated current, except JMF 2 which may be operated at twice rated current. All contacts rated 100 volts at 2 amps except JMP which are rated 250 volts at 5 amps. Size: JMF and JMS, .625x2.1x.625"; JMF2, .78x2.1x1.1"; JMP, 3.1x1.1" diameter. Weight: JMF and JMS, 1¼ oz.; JMF2 and JMP, 3¼ oz.

JMF PRINTED CIRCUIT MODULE RELAYS

Single-side stable except (**)bi-stable

Stk.No.	Type	Ohms	1-9	10-24	25-99
24F2551	1070-61	450			
24F2552	1080-61	675	11.35	8.47	7.21
24F2553	1120-61	1425			
24F2554	1150-61	2400			
24F2555	1160-61	4000	11.90	8.88	7.56
62F2975	5080-61**	675	11.35	8.47	7.21

JMF2 PRINTED CIRCUIT MODULE RELAYS

62F2976	1000-71*	130	21.75	16.23	13.81
62F2977	1001-71*	520	21.75	16.23	13.81
62F2978	1002-71*	2200	22.30	16.64	14.16

JMS SENSITIVE FORM D BRIDGING RELAYS

bi-stable, single wound coil † dual wound

62F2979	5040-62 †	325	11.35	8.47	7.21
62F2980	5070-62 †	1250	11.90	8.88	7.56
62F2981	1070-61	34	11.35	8.46	7.21
62F2982	1130-61	620	11.35	8.46	7.21
62F2983	1160-61	2430	11.90	8.88	7.56
62F2984	1190-61	8600	11.90	8.88	7.56

JMP POLARIZED FORM D BRIDGING RELAYS

single-side-stable except (**)bi-stable

62F2985	1160-11	1,000	18.40	13.73	11.68
62F2986	1200-11	4,000	19.70	14.70	12.51
62F2987	5200-11**	4,000	19.70	14.70	12.51

JRA SERIES

Sensitive to magnetic fields. Not less than .75" spacing recommended. Only in form A arrangement. Size 1.865 x .250.

Stk. No.	Type	Cav	Ohms	1-76	77-Up
24F3257	JRA1006	1	74	1.50	.77
24F3258	JRA1012	1	290	1.50	.77
24F3259	JRA1024	1	1200	1.50	.77

Power Relays POTTER & BRUMFIELD

MR MEDIUM DUTY POWER RELAY

Designed for small motors and appliances. Contact rated at 8 amps. Mounting: Two 5/32" dia. holes on 2 5/8" centers for 1 and 3 poles and 2 1/4" centers for 2 pole relay. Size: 2 31/32 x 2 1/8 x 1 3/4". Weight: 4 oz.

COIL DATA FOR MR SERIES

	DC COILS			AC COILS (50/60 HZ)	
Volts	Resistance	Average DC Current Milliamps	Volts	DC Resistance	Average AC Current Milliamps
6	24	250	6	2.7	550
12	96	125	12	13.2	268
24	360	67	24	50	134
110	8000	14.4	120	1250	28
220*	.....	.....	240	4600	14

* Use 110 V relay with 7500 to 10,000 ohm 5W wire wound resistor in series.

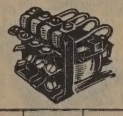
AC TYPE

Stk. No.	Type	Action	Volts	1-24	25-49	50-99	100-299
24F1157	MR3A	SPST-NO-DM	6	4.50	4.28	4.05	3.15
24F1158	MR3A	SPST-NO-DM	2	4.50	4.28	4.05	3.15
24F506	MR3A	SPST-NO-DM	120	4.50	4.28	4.05	3.15
24F541	MR5-A	SPDT	6	4.05	3.85	3.65	2.84
45F002	MR5-A	SPDT	12	4.05	3.85	3.65	2.84
24F1159	MR5-A	SPDT	24	4.05	3.85	3.65	2.84
24F509	MR5-A	SPDT	120	4.05	3.85	3.65	2.84
24F534	MR5-A	SPDT	240	4.50	4.28	4.05	3.15
24F543	MR11A	DPDT	6	5.70	5.42	5.13	3.99
45F003	MR11A	DPDT	12	5.70	5.42	5.13	3.99
24F1160	MR11A	DPDT	24	5.70	5.42	5.13	3.99
24F511	MR11A	DPDT	6	5.70	5.42	5.13	3.99
45F535	MR11A	DPDT	240	6.15	5.84	5.54	4.31
62F3006	MR14A	3PDT	6	6.80	6.46	6.12	4.76
62F3007	MR14A	3PDT	12	6.80	6.46	6.12	4.76
45F004	MR14A	3DPT	24	6.80	6.46	6.12	4.76
24F536	MR14A	3PDT	120	6.80	6.46	6.12	4.76
45F005	MR14A	3PDT	240	7.25	6.89	6.53	5.08

DC TYPE

Stk. No.	Type	Action	Volts	1-24	25-49	50-99	100-249
24F1164	MR3D	SPST-NO-DM	6	4.10	3.90	3.69	2.87
45F006	MR3D	SPST-NO-DM	12	4.10	3.90	3.69	2.87
24F166	MR3D	SPST-NO-DM	24	4.10	3.90	3.69	2.87
24F550	MR5D	SPDT	6	3.75	3.56	3.38	2.63
24F1167	MR5D	SPDT	12	3.75	3.56	3.38	2.63
24F1168	MR5D	SPDT	24	3.75	3.56	3.38	2.63
62F3008	MR5D	SPDT	110	4.30	4.09	3.87	3.01
24F551	MR11D	DPDT	6	5.40	5.13	4.86	3.78
24F1169	MR11D	DPDT	12	5.40	5.13	4.86	3.78
24F1170	MR11D	DPDT	24	5.40	5.13	4.86	3.78
24F1315	MR11D	DPDT	110	5.95	5.65	5.36	4.17
62F3009	MR14D	3PDT	6	6.40	6.08	5.76	4.48
62F3010	MR14D	3PDT	12	6.40	6.08	5.76	4.48
45F007	MR14D	3PDT	24	6.40	6.08	5.76	4.48
24F1316	MR14D	3PDT	110	6.95	6.60	6.26	4.89

PM SERIES POWER RELAYS



Rated at 25 amps. (or 1 H.P.) at 120 volts, 50/60 HZ resistive. Molded phenolic insulation. These 4PDT relays have silver-cadmium-oxide contacts. UL listed. Terminals are screw type with No. 8-32 BH screw. Wt., 14 oz. Size 2 17/32" x 3 23/64" x 2 17/32".

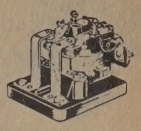
Stock No.	Mfr. No.	Coil Volts	1-24	25-49	50-99	100-249
24F1430	PM17AY	6VAC	14.30	13.59	12.87	10.01
24F1431	PM17AY	12VAC	14.30	13.59	12.87	10.01
24F1432	PM17AY	24VAC	14.30	13.59	12.87	10.01
24F1433	PM17AY	120VAC	14.30	13.59	12.87	10.01
24F1434	PM17AY	240VAC	14.85	14.11	13.37	10.40
24F1449	PM17A	480VAC	15.75	14.96	14.18	11.03
24F1426	PM17DY	6VDC	13.65	12.97	12.29	9.56
24F1427	PM17DY	12VDC	13.65	12.97	12.29	9.56
24F1428	PM17DY	24VDC	13.65	12.97	12.29	9.56
24F1429	PM17DY	110VDC	14.25	13.54	12.83	9.98

"P" CASE

A clear polycarbonate case for mounting rectifiers, capacitors, or combinations (with octal type plug with 8 or 11 pins.) Comes complete with 4 screws. Av. Shpg. wt. 3 oz.

Stock No.	Type	Plugs	1-24	25-49	50-99	100-249	250-499
24F1322	35D070	8 pin	.65	.62	.59	.46	.46
24F1323	35D072	11 pin	.80	.76	.72	.56	.52

PR HEAVY-DUTY POWER RELAY



Fast-acting power relay with full-floating movable contact carrier to provide ample contact wipe and pressure. For industrial control applications, motor loads up to .1 HP or heater loads up to 25 amps. Terminals are heavy duty screw type. PR3-SPST normally open double make contacts. Mounting: Two 3/16" dia. holes on 1 7/8" centers. Silver contacts rated at 25 amps. Size: max. w/out aux. contacts. 3 3/8" x 2 7/16" x 2 1/2". All except PR11AL5 are U/L listed. Wt. 11 ozs.

COIL DATA FOR PR SERIES

	"DY",DC COILS			"AY","AC" Coils (50-60Hz)	
Volts	Resistance Ohms	Average DC Current Millamperes	Volts	DC Resistance	Average AC Current Milliamperes
6	18	333	6	86	1600
12	71	169	12	3.2	820
24	288	84	24	12.0	410
110	6050	18.2	120	290	85
220*	.....	.....	240	1200	43
			480	4500	22

*Use 100V relay with approx. 6,000 ohm 5W wire wound in series.

AC VOLTS

Stk. No.	Type	Action	Coil V	1-24	25-49	50-99	100-249
62F3011	PR1AY	SPST	24 VAC	4.70	4.47	4.23	3.29
24F1132	PR3AY	SPST	6 VAC	4.80	4.56	4.32	3.36
62F3012	PR3AY	SPST	12 VAC	4.80	4.56	4.32	3.36
24F1133	PR3AY	SPST	24 VAC	4.80	4.56	4.32	3.36
24F500	PR3AY	SPST	120 VAC	4.80	4.56	4.32	3.36
62F3013	PR3AY	SPST	208 VAC	5.30	5.04	4.77	3.71
24F530	PR3AY	SPST	240 VAC	5.30	5.04	4.77	3.71
45F008	PR5AY	SPDT	6 VAC	5.05	4.80	4.55	3.54
24F1135	PR5AY	SPDT	12 VAC	5.05	4.80	4.55	3.54
24F1136	PR5AY	SPDT	24 VAC	5.05	4.80	4.55	3.54
62F3014	PR5AY	SPDT	208 VAC	5.55	5.27	5.00	3.89
24F503	PR5AY	SPDT	240 VAC	5.55	5.07	5.00	3.89
24F1137	PR7AY	DPST	6 VAC	5.65	5.37	5.09	3.96
45F009	PR7AY	DPST	12 VAC	5.65	5.37	5.09	3.96
24F539	PR7AY	DPST	24 VAC	5.65	5.37	5.09	3.96
24F504	PR7AY	DPST	120 VAC	5.65	5.37	5.09	3.96
62F3015	PR7AY	DPST	208 VAC	6.15	5.84	5.54	4.31
24F1139	PR7AY	DPST	240 VAC	6.15	5.84	5.54	4.31
24F1140	PR11AY	DPDT	6 VAC	7.45	7.08	6.71	5.22
62F3016	PR11AY	DPDT	12 VAC	7.45	7.08	6.71	5.22
24F538	PR11AY	DPDT	24 VAC	7.45	7.08	6.71	5.22
24F505	PR11AY	DPDT	120 VAC	7.45	7.08	6.71	5.22
62F3017	PR11AY	DPDT	208 VAC	7.95	7.55	7.16	5.57
24F532	PR11AY	DPDT	240 VAC	7.95	7.55	7.16	5.57
24F1199	PR11AY	DPDT	480 VAC	9.05	8.60	8.15	6.34
24F1141	PR11AL5	DPDT	6 VAC	9.45	8.98	8.51	6.62
62F3098	PR11AL5	DPDT	12 VAC	9.45	8.98	8.51	6.62
45F010	†PR11AL5	DPDT	24 VAC	9.45	8.98	8.51	6.62
24F1144	†PR11AL5	DPDT	120 VAC	9.45	8.98	8.51	6.62
62F3099	PR11AL5	DPDT	240 VAC	9.95	9.45	8.96	6.97

DC VOLTS

62F4000	PR3DY	SPST-NODM	6 VDC	4.80	4.56	4.32	3.36
62F4001	PR3DY	SPST-NODM	12 VDC	4.80	4.56	4.32	3.36
24F2492	PR3DY	SPST-NODM	24 VDC	4.80	4.56	4.32	3.36
24F1147	PR3DY	SPST-NODM	110 VDC	5.50	5.23	4.95	3.85
62F4002	PR5DY	SPDT	6 VDC	5.05	4.80	4.55	3.54
24F579	PR5DY	SPDT	12 VDC	5.05	4.80	4.55	3.54
45F011	PR5DY	SPDT	24 VDC	5.05	4.80	4.55	3.54
24F1148	PR5DY	SPDT	110 VDC	5.75	5.46	5.13	3.99
62F4003	PR7DY	DPST	6 VDC	5.70	5.42	5.13	3.99
62F4004	PR7DY	DPST	12 VDC	5.70	5.42	5.13	3.99
24F1150	PR7DY	DPST	24 VDC	5.70	5.42	5.13	3.99
24F1151	PR7DY	DPST	110 VDC	6.40	6.08	5.76	4.48
24F586	PR11DY	DPDT	6 VDC	7.45	7.08	6.71	5.22
24F1152	PR11DY	DPDT	12 VDC	7.45	7.08	6.71	5.22
24F578	PR11DY	DPDT	24 VDC	7.45	7.08	6.71	5.22
24F577	PR11DY	DPDT	110 VDC	8.15	7.74	7.34	5.71

†DPDT main contacts rated at 20 amps.

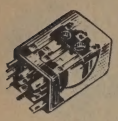
PM AND PR DUST COVERS

Sheet metal base with knockouts for 1/2" dia. conduit. Alum. cover with two screws. Gray Hammertone Finish. Mounting: Three No. 10 holes on 1 7/8 x 4 1/8" ctrs. Approx. wt. 1 lb.

Stk. No.	Type	Material	Lgth.	Ht.	1-24	25-49	50-99	100-249
24F1289	35D227	PM Metal	5.313	3.812	3.45	3.28	3.11	2.42
24F1318	35D013	PR Metal	5.312	3.125	3.45	3.28	3.11	2.42
24F2491	9PM2	PM Plast	5.313	3.812	.48	.45	.43	.33

POTTER & BRUMFIELD Relays

KNP SMALL GENERAL PURPOSE RELAY



For general purpose applications where chassis space is limited. Enclosed in a clear polycarbonate dust cover. Silver-cadmium oxide contacts. UL approved. Ratings of 1/10 HP at 120 VAC .3 amps at 32VDC, or 3 amps at 240VAC, 80% P.F. .110" quick connect/solder terminals. Mounting # 3-48 stud, or snap-in sockets with solder or printed circuit terminals. .980" x 1.00" x 1.415" max. Wt. 1.4 oz. approx.

COIL DATA FOR KN SERIES

Nominal Voltage	DC COILS: Resistance in Ohms ±10% @ 25°C	DC COILS: Inductance in Henrys (approx.)	AC COILS: Resistance in Ohms (approx.)	AC COILS: Average AC Current in Ma
6	40	.08	10.5	200
12	160	.28	43	100
24	650	1.0	160	52
110	11.000	17.0	. . . .	. . .
120	. . . .	. . . .	3,900	11.0

AC Volts

Stock No.	Type	Action	Coil	1-24	25-49	50-99	100-249	250-499
24F3334	KNP5A21	SPDT	6	3.75	3.56	3.38	2.63	2.44
24F3333	KNP5A21	SPDT	12	3.75	3.56	3.38	2.63	2.44
24F3332	KNP5A21	SPDT	24	3.75	3.56	3.38	2.63	2.44
24F3335	KNP5A21	SPDT	120	3.75	3.56	3.38	2.63	2.44
24F3336	KNP11A21	DPDT	6	4.45	4.23	4.01	3.12	2.89
24F3337	KNP11A21	DPDT	12	4.45	4.23	4.01	3.12	2.89
24F3338	KNP11A21	DPDT	24	4.45	4.23	4.01	3.12	2.89
62F3037	KNP11A21	DPDT	48	4.45	4.01	3.34	3.12	2.89
24F3339	KNP11A21	DPDT	120	4.45	4.23	4.01	3.12	2.89
24F3340	KNP14A21	3PDT	6	5.00	4.75	4.50	3.50	3.25
24F3341	KNP14A21	3PDT	12	5.00	4.75	4.50	3.50	3.25
24F3342	KNP14A21	3PDT	24	5.00	4.75	4.50	3.50	3.25
62F3038	KNP14A21	DPDT	48	5.00	4.50	3.75	3.50	3.25
24F3343	KNP14A21	3PDT	120	5.00	4.75	4.50	3.50	3.25

DC Volts

24F3320	KNP5D21	SPDT	6v	3.60	3.42	3.24	2.52	2.34
24F3321	KNP5D21	SPDT	12	3.60	3.42	3.24	2.52	2.34
24F3322	KNP5D21	SPDT	24	3.60	3.42	3.24	2.52	2.34
24F3323	KNP5D21	SPDT	110	4.15	3.94	3.74	2.91	2.70
24F3324	KNP11D21	DPDT	6	4.00	3.80	3.60	2.80	2.60
24F3325	KNP11D21	DPDT	12	4.00	3.80	3.60	2.80	2.60
24F3326	KNP11D21	DPDT	24	4.00	3.80	3.60	2.80	2.60
24F3327	KNP11D21	DPDT	110	4.15	3.94	3.74	2.91	2.70
24F3328	KNP14D21	3PDT	6	4.60	4.37	4.14	3.22	2.99
24F3329	KNP14D21	3PDT	12	4.60	4.37	4.14	3.22	2.99
24F3330	KNP14D21	3PDT	24	4.60	4.37	4.14	3.22	2.99
24F3331	KNP14D21	3PDT	110	4.75	4.51	4.28	3.33	3.09

KNP SOCKETS

9KN1. Solder terminals with grounding lug.
9KN2. Printed circuit terminals with grounding lug.
9KN3. Hold down springs.

Stock No.	Type	1-24	25-49	50-99	100-249	250-499
45F200	9KN1	.70	.66	.63	.49	.45
45F201	9KN2	.70	.66	.63	.49	.45
45F202	9KN3	.10	.095	.09	.07	.065

KR3-H AND KRP3-H SERIES

KR3-H KRP3-H

KR3-H. Compact heavy-duty relays. Silver-CdO contacts rated 20A @ 120 VAC resistive or 24 VDC; 1 HP @ 120/240 VAC. Form X arrangement. (SPST - NO -DB). Solder terminals on coil, ¼" quick connect on contacts. 1.6 x 1.671 x 1.52"; mtg: one 6-32 stud on .437" center.

KRP3-H. As above, with plastic dust cover & octal base. 2 oz.

Stock No.	Mfr. Type	Contacts	Coil	1-24	25-49	50-99	100-249	250-499
62F3039	KR3AH	SPST-NO-DM	12V	4.55	4.10	3.40	3.17	2.95
24F2630	KR3AH	SPST-NO-DB	24V	4.55	4.32	4.10	3.19	2.96
24F2631	KR3AH	SPST-NO-DB	120V	4.55	4.32	4.10	3.19	2.96
62F3040	KRP3AH	SPST-NO-DM	12V	7.35	6.42	5.51	5.14	4.78
24F2638	KRP3AH	SPST-NO-DB	24V	7.35	6.98	6.62	5.15	4.78
24F2639	KRP3AH	SPST-NO-DB	120V	7.35	6.98	6.62	5.15	4.78
24F2633	KR3DH	SPST-NO-DB	12V	4.35	4.13	3.92	3.05	2.83
24F2634	KR3DH	SPST-NO-DB	24V	4.35	4.13	3.92	3.05	2.83
62F3041	KR3DH	SPST-NO-DM	110V	4.95	4.46	3.71	3.47	3.22
24F2641	KRP3DH	SPST-NO-DB	12V	7.10	6.75	6.39	4.97	4.62
24F2642	KRP3DH	SPST-NO-DB	24V	7.10	6.75	6.39	4.97	4.62
62F3042	KRP3DH	SPST-NO-DM	110V	7.80	7.02	5.85	5.46	5.07

KUP SERIES

KUP 9KU4 9KU1

This reliable 10-ampere relay is for industrial control. The .187" terminals of the relay are of the quick-connect solder type. The KUP is enclosed in a clear, high impact plastic dust cover. Silver-cadmium-oxide contacts assure long contact life. Operation continuous. Shpg. wt. 3 ozs. Size 1.905 x1.531 x 1.406

COIL DATA FOR KU AND KUP SERIES

DC COILS: Volts	DC COILS: DC Ohms	DC COILS: Ma	AC COILS 1 & 2 Poles: Volts	AC COILS 1 & 2 Poles: DC Ohms	AC COILS 1 & 2 Poles: Ma	AC COILS 3 Poles: Volts	AC COILS 3 Poles: DC Ohms	AC COILS 3 Poles: Ma
6	32.1	188	6	6.0	335	6	4.2	460
12	120	100	12	21	168	12	18	230
24	472	51	24	75	84	24	72	115
110	10000	11 5	240	9110	8.7	240	7200	12

For 220V Use 110V relay with 10K wire-wound resistor in series

AC Volts

Stock No.	Type	Action	Coil	1-24	25-49	50-99	100-249	250-499
24F2600	KUP5A15	SPDT	6V	4.10	3.90	3.69	2.87	2.67
24F2601	KUP5A15	SPDT	12V	4.10	3.90	3.69	2.87	2.67
24F2602	KUP5A15	SPDT	24V	4.10	3.90	3.69	2.87	2.67
24F2603	KUP5A15	SPDT	120V	4.10	3.90	3.69	2.87	2.67
24F2604	KUP5A15	SPDT	240V	4.55	4.32	4.10	3.19	2.96
24F2609	KUP11A15	DPDT	6V	5.00	4.75	4.50	3.50	3.25
24F2610	KUP11A15	DPDT	12V	5.00	4.75	4.50	3.50	3.25
24F2611	KUP11A15	DPDT	24V	5.00	4.75	4.50	3.50	3.25
24F2612	KUP11A15	DPDT	120V	5.00	4.75	4.50	3.50	3.25
24F2613	KUP11A15	DPDT	240V	4.45	4.23	4.01	3.12	2.89
24F2618	KUP14A15	3PDT	6V	5.60	5.32	5.04	3.92	3.64
24F2619	KUP14A15	3PDT	12V	5.60	5.32	5.04	3.92	3.64
24F2620	KUP14A15	3PDT	24V	5.60	5.32	5.04	3.92	3.64
24F2621	KUP14A15	3PDT	120V	5.60	5.32	5.04	3.92	3.64
24F2622	KUP14A15	3PDT	240V	6.05	5.75	5.45	4.24	3.93

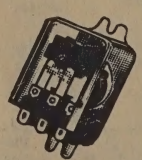
DC Volts

21F2623	KUP14D15	3PDT	6V	5.15	4.89	4.64	3.61	3.35
24F2624	KUP14D15	3PDT	12V	5.15	4.89	4.64	3.61	3.35
24F2625	KUP14D15	3PDT	24V	5.15	4.89	5.04	3.61	3.35
24F2626	KUP14D15	3PDT	110V	5.60	5.32	4.05	3.92	3.64
24F2614	KUP11D15	DPDT	6V	4.50	4.28	4.05	3.15	2.93
24F2615	KUP11D15	DPDT	12V	4.50	4.28	4.05	3.15	2.93
24F2616	KUP11D15	DPDT	24V	4.50	4.28	4.68	3.15	2.93
24F2617	KUP11D15	DPDT	110V	5.20	4.94	5.04	3.64	3.38
24F2605	KUP5D15	SPDT	6V	3.95	3.75	3.56	2.77	2.57
24F2606	KUP5D15	SPDT	12V	3.95	3.75	3.56	2.77	2.57
24F2607	KUP5D15	SPDT	24V	3.95	3.75	3.56	2.77	2.57
24F2608	KUP5D15	SPDT	110V	4.60	4.37	4.14	3.22	2.99

SOCKETS AND SPRINGS FOR KUP RELAYS

Stock No.	Type	Description	1-24	25-49	50-99	100-249
45F046	9KU1	Standard socket	.79	.75	.71	.55
45F047	9KU2	Printed circuit socket	.95	.90	.86	.67
45F048	9KU3	Hold down spring	.11	1.05	.099	
45F049	9KU4	DPDT Relay only	2.63	2.50	2.37	1.84
45F050	9KU5	Quick connect terminal	1.96	1.20	1.13	.80

KUP FLANGED TYPE



This 10-ampere relay is identical to the KUP above, except for slotted flange case for direct-to-chassis mounting. The .187" terminals of relay are of the quick-connect solder type. Enclosed in clear, high impact plastic dust cover. Silver-cadmium-oxide contacts assure long contact life. Operation: continuous. Slot width: .156". Weight: 3 oz.

AC VOLTS

Stk. No.	Type	Action	Coil	1-24	25-49	50-99	100-249	250 499
24F3264	KUP 5A55	SPDT	120V	4.10	3.90	3.69	2.87	2.67
24F3265	KUP11A55	DPDT	24V	5.00	4.75	4.50	3.50	3.25
24F3266	KUP11A55	DPDT	120V	5.00	4.75	4.50	3.50	3.25
24F3267	KUP14A55	3PDT	6V	5.60	5.32	5.04	3.92	3.64
24F2891	KUP14A55	3PDT	12V	5.60	5.32	5.04	3.92	3.64
24F2892	KUP14A55	3PDT	24V	5.60	5.32	5.04	3.92	3.64
24F2893	KUP14A55	3PDT	120V	5.60	5.32	5.04	3.92	3.64
24F3268	KUP14A55	3PDT	240V	6.05	5.75	5.45	4.24	3.93

DC VOLTS

24F3274	KUP5D55	SPDT	24V	3.95	3.75	3.56	2.77	2.57
24F3275	KUP11D55	DPDT	6V	4.50	4.28	4.05	3.15	2.93
24F3276	KUP11D55	DPDT	12V	4.50	4.28	4.05	3.15	2.93
24F3277	KUP11D55	DPDT	24V	4.50	4.28	4.05	3.15	2.93
24F3278	KUP11D55	DPDT	110V	5.20	4.94	4.68	3.64	3.38
24F3279	KUP14D55	3PDT	6V	5.15	4.89	4.64	3.61	3.35
24F2894	KUP14D55	3PDT	12V	5.15	4.89	4.64	3.61	3.35
24F2895	KUP14D55	3PDT	24V	5.15	4.89	4.64	3.61	3.35
24F2896	KUP14D55	3PDT	110V	5.60	5.32	5.04	3.92	3.64

TYPE FL MINIATURE LATCHING RELAY

Hermetically sealed relay. Particularly designed for use in printed circuit applications. The terminals are plug-in pins to afford fast interchangeability. The transfer time is .5 millisecond maximum. The terminals are arranged in a grid layout of multiples of 0.1". Weight: .75 ounces. DPDT silver contacts rated at 3 amps. @28 V.D.C. 1.1 x .925 x .485".

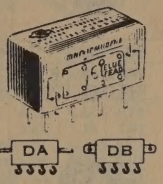
Stk. No.	Type	Volts	Ohms	1-24	25-50	51-99	100-249	250-499
24F1286	FL11D	6 VDC	67.5	21.75	20.66	19.58	15.23	14.14
24F1287	FL11D	12 VDC	230					
24F1288	FL11D	24 VDC	1000					

FC SERIES RELAYS

Miniature relay lies flat on printed circuit board. Contact arrangement: DPDT: Meets MIL-R-5757E and MSFC-SPEC-339. Rated 3 amps. 65W. ¾ oz.

Stock No.	Type	Coils Volt.	Coils Ohms	1-24	25-50	51-99	100-249	250-499
24F2487	FC11D	6 VDC	60	19.40	18.43	17.46	13.58	12.61
24F2488	FC11D	12 VDC	210					
24F2489	FC11D	24 VDC	900					

HC SERIES RELAYS



A micro-miniature, non-polarized, non-latching half-size crystal case relay. DPDT contacts rated dry circuit to 2 amps @ 28 VDC (or 814 ohms) resistive. Nominal power: .72W. Temperature range:—65C to +125C. Hermetically welded. Meets or exceeds all applicable sections of MIL-R-5757 and complies with MSFC-SPEC-399. 24VDC. .8 x .4 x .4". Shpg. wt., ¼ oz.

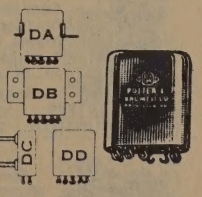
Stock No.	Type	Description	1-24	25-50	51-99	100-249	250-499
24F2596	HC11D	plug-in case hook-	19.30	18.34	17.37	13.51	12.55
24F2597	HC11DA	end sold. term.					
24F2598	HC11DB	flat mtg. plate					

HCM SERIES

Military version of miniature HC relay. Tested for use in aircraft and ground support equipment. Wt. ½ oz.

Stk. No.	Type	Coils Volts	Coils Ohms	1-24	25-50	51-99	100-249	250-499
45F203	HCM11D	24VDC	814	12.90	12.26	11.61	9.03	8.39
45F204	HCM11DA	24VDC	814					
45F205	HCM11DB	24VDC	814					

SC MINIATURE PERMANENT MAGNET DC RELAY



Conforms with standard crystal-case relay dimensions and circuitry. Coil circuit polarized; + terminal marked with red dot. Mtg.: Suffix "D" plug in for printed circuit or receptacle, "DA" shoulder flange with two .104 x .136" holes on 1.062" ctrs., "DB" welded bracket with 4 holes on 1.062 x 281" ctrs., "DC" two #4-40 threaded studs on .488 x 220" diagonal ctrs., "DD" plain case. All have hook solder terminals except "D" plug in. Wt., ¾ oz.

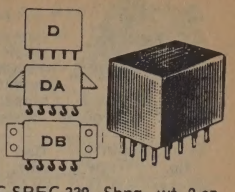
Stk. No.	Type	Ohms	VDC	1-24	25-50	51-99	100-249	250-499
62F3026	SC11D	35	6	1960	18.62	17.64	13.72	12.74
24F1361	SC11D	135	12					
24F1280	SC11D	550	24					
24F1364	SC11DA	135	12					
24F1281	SC11DA	550	24	19.60	18.62	17.64	13.72	12.74
62F3027	SC11DB1	35	6					
45F210	SC11DB	135	12					
24F1282	SC11DB	550	24					
24F1386	SC11DC	550	24					
24F1387	SC11DD	550	24					
45F211	SCG11D	550	24					
62F3027	SC7141	...	26.5	19.75	18.76	17.78	13.83	12.84

BU BUZZERS

AC operated coil with a spring steel armature which buzzes when coil is energized. Mounting: 6-32 tapped core. Weight 1⅜ oz.

Stk. No.	Volts	Ohms	1-24	25-50	51-99	100-249	250-499
24F2483	6	2.75	1.95	1.85	1.76	1.37	2.05
24F2484	12	13.25					
24F2485	24	50.00					
24F2486	120	1250.00	2.05	1.95	1.85	1.76	1.37

TL SERIES 4PDT MAGNETIC LATCHING RELAYS



High performance miniature relay for servere environments. Encapsulated and hermetically sealed coils. Hermetically sealed relay case. Approx. 0.5 ms transfer time. Temperature range: —65°C to 125°C. Mountings: D-plain case, plug-in header; DA-shoulder brackets. .300" from base, hook-end solder; DB-flat-plate, .593" x 1.60". 4-.125 dia. holes on .281" x 1.30" centers, hookend solder. Meets MIL-R-5757E and MSFC-SPEC-339. Shpg. wt. 2 oz.

Stk. No.	Type	Coil Ohms	Coil Volts	1-24	25-50	51-99	100-249
24F2480	TL17D	600	24 DC	31.75	30.16	28.58	22.23
24F2481	TL17DA	600	24 DC				
24F2482	TL17DB	600	24 DC				

MB MINIATURE DC POWER CONTACTOR TELEPHONE RELAYS

Designed for very high current applications. Switches 60 amps with SPST, normally open, double break silver contacts. Mounting: Four #3-48 holes on ⅜x⅜" centers. Weight: 2 oz. Solder terminals. Size: 1⅝" L. x 27/32" W. x 1⅜" H.

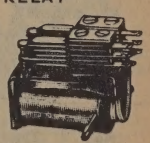
Stock No.	Mfr. Type	Coil VDC	Coil Resist.	1-24	25-50	51-99	100-249	250-499
62F3029	MB3D	6	13.3	6.25	5.94	5.63	4.38	4.06
24F612	MB3D	12	62.3	6.40	6.08	5.76	4.48	4.16
24F613	MB3D	24	245	6.40	6.08	5.76	4.48	4.16
24F614	MB3D	110	5000	6.80	6.46	6.12	4.76	4.42

MG SUB-MINIATURE TELEPHONE RELAY

Sub-miniature telephone type relay, open-model with a 24 volt DC coil and a resistance of 365 ohms. The contacts have a dia. of 3/32" and are constructed of silver. They are rated at 1.6 W. @ 2 amps., with an arrangement of 4 PDT. Mounted by means of four tapped holes. No. 3-48, which are centered on a ⅜" x ⅜" area. Dims, are L. l. .062 x H. 1,250 x W..687 . Wt. 1.2 ozs.

Stock No.	Mig. Type	Coil VDC	Coil Resist	1-24	25-50	51 99	100-249	250-499
45F220	MG11D	12	90	6.00	5.70	5.40	4.20	3.90
45F221	MG11D	24	365	6.00	5.70	5.40	4.20	3.90
62F2930	MG11D	110	7560	6.45	6.13	5.81	4.52	4.19
45F222	MG17D	12	90	8.05	7.65	7.25	5.64	5.23
24F2949	MG17D	24	365	8.05	7.65	7.25	5.64	5.23
45F224	MG17DP	12	90	13.40	12.73	12.06	9.38	8.71
45F225	MG17DP	24	365	13.40	12.73	12.06	9.38	8.71
45F226	MG17DP	110	7560	14.05	13.35	12.65	9.84	9.13
62F2931	MG17DT	24	365	14.60	13.87	13.14	10.22	9.49
62F2932	MG17DT	110	7560	15.25	14.49	13.73	10.68	9.91

MH MINIATURE TELEPHONE RELAY

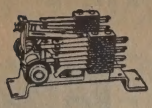


DC Models withstand 0.065" double amplitude vibrations from 10-55 Hz. Sealed AC's operate with built-in rectifier. 4.5 ma current actuated, 10,000 ohm coil. Mtg. MH11L has #6-32 stud, 11/32" long locating boss. Other open relays have 4, #3-48 holes on ⅜" ctrs. Sealed units have 3, # 16-32 studs, 7/16" long on 1¼x½" ctrs. Weight Sealed: 5 oz.; open: 2½ oz. Silver contacts rated at 5 amp except † 3 amps. **Herm. sealed. Size Open: 17/32"L. x ¾"W. x 1⅜"H.

St. No.	Mfr. Type	Coil V	1-24	25-50	51-99	100-249	250-499
24F1115	MH11L†	45 VDC	6.90	6.56	6.21	4.83	4.99
24F1118	MH11LM**†	45 VDC	11.70	11.12	10.53	8.19	7.61
24F1113	MH17D	6 VDC	6.95	6.60	6.26	4.87	4.52
24F1296	MH17D	12 VDC	6.95	6.60	6.26	4.87	4.52
24F620	MH17D	24 VDC	6.95	6.60	6.26	4.87	4.52
24F1297	MH17DM**	12 VDC	13.95	13.25	12.56	9.77	9.07
24F622	MH17DM**	24 VDC	13.95	13.25	12.56	9.77	9.07
24F1117	MH17AMR**	120 VAC	22.80	21.66	20.52	15.96	14.82
62F3033	MH23D	6 VDC	8.70	8.27	7.83	6.09	5.66
62F3034	MH23D	12 VDC	8.70	8.27	7.83	6.09	5.66
24F1298	MH23D	24 VDC	8.70	8.27	7.83	6.09	5.66
24F1299	MH23D	110 VDC	9.25	8.79	8.33	6.48	6.01
62F3035	MH23D	12 V	18.55	17.62	16.70	12.99	12.06
62F3036	MH23D	24 VDC	18.55	17.62	16.70	12.99	12.06

NEWARK FOR ALL YOUR ELECTRONIC NEEDS

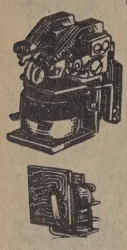
POTTER & BRUMFIELD Special Purpose Relays



AP RATCHET IMPULSE RELAY

Compact unit for applications requiring on-off or reversing action on alternate impulses. Operates on 60 ms. pulses. Intermittent duty. Silver contacts rated at 5 amps. Mtg.: Three $\frac{5}{32}$" dia. holes on 3⅜"x7⅞" triangular centers. Wt. 7 ozs. Size $2\frac{5}{16}$"x$2\frac{1}{4}$"x$3\frac{3}{4}$".

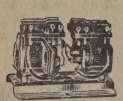
Stock No.	Mfr's Type	Coil Volts	1-24	25-50	51-99	100-249	250-499
24F1231	AP11A	6 VAC	10.15	9.64	9.14	7.11	6.60
62F3018	AP11A	12VAC	10.15	9.64	9.14	7.11	6.60
24F1233	AP11A	24 VAC	10.15	9.64	9.14	7.11	6.60
24F1234	AP11A	120 VAC	10.15	9.64	9.14	7.11	6.60
62F3019	AP11A	240VAC	10.70	10.17	9.63	7.49	6.96
24F1238	AP17A	24 VAC	12.30	11.69	11.07	8.61	8.00
24F1239	AP17A	120 VAC	12.30	11.69	11.07	8.61	8.00
24F1241	AP11D	6 VDC	10.15	9.64	9.14	7.11	6.60
24F1243	AP11D	24 VDC	10.15	9.64	9.14	7.11	6.60
62F3020	AP11D	110VDC	10.90	10.36	9.81	7.63	7.09
62F3021	AP11D	12VDC	12.30	11.69	11.07	8.61	8.00
24F1247	AP17D	24 VDC	12.30	11.69	11.07	8.61	8.00
24F1248	AP17D	110 VDC	13.05	12.46	11.75	9.14	8.48



GM SERIES IMPULSE SEQUENCING RELAYS

Especially suitable for single coil latching, 2 Form C contact arrangement is switched alternately by cam action during drop out of armature. AC or DC coils. Contact rating 3 amps 120V. Mounting 8-32 tapped core with locating boss. Weight: with aux. contacts 4¾ oz. without 4 oz. GM1N10 and GM1N12 use basic GM structure with uni-directional printed circuit boards of 10 or 12 steps. Board is attached to extension of ratchet shaft. Moveable contact arm advances one position each time armature drops out. Contact rating ¼ amp 120V. Size: 2.312x1.87x2" (*) 12 Form C aux. contacts.

Stk. No.	Type	Action	Coil Volts	1-24	25-50	51-99	100-249	250-499
24F2470	GM11A	DPDT	24 AC	8.40	7.98	7.56	5.88	5.46
24F2471	GM11A	DPDT	120 AC	8.40	7.98	7.56	5.88	5.48
24F2473	GM11AL11	DPDT*	120 AC	11.95	11.35	10.76	8.37	7.77
24F2474	GM11D	DPDT	12 DC	8.05	7.65	7.25	5.64	5.23
24F2475	GM11D	DPDT	24 DC	8.05	7.65	7.25	5.64	5.23
24F2476	GM11D	DPDT	110 DC	8.60	8.17	7.74	6.02	5.59
24F2477	GM11DL11	DPDT*	12 DC	11.70	11.12	10.53	8.19	7.61
24F2478	GM11DL11	DPDT*	24 DC	11.70	11.12	10.53	8.19	7.61
45F058	GM1N10A	SP-10 pos.	120 AC	10.35	9.83	9.32	7.25	6.73
45F059	GM1N12A	SP-12 pos.	120 AC	10.50	9.98	9.45	7.35	6.83
45F060	GM1N10D	SP-10 pos.	24 DC	10.10	9.60	9.09	7.07	6.57
45F061	GM1N12D	SP-10 pos.	24 DC	10.25	9.74	9.23	7.18	6.66



KB SERIES LATCHING RELAY

Dual coil relay for latching, memory work or overlord application. Operates on momentary impulse to either coil. Silver contacts rated at 5 amps except * 10 amps. Mtg.: Two $\frac{5}{32}$" dia. holes on $1\frac{3}{8}$" centers. Size: $2\frac{15}{16}$"x$1\frac{25}{32}$"x$2\frac{23}{32}$". AC relay with 5 amp contacts. U.L. listed. Wt. 6 oz.

Stock No.	Mfr's Type	Coil Volts	1-24	25-50	51-99	100-249	250-499
24F629	KB17AY	6AC	12.20	11.59	10.89	8.54	7.93
24F617	KB17AY	12AC	12.20	11.59	10.89	8.54	7.93
45F209	KB17AY	24AC	12.20	11.59	10.89	8.54	7.93
24F631	KB17AY	120AC	12.20	11.59	10.89	8.54	7.93
62F3022	KB17AY	240AC	13.10	12.45	11.79	9.17	8.52
24F3290	KB17AG	6AC*	12.30	11.69	11.07	8.61	8.00
24F3291	KB17AG	12AC*	12.30	11.69	11.07	8.61	8.00
24F1249	KB17AG	24AC*	12.30	11.69	11.07	8.61	8.00
24F1250	KB17AG	120AC*	12.30	11.69	11.07	8.61	8.00
62F3023	KB17AG	240AC*	13.20	12.54	11.88	9.24	8.58
24F632	KB17D	6DC	10.95	10.40	9.86	7.67	7.12
24F618	KB17D	12DC	10.95	10.40	9.86	7.67	7.12
24F633	KB17D	24DC	10.95	10.40	9.86	7.67	7.12
24F619	KB17D	110DC	12.40	11.73	11.16	8.68	8.06
24F3292	KB17DG	6DC*	11.20	10.64	10.08	7.84	7.28
45F064	KB17DG	12DC*	11.20	10.64	10.08	7.84	7.28
24F1355	KB17DG	24DC*	11.20	10.64	10.08	7.84	7.28
62F3024	KB17DG	110DC*	12.65	12.02	11.39	8.86	8.22
24F3293	KB23AY	24AC	14.60	13.84	13.14	10.22	9.49
24F3294	KB23AY	120AC	14.60	13.87	13.14	10.22	9.49
24F3295	KB23AG	24AC*	14.80	14.06	13.32	10.36	9.62
24F3296	KB23AG	120AC*	14.80	14.06	13.32	10.36	9.62
24F3297	KB23D	24DC	13.25	12.59	11.93	9.28	8.61
24F3298	KB23DG	24DC*	13.60	12.92	12.24	9.52	8.84
24F3299	KB23DG	110DC*	15.05	14.30	13.55	10.54	9.78

KBP SERIES LATCHING RELAY

Enclosed in a translucent polypropylene dust cover, the KBP is furnished with 20-pin octal type plugs for socket mounting. Specifications same as the KB series above. Weight: 8 ounces. Size: 1.781x2.406x3.56".

Stk. No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-499
24F2900	KBP17A	120AC	17.15	16.29	15.44	12.01	11.15
24F2901	KBP17AG	120AC	17.35	16.48	15.62	12.15	11.28
24F2902	KBP17D	24DC	15.90	15.11	14.31	11.13	10.34
24F2903	KBP17DG	12DC	16.20	15.39	14.58	11.34	10.53
24F2904	KBP17DG	24DC	16.20	15.39	14.58	11.35	10.53
24F2905	KBP20A	120AC	17.65	16.77	15.89	12.36	11.47
24F2906	KBP20AG	120AC	17.90	17.01	16.11	12.53	11.64
62F3025	KBP20DG	12DC	17.05	16.20	15.35	11.94	11.08
24F2908	KBP20DG	24DC	17.05	16.20	15.35	11.94	11.08

• NEW KUA SOLID STATE AMPLIFIER-DRIVEN RELAY

Operates from low power signals associated with intergrated circuits. Nominal voltage of 24V DC. Polarity protection is built-in feature. Power requirement is approx. 1.14 watts. Sensitivity is 60 microwatts. Contacts are DPDT .5 Amps., gold-flashed fine silver rated 1/10 HP 120V 60 Hz, 1/3 HP 240V 60 Hz, 5A at 28V DC. Fit standard KU Series sockets. Size. 1½" x 1½" x 2". Wt. 3½ oz.

Stk No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-499
24F3262	KUA5G11	24DC	13.75	13.06	12.38	9.63	8.94
24F3263	KUA11G11	24DC	14.15	13.78	13.05	10.15	9.20

KUL SERIES

Small, magnetic latching relay. Designed for continuous duty in applications demanding good memory stability. Ideal for machine tools, process controls and business machines. SPDT or DPDT silver-cadium oxide contacts are rated 10 amps @ 28V DC, resistive or 120V AC, 80% PF. All AC DPDT relays include diodes inside the clear polycarbonate dust cover. U.L. listed. Size 1½ x 1½ x 2½. Weight 3½ oz.

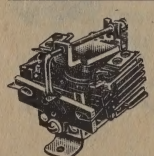
Stk No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-499
24F3250	KUL5A15S	120AC	6.30	5.99	5.67	4.41	4.10
24F3251	KUL5D15S	24DC	5.45	5.18	4.91	3.82	3.54
24F3252	KUL11A15S	12AC	7.10	6.75	6.39	4.97	4.62
24F3253	KUL11A15S	24AC	7.10	6.75	6.39	4.97	4.62
24F3254	KUL11A15S	120AC	7.10	6.75	6.39	4.97	4.62
24F3255	KUL11D15S	12DC	6.05	5.75	5.45	4.24	3.93
24F3256	KUL11D15S	24DC	6.05	5.75	5.45	4.24	3.93

KUR DIRECT-ACTION DPDT IMPULSE RELAY

Designed for applications requiring on-off operation or alternate energizing of two loads. Operation is based on permanent memory function of electromagnetic latching relay. Remains latched during complete loss of power. 5 amps at 28 volts DC, resistive, or 120 volts AC, 80% P.F. Size 1½"x1½"x2½" Weight: 3½" oz.

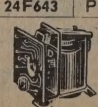
Stk. No.	Type	Coil V.	1-24	5-50	51-99	100-249	250-499
24F3261	KUR11D11	24DC	15.00	14.25	13.50	10.50	9.75

PC ALTERNATE PULSE RELAY



Conventional armature relay operated by 60-ms pulses. Armature actuates phenolic rocker to transfer contacts between alternate positions. For on-off or alternate mode switching. Gold-flashed silver cadmium oxide 7½-amp. contacts. Coils for intermittent duty only. Mtg: Two $\frac{5}{32}$" diam. holes on 2⅝" centers. Wt., 5 oz. $2\frac{31}{32}$"Lx$2\frac{1}{16}$"Wx$2\frac{5}{64}$"H.

Stk. No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-400
45F012	PC11A	6 AC	6.55	6.22	5.90	4.59	4.26
45F013	PC11A	12 AC	6.55	6.22	5.90	4.59	4.26
45F014	PC11A	24 AC	6.55	6.22	5.90	4.59	4.26
24F636	PC11A	120 AC	6.55	6.22	5.90	4.59	4.26
24F638	PC17A	24 AC	9.00	8.55	8.10	6.30	5.85
24F639	PC17A	120 AC	9.00	8.55	8.10	6.30	5.85
45F015	PC11D	6 DC	6.30	5.99	5.67	4.41	4.10
45F016	PC11D	12 DC	6.30	5.99	5.67	4.41	4.10
24F641	PC11D	24 DC	6.30	5.99	5.67	4.41	4.10
24F643	PC17D	24 DC	8.80	8.36	7.92	6.16	5.72

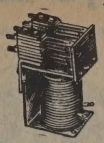


SA SERIES 12 POSITION STEPPING SWITCH

Type SA-IN-12A. Complete with printed circuit strips to switch currents up to 250 mA. Two 6-32 Mt. holes. 120 VAC coil, 140 Ohms. For intermittent duty only.

Stock No.	1-24	25-50	51-99	100-249	250-499
24F2948	7.70	7.32	6.93	5.39	5.01

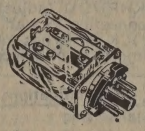
GB SENSITIVE RELAY



115 milliwatts for single pole, 275 milliwatts for 4 pole. (See GA Relay for similar voltage actuated models.) Silver contacts rated at 5 amps. Mounting: No. 8-32 tapped core and locating half-punch. $2^{15}/_{32}$x$1^{23}/_{32}$x$1^{1}/_{16}$". Weight: 5 ozs.

Stk. No.	Type	Action	Ohms	1-24	25-49	50-99	100-249	250-499
24F1319	GB5D	SPDT	2500	3.95	3.75	3.56	2.77	2.57
24F1320	GB5D	SPDT	5000	4.15	3.94	3.74	2.91	2.70
24F1321	GB5D	SPDT	10,000	4.65	4.42	4.19	3.26	3.02
24F1177	GB11D	DPDT	2500	5.55	5.27	5.00	3.84	3.61
24F1178	GB11D	DPDT	5000	5.75	5.46	5.18	4.03	3.74
24F1179	GB11D	DPDT	10,000	6.25	5.94	5.63	4.38	4.06
45F051	GB17D	4PDT	2500	6.60	6.27	5.94	4.62	4.29
24F1181	GB17D	4PDT	5000	6.80	6.46	6.12	4.76	4.42
24F1182	GB17D	4PDT	10,000	7.30	6.94	6.57	5.11	4.75

KCP ENCLOSED SENSITIVE RELAY



Silver contacts rated at 2 amps. Current actuated. Sensitivity: 125 milliwatts per pole. Mounting: Standard octal plug; eight pins for KCP5 and 11, 11 pins for KCP14. Clear plastic case. $1^{13}/_{32}$x$1^{13}/_{32}$x2" high. Wt., 3 ozs.

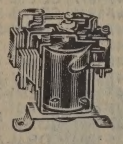
Stk. No.	Type	Action	Ohms	1-24	25-49	50-99	100-249	250-499
24F489	KCP5	SPDT	2500	6.85	6.51	6.17	4.80	4.45
24F490	KCP5	SPDT	5000	6.95	6.60	6.26	4.87	4.52
24F491	KCP5	SPDT	10,000	7.40	7.03	6.66	5.18	4.81
24F492	KCP11	DPDT	2500	7.30	6.94	6.57	5.11	4.75
24F496	KCP11	DPDT	5000	7.40	7.03	6.66	5.18	7.81
24F497	KCP11	DPDT	10,000	7.85	7.46	7.07	5.50	5.10
24F493	KCP14	3PDT	2500	9.00	8.55	8.10	6.30	5.85
24F494	KCP14	3PDT	5000	9.10	8.65	8.19	6.37	5.92
24F495	KCP14	3PDT	10,000	9.55	9.07	8.60	6.69	6.21

LB LOW COST SENSITIVE RELAY

Current sensitive relays designed to operate on a few milliwatts DC. Sensitivity 200 milliwatts. Silver contacts rated at 5 amps. Two $^{3}/_{16}$" holes on $2^{7}/_{32}$" centers. $2^{21}/_{32}$, x$1^{1}/_{4}$x$1^{3}/_{8}$". Weight 2 ozs.

Stk. No.	Type	Action	Ohms	1-24	25-49	50-99	100-249	250-499
24F570	LB5	SPDT	2500	3.00	2.85	2.70	2.10	1.95
24F571	LB5	SPDT	5000	3.20	3.04	2.88	2.24	2.08
24F572	LB5	SPDT	10,000	3.40	3.23	3.06	2.38	2.21

LM SENSITIVE RELAY



Operates on only 100 mw, per pole. Medium cost high quality relay with silver contacts rated at 5 amps. Pick-up adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 holes on $1^{13}/_{16}$" centers. DC only. (See KL for voltage actuated models.) $2^{3}/_{16}$x$2^{1}/_{4}$x$2^{1}/_{2}$". Wt. 5 ozs.

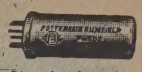
Stk. No.	Type	Action	Ohms	1-24	25-49	50-99	100-249	250-499
24F562	LM5	SPDT	2,500	4.55	4.32	4.10	3.19	2.96
24F563	LM5	SPDT	5,000	4.80	4.56	4.32	3.36	3.12
24F564	LM5	SPDT	10,000	5.15	4.89	4.64	3.61	3.35
24F567	LM11	DPDT	2,500	6.55	6.22	5.90	4.59	4.26
24F568	LM11	DPDT	5,000	6.75	6.41	6.08	4.73	4.39
24F569	LM11	DPDT	10,000	7.40	7.03	6.66	5.18	4.81

ML SERIES

Small telephone type relay with excellent sensitivity and switching capabilities. Has $^{1}/_{8}$' dia. gold-flashed silver contacts rated at 3 amps for 100,000 operations. Pierced solder terminals. Mounting: 4 No. 3-48 holes on $^{3}/_{8}$' centers. Wt. 2.5 oz.

Stk. No.	Type	Action	Ohms	1-24	25-49	50-99	100-249	250-499
45F052	ML11D	DPDT	2500	7.35	6.98	6.30	4.90	4.78
45F053	ML11D	DPDT	5000	7.50	7.13	6.44	5.01	4.88
45F054	ML11D	DPDT	10000	7.85	7.46	6.75	5.21	5.10
45F055	ML17D	4PDT	2500	8.70	8.27	7.47	5.81	5.66
45F056	ML17D	4PDT	5000	8.90	8.46	7.65	5.95	5.79
45F057	ML17D	4PDT	10000	9.25	8.79	7.92	6.16	6.01

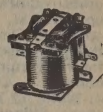
PW HERMETICALLY SEALED RELAY



A miniature tube sensitive relay available in voltage or current actuated models. Sensitivity: Voltage: 180 mw.; current: 40 mw. Precision, light weight relay with 10g vibration to 500 Hz. Silver SPDT contacts rated at 2 amps. Mouting: Standard 7-pin miniature tube base. Weight: 1 oz. Size: $1^{11}/_{16}$" high above socket, .765" dia.

Stk. No.	Type	Volts	Ohms	1-24	25-49	50-99	100-249	250-499
24F556	PW5DS	6VDC	202	12.45	11.83	11.21	8.72	8.09
24F555	PW5DS	12VDC	810	12.45	11.83	11.21	8.72	8.09
24F557	PW5DS	24VDC	3240	12.45	11.83	11.21	8.72	8.09
24F558	PW5LS	.....	5000	12.90	12.26	11.61	9.03	8.39
24F559	PW5LS	.....	10,000	13.35	12.68	12.02	9.35	8.68

RS LIGHT WEIGHT SENSITIVE RELAY



Low cost, sensitive relay for current or voltage applications. Mountings: Two No. 4-40 holes on $^{3}/_{4}$"x$^{3}/_{8}$" diagonal centers. SPDT bar palladium contacts rated at 2 amps. Size: 1x$1^{11}/_{16}$x$1^{5}/_{16}$" high. Av. Shpg. wt. $1^{1}/_{2}$ oz.

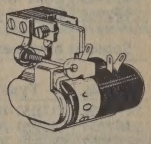
Stk.No.	Type	Ohms	1-24	25-49	50-99	100-249	250-499
24F1173	RS5D	335	3.05	2.90	2.75	2.14	1.98
24F1198	RS5D	1350	3.20	3.04	2.88	2.24	2.08
24F1174	RS5D	2500	3.30	3.14	2.97	2.31	2.15
24F1175	RS5D	5000	3.60	3.42	3.24	2.52	2.34
24F1176	RS5D	10,000	4.20	3.99	3.78	2.94	2.73

SM SUPER MIDGET RELAY

Both current and voltage actuated models available 75 mw. sensitivity for current actuated models. Hermetically sealed. SPDT silver rhodium contacts rated at 250 ma. Mounting: Sealed-Standard 7-pin miniature tube socket. Size: $1^{11}/_{16}$" above chassis, .765" dia. Wt.: 1 oz.

Stk. No.	Type	VDC	Ohms	Ma.	1-24	25-49	50-99	100-249
24F602	SM5DS	6	80	...	7.65	7.27	6.89	5.36
24F607	SM5DS	12	360	...				
24F603	SM5DS	24	900	...				
24F604	SM5LS	...	5000	3.9	7.95	7.55	7.16	5.57
24F606	SM5LS	...	10,000	2.7	8.50	8.08	7.65	5.95

SS SUPER SENSITIVE SPOT RELAY



Model SS5D. 10 mw. sensitivity. Dual coils with balanced armature on needle-point bearings for precision instruments and bridge circuits. May be used as a differential relay. SPDT silver contacts rated at 2 amps. Coil 10,000 ohms 1 ma. Mounting: Two No. 6-32 holes on $^{23}/_{32}$" centers. Size: $1^{3}/_{4}$x$1^{5}/_{16}$x$1^{1}/_{16}$. Wt., $3^{1}/_{2}$ oz.

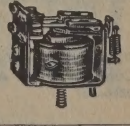
Stk. No.	Type	1-24	25-49	50-99	100-249
24F609	SS5D	16.05	15.25	14.45	11.24

SPECIAL PURPOSE KM SUBMINIATURE RELAYS

Subminiature relay for use where size and weight are critical factors. Simple to install and wire into circuit. Silver contacts rated at 2 amps. Terminals are solder lug type Mounting: No. 2-56 tapped core with locating boss. Size: $1^{1}/_{8}$"Lx$^{35}/_{64}$"Wx$^{53}/_{64}$"H. Wt., 1 oz.

Stk. No.	Type	VDC	1-24	25-49	50-99	100-249	250-499
45F065	KM5D	6	4.00	3.80	3.60	2.80	2.60
45F066	KM5D	12					
45F067	KM5D	24					
24F1268	KM11D	6	4.40	4.18	3.96	3.08	2.86
24F1269	KM11D	12					
24F1270	KM11D	24					
24F1271	KM14D	6	5.05	4.80	4.55	3.54	3.28
24F1272	KM14D	12					
24F1273	KM14D	24					

KT ANTENNA SWITCHING RELAY



Glass base insulation to minimize RF losses. Used to switch common transmitter-receiver antenna using 300-ohm line. Silver contacts rated at 5 amps. Mounting: 6-32 stud. Weight: 1.5 oz. Size: $1^{3}/_{8}$"Lx$1^{1}/_{4}$"Wx$1^{11}/_{16}$"H.

Stk. No.	Type	Coil V.	1-24	25-49	50-99	100-249	250-499
45F068	KT11A	6 AC	4.30	4.09	3.87	3.01	2.80
24F1275	KT11A	120 AC					
45F069	KT11D	6 DC					
24F1277	KT11D	12 DC					

POTTER & BRUMFIELD Relays

CU, CL TIME DELAY RELAY SERIES

Type CH ideal for vending equipment, machine tool control, process controls and many others. Designed for delay on operate applications with fixed timing tolerance of 5% resistor adjustable tolerance of 10%, and an internal DPDT relay rated at 10 amperes. Available with fixed timing ranges of 10 and 120 seconds. Versatility is increased by the availability of resistor adjustable relays in the 1 to 10 seconds and 1 to 120 seconds range. Resistor adjustable units require the addition of an external resistor before relay is operational. **Type CL**—same 2 specs as CU but does not fold operate. Case 41 enclosures are plain cases, while case 42 are flanged cases for direct-to-chassis mounting. External resistor for maximum time CUF/CLF 41-70010, CUF 42-70010, -30010 200K ohms. . . CUF 41-70120, 42-70120. . . 2.4 meg ohm. CUH/CUL 41-30010, 42-30010 160K ohms. . . CUH 41-30120, 42-30120 2 meg ohms. Shipping wt.: 4¼ oz.

CASE 41

CASE 42

TYPE CU FIXED TIME UNITS

Stk. No.	Type	Input Voltage	Time (sec)	1-9	10-24	25-49	50-99
24F2927	CUA 41-70010	120 VAC	10	14.20	13.49	12.78	11.36
24F2928	CUA 41-70120	120 VAC	120	15.75	14.96	14.18	12.60
24F2929	CUC 41-30010	24 VDC	10	14.20	13.49	12.78	11.36
24F2930	CUC 41-30120	24 VDC	120	15.75	14.96	14.18	12.60
24F2931	CUA 41-30010	24 VAC	10	14.20	13.46	12.78	11.36
24F2932	CUA 42-70010	120 VAC	10	14.20	13.46	12.78	11.36
24F2933	CUA 42-70120	120 VAC	120	15.75	14.96	14.18	12.60

TYPE CL RESISTOR ADJUSTABLE TIME UNITS

Stk. No.	Type	Input Voltage	Time (sec)	1-9	10-24	25-49	50-99
24F2937	CUF 41-70010	120 VAC	1- 10	15.00	14.25	13.50	12.00
24F2938	CUF 41-70120	120 VAC	1-120	16.30	15.49	14.67	13.04
24F2939	CUH 41-30010	24 VDC	1- 10	15.00	14.25	13.50	12.00
24F2940	CUH 41-30120	24 VDC	1-120	16.30	15.49	14.67	13.04
24F2941	CUF 41-30010	24 VAC	1- 10	15.00	14.25	13.50	12.00
24F2942	CUF 42-70010	120 VAC	1- 10	15.00	14.25	13.50	12.00
24F2943	CUF 42-70120	120 VAC	1-120	16.30	15.49	14.67	13.04
24F2944	CUH 42-30010	24 VDC	1- 10	15.00	14.25	13.50	12.00
24F2945	CUH 42-30120	24 VDC	1-120	16.30	15.49	14.67	13.04
24F2946	CUF 42-30010	24 VAC	1- 10	15.00	14.25	13.50	12.00

CL FIXED UNITS

Same as above except these units will not false operate

Stk. No.	Type	Input Voltage	Time (sec)	1-9	10-24	25-49	50-99
24F3350	CUB51-70010	120VAC	1-10	16.30	15.49	14.67	13.04
24F3351	CUB51-70120	120VAC	1-120	17.85	16.96	16.07	14.28
24F3352	CLA41-70010	120VAC	10	17.35	16.48	15.62	13.88
24F3353	CLC41-30010	24VAC	10	17.35	16.48	15.62	13.88
24F3354	CLB51-30010	24VAC	1-10	19.85	18.86	17.87	15.88
24F3355	CLB51-70010	120VAC	1-10	19.85	18.86	17.87	15.88
24F3356	CLB51-70120	120VAC	1.2-120	21.15	20.09	19.04	16.92

CL RESISTOR ADJUSTABLE

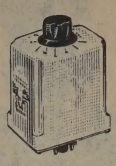
Stk. No.	Type	Input Voltage	Time (sec)	1-9	10-24	25-49	50-99
24F3357	CLF41-70010	120VAC	0.1-10	18.85	17.91	16.97	15.08
24F3358	CLH41-30010	24VDC	0.1-10	18.85	17.91	16.97	15.08

MOUNTING ACCESSORIES

Stk. No.	Type	Description	1-24	25-50	51-99	100-249
24F2627	9KU1	Standard Socket	.79	.75	.71	.55
45F047	9KU2	Printed Circuit Socket	.95	.90	.86	.67
45F048	9KU3	Hold Down Spring	.11	.105	.099	.077
45F049	9KU4*	Screw Terminal Socket	2.63	2.50	2.37	1.84
45F050	9KU5	Quick Connect Terminal	1.26	1.20	1.13	.88

* Resistor adjustable units will not fit 9KU4.

CH, CD,CK SERIES



CK-38

CD-31

CD-45

CD-21

Knob adjustment for entire time range. Timing accuracy ±10%. Repeatability, ±2%. Plastic enclosures. All delay on operate except **CDB-38-70012 and CDD-38-10012 are delay on release. CDB-38 and CDD-38 have internal DPDT 10-amp relay. Timers only for use with P&B relays: *KRP5AG, KRP11AG, KRP14AG; †KRP5DG, KRP11DG, KRP14DG, ††PR11AY-120VAC #KHP17D11 (adjustable delay, 1.88-180 sec. by connecting ½ watt resistors.
(*)CK series has some specs as CH, except reset time is 60 milliseconds and no false operation.

CH-38

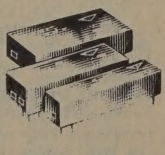
Specifications	CK* & CH	CD SERIES
Dial Setting	Reference scale	Time-calibrated ±5% of full scale
Temperature Accuracy Over Temp. and Voltage Range	10°C to +55°C ±10% of nominal	-40°C to +55°C ±5% of nominal
Transient Protection	Twice rated impulse voltage 8 milliseconds	Tested to 1000V-½ hz surges (on all 120 AC models)
Inherent False Oper	Contacts transfer mom. if timing interval is interrupted	None
Reset Time	100 milliseconds	60 milliseconds
Repeatability	±2%	±1%
Polarity Reversal Protection on DC	Yes	Yes

Stk. No.	Type	Input Volts	Delay Sec.	1-9	10-24	25-49	50-99
24F2881	CHB38-30001	24VAC	1.0—10	19.95	18.95	17.96	15.96
24F2882	CHB38-30003	24VAC	1.0—180	19.95	18.95	17.96	15.96
24F2883	CHB38-70001	120VAC	1.0—10	19.95	18.95	17.96	15.96
24F2884	CHB38-70003	120VAC	1.0—180	19.95	18.95	17.96	15.96
24F2885	CHD38-30001	24VDC	1.0—10	18.95	18.00	17.06	15.16
24F2886	CHD38-30003	24VDC	1.0—180	18.95	18.00	17.06	15.16
24F2887	CHB38-70011	120VAC	1.0—10	23.95	22.75	21.56	19.16
24F2888	CHB38-70013	120VAC	1.0—180	23.95	22.75	21.56	19.16
24F2889	CHD38-30011	24VDC	1.0—10	21.95	20.85	19.76	17.56
24F2890	CHD38-30013	24VDC	1.0—180	21.95	20.85	19.76	17.56
24F1875	CDB38-70003	120VAC	0.1-10	44.25	42.04	39.83	35.40
24F1876	CDB38-70004	120VAC	0.6-60	44.25	42.04	39.83	35.40
24F1877	CDB38-70005	120VAC	1.8-180	44.25	42.04	39.83	35.40
24F1878	CDD38-30003	24VDC	0.1-10	42.00	39.90	37.80	33.60
24F1879	CDD38-30004	24VDC	0.6-60	42.00	39.90	37.80	33.60
24F1880	CDD38-3005	24VDC	1.8-180	42.00	39.90	37.80	33.60
24F1881	CDB21-70003*	120VAC	0.1-10	39.15	37.19	35.24	31.32
24F1882	CDB21-70001*	120VAC	1.8-100	39.15	37.19	35.24	31.32
24F1883	CDD21-30003*	24VDC	0.1-10	38.80	36.89	34.92	31.04
24F1884	CDD21-30001†	24VDC	1.8-180	38.80	36.89	34.92	31.04
24F1885	CDH31-30005#	24VDC	180 Max	39.35	37.38	35.42	31.48
24F1886	CDB45-70002††	120VAC	0.6-60	37.50	35.63	33.75	30.00
24F1887	CDB38-70012**	120VAC	0.6-60	52.90	50.26	47.61	42.32
24F1888	CDD38-30012*	24VDC	0.6-60	49.95	47.45	44.96	39.96
24F3359	CKA38-70010	120VAC	10	21.90	20.81	19.91	17.52
24F3360	CKC38-30010	24VDC	10	20.90	19.86	18.81	16.72
24F3361	CKF38-70010	120VAC	0.1-10	22.05	20.95	19.85	17.64
24F3362	CKH38-30010	24VDC	0.1-10	21.05	20.00	18.95	16.84
24F3363	CKB38-30010	24VAC	0.1-10	22.95	21.80	20.66	18.36
24F3364	CKB38-70010	120VAC	0.1-10	22.95	21.80	20.66	18.36
24F3365	CKB38-70120	120VAC	1.2-120	22.95	21.80	20.66	18.36

CJC AND CJH FIXED TIME DELAY SERIES

Time delay dry reed relays combine basic timing characteristic of time delay relays with long life and performance of miniature dry reed relays CJC fixed time delay on operate and CJH external resistor adjustable time delay on operate.

CJC Series:



Fixed time delay that cannot be modified. Contacts rated at 10VA. Avg. Shpg. Wt. 1.42 oz.

CJH Series:

Resistor adjustable type with terminal provisions for external resistor (0.1 to 10 sec, 750K; 1 to 120 sec, 1.8 meg) or potentiometer for adjusting time delay period to within ±10% at nominal voltage, 25°C. Pin terminations are for printed circuit board mtg. Avg. Shpg. Wt. 1.42 oz.

Stk. No.	Type	Delay sec	DC Volts	Cont. Arr.	1-9	10-24	25-49	50-99
45F090	CJC01-20003	3	12V	1A	19.30	18.34	17.37	15.44
45F091	CJC01-30003	3	24V	1A	19.30	18.34	17.37	15.44
45F092	CJC03-20003	3	12V	1C	21.20	20.14	19.08	16.96
45F093	CJC03-30003	3	24V	1C	21.20	20.14	19.08	16.96
45F094	CJH01-20010	0.1-10	12V	1A	19.80	18.81	17.82	15.84
45F095	CJH01-20120	1-120	12V	1A	22.55	21.42	20.30	18.04
45F096	CJH01-30010	0.1-10	24V	1A	19.80	18.81	17.82	15.84
45F097	CJH01-30120	1-120	24V	1A	22.55	21.42	20.30	18.04
45F098	CJH03-20010	0.1-10	12V	1C	21.70	20.62	19.53	17.36
45F099	CJH03-20120	1-120	12V	1C	24.45	23.23	22.01	19.56
45F100	CJH03-30010	0.1-10	24V	1C	21.70	20.62	19.53	17.36
45F101	CJH03-30120	1-120	24V	1C	24.45	23.23	22.01	19.56

CLASS 99 HEAVY DUTY POWER RELAYS

CLASS 99 power relays are dimensionally interchangeable with relays made by others. Quality hinge-pin design, molded nylon bobbin, and adjustment stability give them longer life. Contacts of silver cadmium oxide, gold flash. Standard dielectric withstanding voltage: 1500 VAC, RMS. Screw type terminals, molded phenolic base all rated 25 amps @ 115/230 VAC.

CLASS 99 25 Amp DPST—NO contacts $2^{1}/_{2}x2^{1}/_{2}x2^{5}/_{16}$, 9 oz.

Stock No.	Type	Coil Volts	Ohms	1-9	10-24	25-49	50-99	100-499
56F949	W99AX-8	24VAC	....	6.65	5.99	5.65	5.32	4.66
56F950	W99AX-9	115VAC	....	6.67	6.00	5.67	5.34	4.67
56F951	W99AX-10	230VAC	....	6.85	6.17	5.82	5.48	4.80
56F952	W99X-11	24VDC	290	6.38	5.74	5.42	5.10	4.47
56F953	W99X-12	110VDC	6K	6.77	6.09	5.75	5.42	4.74
CLASS 99 25 Amp SPDT Contacts $2^{1}/_{2}x2^{1}/_{2}x2^{1}/_{2}$, 8 oz.								
56F954	W99AX-1	24VAC	....	5.66	5.09	4.81	4.53	3.96
56F955	W99AX-2	115VAC	....	5.68	5.11	4.83	4.54	3.98
56F956	W99AX-3	230VAC	....	5.86	5.27	4.98	4.69	4.10
56F957	W99X-2		70	5.42	4.88	4.61	4.34	3.79
CLASS 99 25 Amp DPDT Contacts $3^{3}/_{16}x2^{1}/_{2}x2-5/16$, 11 oz.								
56F970	W99AX-4	24VAC	....	8.43	7.59	7.17	6.74	5.90
56F971	W99AX-5	115VAC	....	8.43	7.59	7.17	6.74	5.90
56F972	W99AX-6	230VAC	....	8.63	7.77	7.34	6.90	6.04
56F973	W99X-7	24VDC	290	8.14	7.33	6.92	6.51	5.70
56F974	W99X-8	110VDC	6K	8.53	7.68	7.25	6.82	5.97

CLASS 211 CP SOLID STATE TIME DELAY RELAY

CLASS 211CP solid state time delay relay. Meets demand for low cost reliable industrial electronic control components. Makes use of hybrid circuitry combining solid state circuitry for timing function with an electro-mechanical relay utilizing a precision built hinge pin armature, for DPDT 10 amp output switching.

Operate Delay DPDT Contacts 10 Amps

Stock No.	Type	Coil Volts	Time Delay	1-9	10-24	25-49	50-99	100-499
56F958	W211ACPSOX-5	120VAC	1-10					
56F969	W211ACPSOX-7	120VAC	1-180					
56F960	W211ACPSOX-8	120VAC	2-300	18.98	18.03	17.08	15.18	14.24
56F961	W211CPSOX-1	24VDC	1-10					
56F962	W211CPSOX-3	24VDC	1-180					
56F963	W211CPSOX-4	24VDC	2-300					
Release Delay DPDT Contacts 10 Amps.								
56F964	W211ACPSRX-5	120VAC	1-10					
56F965	W211ACPSRX-7	120VAC	1-180					
56F966	W211ACPSRX-8	120VAC	2-300	22.93	21.78	20.64	18.34	17.20
56F967	W211CPSRX-1	24VDC	1-10					
56F968	W211CPSRX-3	24VDC	1-180					
56F969	W211CPSRX-4	24VDC	2-300					

CLASS 211M SOLID STATE TIME DELAY

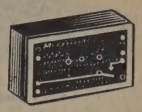
Uses solid state circuitry for timing functions and a highly reliable electro-mechanical relay for DPDT 10 amp switching. High impact molded plastic enclosure and molded-in screw type terminals for rapid, easy hook-up wiring. Series has four knob adjustable timing ranges. Reset time approx. 100 MS. Surface mounting. Size $4^{1}/_{32}x4^{1}/_{2}x1^{1}/_{2}$. Approx wt. 14 oz.

Time Delay On Operate

Stock No.	Type W211	Nom. In	Volt Range	Tmg.	1-9	10-24	25-49	50-99	100-249
57F1233	MASOX-1		100-	.2-1					
57F1234	MASOX-2	120	130	1.0-10					
57F1235	MASOX-3	VAC	VA	1.0-180	24.56	23.33	22.10	19.65	18.42
57F1236	MASOX-4			2.0-300					
57F1237	MSOX-1		20-	.2-1					
57F1238	MSOX-2	24	32	1.0-10					
57F1239	MSOX-3	VDC	VDC	1.0-180	24.56	23.33	22.10	19.65	18.42
57F1240	MSOX-4			2.0-300					
Time Delay On Release									
57F1241	MASRX-1		100-	.2-1					
57F1242	MASRX-2	120	130	1.0-10					
57F1243	MASRX-3	VAC	VAC	1-0-180	28.92	27.47	26.03	23.14	21.69
57F1244	MASRX-4			2.0-300					
57F1245	MSRX-1		20-	.2-1					
57F1246	MSRX-2	24	32	1.0-10					
57F1247	MSRX-3	VDC	VDC	1.0-180	28.92	27.47	26.03	23.14	21.69
57F1248	MSRX-4			2.0-300					

MAKE NEWARK A ONE POINT SOURCE FOR ALL YOUR ELECTRONIC NEEDS

502 & 503 P.C. TIME DELAY RELAYS



Uses hybrid circuitry, combing a monolithic silicon structure in the timing function with a dry reed relay performing the isolated output switching. Slow operate model 502PCSO, and Slow release model 502PCSR: contacts SPST-NO 1 amp at 15 VA or 250 VAC max. res. Slow operate model 503PCSO and Slow release model 503PCSR: contacts, .5 amp at 10VA or 250 VAC max. res. Two timing ranges in either slow operate or slow release models using fixed resistors or an adjustable remote pot (not included). Size: $2^{1}/_{4}$ x $1^{1}/_{4}$ x $^{3}/_{4}$" Approx. wt. 3 oz.

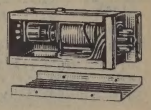
Slow Operate SPST-No (Form A)

Stock No.	Type	VDC	Time Range	Ext. Adj. Ohm/Sec.	Price Code
57F1200	W502PCSOX-2	12	100 MS to	60 K	A
57F1201	W502PCSOX-3	24	100 SEC	60 K	A
57F1202	W502PCSOX-5	12	3 SEC TO	10 K	B
57F1203	W502PCSOX-6	24	5 MIN	10 K	B
Slow Operate SPDT (Form C)					
57F1204	W503PCSOX-2	12	100 MS TO	60 K	C
57F1205	W503PCSOX-3	24	100 SEC	60 K	C
57F1206	W503PCSOX-5	12	3 SEC TO	10 K	D
57F1207	W503PCSOX-6	24	M MIN	10 K	D
Slow Release SPST-NO (Form A)					
57F1208	W502PCSRX-2	12	200 MS TO	25 K	E
57F1209	W502PCSRX-3	24	100 SEC.	25 K	E
57F1210	W502PCSRX-5	12	1 SEC. TO	6.5 K	F
57F1211	W502PCSRX-6	24	5 MIN.	6.5 K	F
Slow Release SPDT (Form C)					
57F1212	W503PCSRX-2	12	200 MS TO	25 K	G
57F1213	W503PCSRX-3	24	100 SEC	25 K	G
57F1214	W503PCSRX-5	12	1 SEC TO	6.5	H
57F1215	W503PCSRX-6	24	5 MIN.	6.5	H

PRICES FOR 502 and 503 PC TIME DELAY

CODE	1-9	10-24	25-49	50-99	100-249	250-499
A	18.96	18.01	17.06	15.17	14.22	13.27
B	21.30	20.23	19.17	17.04	15.98	14.91
C	20.82	19.78	18.74	16.66	15.62	14.57
D	22.31	21.19	20.08	17.85	16.73	15.62
E	26.73	25.39	24.06	21.38	20.05	18.71
F	29.84	28.35	26.86	25.36	22.38	20.89
G	28.59	27.16	25.73	22.87	21.44	20.01
H	31.70	30.12	28.53	25.36	23.78	22.19

CLASS 110 AIR DASHPOT TIME DELAY



Offer high reliability and long life with time proven relay contacts, DPDT 10 amps. Solenoid assembly completes magnetic circuit instantaneously for positive switching that protects contacts from chattering. Operate delay adjustable from 0.2 to 45 sec. Repeatability ± 10%; Power DC 4W, AC 7 VA; Size - open $3^{3}/_{16}x1^{15}/_{16}x1^{7}/_{16}$, and enclosed $4^{5}/_{8}x2^{5}/_{8}x3$".

* Resistance values ± 10% at 25°C.
**Internally rectified
Voltage operated relays pullin at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays at 25%C.

Open Type With Solder Terminals (DPDT)

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99	100-249
57F1254	W110X-9	24VDC	100	17.75	15.97	15.09	14.20	13.31
57F1255	W110AX-9	115VAC**	. . .	20.91	18.82	17.77	16.73	15.68
Screw Terminals-40-348 Cover								
57F1256	W110CSX-1	24VDC	100	28.56	25.70	24.38	22.85	21.42
57F1257	W110ACSX-1	115VAC**	. . .	30.07	27.06	25.56	24.06	22.55
Plug-In With 40-347 Cover								
57F1258	W110CPX-10	24VDC	100	26.78	24.10	22.76	21.42	20.08
57F1259	W110ACPX-9	115VAC**	. . .	29.79	26.81	25.32	23.83	22.34

CLASS 112M AIR DASHPOT TIME DELAY

Incorporates molded plastic enclosure, built-in screw terminals. Solenoid assembly in combination with air dashpot and snap-action switches (DPDT 10 amps) initiate time delay by electrical actuation. Release delay accomplished without stand by power. Repeatability ± 10%. Knob adjustable timing range from 1 to 150 sec.

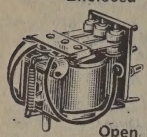
Slow Operate

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99	100-249
57F1260	W112MASOX-1	120VAC	. . .	28.23	26.82	25.41	22.58	21.17
57F1261	W112MSOX-2	24VDC	80	28.23	26.82	25.41	22.58	21.17
Slow Release								
57F1262	W112MASRX-1	120VAC	. . .	28.23	26.82	25.41	22.58	21.17
57F1263	W112MSRX-1	24VDC	80	28.23	26.82	25.41	22.58	21.17

Magnecraft ELECTRIC COMPANY Power and General Purpose Relays

CLASS 88 PLUG-IN AND OPEN RELAYS

Enclosed



Open

Closed. Enclosed in clean, crackproof plastic cover. Insulation provides dielectric strength unaffected by weather. All have rugged hinge-pin armature bearings surfaces, the same construction used in telephone relays. Molded nylon bobbins with rugged coil terminals to eliminate shorts. Silver alloy contacts. W88ANCPX2 equipped with light. 10 amp rating. 1⅜x1⅛x1¼", 3 oz.

Open. Same as above except open with tinned terminals and mounting holes. 1¾x1 3/16x1¼". Wt. 2 Oz.

Note: All use octal plug except 3PDT-11 pin plug in.

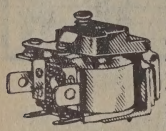
CLOSED TYPE RELAYS

Stk. No.	Type No.	Coil Volts	Coil Ohms	Con. Form	1-9	10-24	25-49	50-99	100-499
56F515	W88ACPX8	115VAC	···	DPDT	6.91	6.56	6.22	5.87	4.49
56F344	W88ANCPX2	115VAC	*	DPDT	8.02	7.62	7.22	6.80	5.61
56F523	W88ACPX12	115VAC	···	DPDT	8.59	8.16	7.73	7.30	5.58
56F530	W88CPX3	24VDC	400	SPDT	5.94	5.64	5.35	5.05	4.16
56F537	W88CPX6	12VDC	100	DPDT	6.55	6.33	5.99	5.66	4.33
56F538	W88CPX7	24VDC	400	DPDT	6.55	6.33	5.99	5.66	4.33
56F545	W88CPX10	12VDC	100	3PDT	8.12	7.71	7.31	6.90	5.68
56F546	W88CPX11	24VDC	400	3PDT	8.12	7.71	7.31	6.90	5.68

OPEN RELAYS

56F511	W88AX8	115VAC	···	DPDT	4.70	4.47	4.23	4.00	3.29
56F519	W88AX12	115VAC	···	3PDT	5.24	4.98	4.72	4.45	3.67
56F525	W88X3	12VDC	100	SPDT	3.60	3.42	3.24	3.06	2.52
56F526	W88X4	24VDC	400	SPDT	3.60	3.42	3.24	3.06	2.52
56F533	W88X7	12VDC	100	DPDT	4.16	3.95	3.74	3.54	2.91
56F534	W88X8	24VDC	400	DPDT	4.16	3.95	3.74	3.54	2.91
56F541	W88X11	12VDC	100	3PDT	4.64	4.41	4.18	3.94	3.25
56F542	W88X12	24VDC	400	3PDT	4.64	4.41	4.18	3.94	3.25
56F554	W88X17	10MA	2500	DPDT	4.42	4.20	3.98	3.76	3.09
56F556	W88X19	5MA	10000	DPDT	4.96	4.71	4.46	4.22	3.47

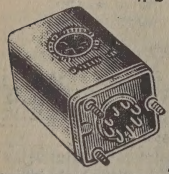
CLASS 88KD GENERAL PURPOSE RELAYS



Silver alloy, gold flashed contacts for power switching. Terminal boards designed to accept AMP Faston "250" series receptacles on contacts, or "110" series receptacle on coil. Tapped with one 6-32 mounting hole and locating boss. Size: 1 5/16x1 1/16x1½". Wt., 3 oz. Contacts 50 amps SPST-NO-DM.

Stock No.	Type	Coil Volts	Ohms	1-9	10-24	25-49	50-99	100-249
56F945	W88KDX-2	12VDC	100	4.70	4.47	4.23	4.00	3.29
56F946	W88KDX-3	24VDC	400	4.70	4.47	4.23	4.00	3.29
56F947	W88KADX-1	24VAC	. .	5.30	5.04	4.77	4.51	3.71
56F948	W88KADX-2	115VAC	. .	5.30	5.04	4.77	4.51	3.71

4PDT SMALL AC-DC TYPES



Hermetically sealed enclosure housing Class 22 telephone type relay with 14 pin glass insulated solder terminal header. Offers advantage of being compact in size. Silver alloy contacts, 5 amp ratings. Three 6-32 threaded mounting studs on 1 5/16x1 3/16" centers. Size: 1 7/16x1 5/8x2 1 1/16" Wt.: 7 oz.

AC Voltage Actuated

Stock No.	Type No.	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99	100-249
56F607	W22AHSX32	115AC	. . .	17.30	15.57	14.71	13.85	12.98
56F609	W22HSX145	12DC	80	17.00	15.30	14.45	13.60	12.75
56F610	W22HSX146	12DC	375	17.05	15.35	14.49	13.64	12.79

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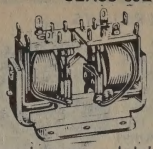
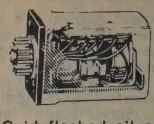
CLASS 88L & LCP LATCHING RELAYS





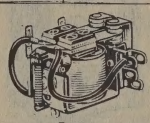
General purpose latching relays. Gold flashed silver alloy contacts rated 10 amps ½ 115 VAC. Comb. of two Class 88 relays with interlocking latch in bases. Each armature latches when pulled in. Energizing one armature releases or resets the other. **Class 88L:** 4PDT @ 6PDT, amps AC & DC operation. Approx. wt. 6½ oz. **Class 88LCP:** 4PDT, enclosed plug-in, Enc. 40-418 crackproof dust cover of polycarbonate resins. Mates with standard 20-pin octal socket. Size: 1¾x2⅜x3 3/16" Wt. 8 oz.

88L OPEN TYPE

Stk. No.	Type No.	Cont'	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99	100-499
57F1217	W88ALX-3	4PDT	24VAC	···	11.98	11.38	10.78	10.18	8.39
57F1218	W88ALX-4	4PDT	115VAC	···	11.98	11.38	10.78	10.18	8.39
57F1219	W88ALX-6	6PDT	24VAC	···	14.46	13.74	13.01	12.29	10.12
57F1220	W88ALX-7	6PDT	115VAC	···	14.46	13.74	13.01	12.29	10.12
57F1221	W88LX-2	4PDT	12VDC	50	10.91	10.36	9.82	9.27	7.64
57F1222	W88LX-3	4PDT	24VDC	200	10.91	10.36	9.82	9.27	7.64
57F1223	W88LX-7	6PDT	24VDC	200	13.28	12.61	11.95	11.29	9.30
57F1224	W88LX-8	6PDT	110VDC	4000	14.63	13.90	12.17	12.44	10.23

88LCP ENCLOSED TYPE

57F1225	W88ALCPX-11	4PDT	24VAC	···	17.26	16.38	15.53	14.67	12.08
57F1226	W88ALCPX-12	4PDT	120VAC	···	17.26	16.38	15.53	14.67	12.08
57F1227	W88LCPX-10	4PDT	12VDC	50	15.99	15.19	14.39	13.59	11.19
57F1228	W88LCPX-11	4PDT	24VDC	200	15.99	15.19	14.39	13.59	11.19



CLASS DPDT—88R—POWER RELAYS

Designed for high current switching in small space. Heavy duty hinge pin armature with precision bearing for long life and stability. 15 amp contacts @ 115VAC, silver alloy gold flashed contacts. Solder terminals. Compact size 1 7/8x1 15/16x1 3/32" Approx wt. 3 oz.

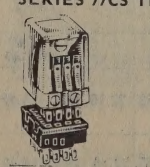
Stk. No	Type No.	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99	100-249
57F1229	W88RX-2	12VDC	100	6.80	6.46	6.12	5.78	4.76
57F1230	W88RX-3	24VDC	400	6.80	6.46	6.12	5.78	4.76
57F1231	W88ARX-3	24VAC	····	6.87	6.58	6.18	5.26	4.81
57F1232	W88ARX-4	115VAC	····	7.05	6.70	6.35	5.99	4.94

CLASS 88 HERMETICALLY SEALED PLUG-IN RELAY

High reliability relay with type 40-180 enclosure. 8-pin octal plug has silver alloy contacts. Rated 10 amps @ 115 VAC. All are DPDT except (*) are 3 PDT and use 11-pin octal plug. Type 88AHP is alternating current voltage actuated. Type 88HP is direct current voltage actuated. Nominal power: Type 88AHP, 3VA; Type 88HP, 1.5 W. Plug-in mounted. Size: 1 17/32x2 1/32" oz.

Stk. No.	Type	Voltage	Res. Ohms	1-9	10-24	25-49	50-99	100-249
56F402	W88AHPX-23	24VAC	···	11.30	10.74	10.17	9.61	7.91
56F403	W88AHPX-24	115VAC	···	11.30	10.74	10.17	9.61	7.91
56F354	W88AHPX-36*	115VAC	···	13.43	12.76	12.09	11.42	9.40
56F404	W88HPX-32	6VDC	25	10.77	10.23	9.69	9.15	7.54
56F405	W88HPX-33	12VDC	100	10.77	10.23	9.69	9.15	7.54
56F406	W88HPX-34	24VDC	400	10.77	10.23	9.69	9.15	7.54
56F355	W88HPX-51	24VDC	400	12.88	12.24	11.59	10.95	9.02

SERIES 77CS TELEPHONE RELAY WITH DUST COVER



Features miniature size 4PDT contact combination, switches to 5 amps, has greater contact pressure without increasing coil operating power. Design eliminates internal wiring and solder connections. Precision built hinge pin armature bearings with oversize bearings guarantee longer life. Size: 19/32"x55/64"x17/64". Wt. 2 ozs.

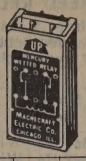
PLUG-IN TYPES

Stk. No.	Type	Volts	Ohms	1-9	10-24	25-49	50-99	100-249
56F336	W77CSX-2	12VDC	160	5.30	5.04	4.77	4.51	3.58
56F337	W77CSX-3	24VDC	600	5.40	5.13	4.86	4.59	3.65
56F338	W77CSX-4	48VDC	2500	5.55	5.27	5.00	4.72	3.75
56F339	W77CSX-5	110VDC	10000	5.97	5.67	5.37	5.07	4.03
56F340	W77ACSX-1	115VAC	····	5.96	5.86	5.36	5.07	4.02
56F341	70-161-1	Solder term.,		.58	.52	.49	.46	.44
56F342	70-161-3	socket		.58	.52	.49	.46	.44

PRINTED CIRCUIT TYPE

57F1249	W77PCX-12	6VDC	40	5.60	5.32	5.04	4.76	3.78
57F1250	W77PCX-13	12VDC	160	5.60	5.32	5.04	4.76	3.78
57F1251	W77PCX-14	24VDC	600	5.69	5.41	5.12	4.84	3.84
57F1252	W77PCX-15	48VDC	2500	5.84	5.55	5.26	4.96	3.94
57F1253	W77PCX-16	110VDC	10000	6.25	5.93	5.63	5.31	4.22

CLASS 131 MPC MINIATURE MERCURY REED RELAYS



DC Power required: 500 MW (SPST-NO), 700MW (DPST-NO); Operating time: 1 ms, average; Release time: 1 ma, average; Contact resistance: 50 milliohms average; Di-electric strength: 500 FAC. RMS. Operational position: upright, no more than 30° front vertical; Contact load rating: 28 VA at 1.0 amps maximum or 100V max., non-conductive. (SPST) 1 oz. $1^1/_8 x 1^3/_{32} x 3/_8$" (DPST) 2 oz. $1^1/_8 x 3^8/_{64} x 3/_8$".

Stock No.	Type W131	Cont.	COIL DATA VDC	COIL DATA Ohms	1-24	25-49	50-74	75-99	100-499
56F921	MPCX-3	SPST	12	300	6.48	5.83	5.51	5.18	4.53
56F922	MPCX-4	SPST	24	1100	6.53	5.88	5.55	5.22	4.57
56F924	MPCX-7	DPST	12	220	11.58	10.42	9.84	9.26	8.11
56F925	MPCX-8	DPST	24	850	11.65	10.48	9.90	9.32	8.15

CLASS 132MPC FORM A MERCURY-WETTED RELAYS

Power Required: ½ watt nom.; Operating Time: 2 msec. average; Release Time: 2msec. average; Contact Bounce: None; Contact Load Rating: 50 VA at 3.0 amps, max. or 400 VAC max.; non-inductive; Contact Resistance: 50 milliohm av.; Life Expectancy 25 million hz; Diel str, cont. to coil: 500 VAC RMS; Operating Position: Upright not more than 30 from vertical; Ambient Temp. Range:—37°F. to +185°F. Single-Pole—$2^5/_8 x 3/_4 x 4^1/_{64}$" All are normally open. Wt. 2 oz.

Stock No.	Type W132-	Cont.	COIL DATA VDC	COIL DATA OHMS	1-24	25-49	50-74	75-99	100-499
56F484	MPCX-2	SPST	6	70	5.83	5.25	4.96	4.66	4.08
56F485	MPCX-3	SPST	12	250	5.83	5.25	4.96	4.66	4.08
56F486	MPCX-4	SPST	25	1000	5.83	5.25	4.96	4.66	4.08

CLASS 133 MPC FORM C MERCURY-WETTED RELAYS

Same as Class 132 MPC except for—Contact Load Rating: 50 VA at 2.0 amps. max. or 400 VAC max., non-inductive load. Single-Pole—$2^5/_8 x 3/_4 x 4^1/_{64}$". Wt. 2 oz.

Stk. No.	Type W133-	Cont.	COIL DATA VDC	COIL DATA OHMS	1-24	25-49	50-74	75-99	100-499
56F490	MPCX-2	SPDT	6	70	8.42	7.58	7.16	6.74	5.89
56F491	MPCX-3	SPDT	12	250	8.42	7.58	7.16	6.74	5.89
56F492	MPCX-4	SPDT	24	1000	8.42	7.58	7.16	6.74	5.89
56F493	MPCX-5	SPDT	48	4000	8.60	7.74	7.31	6.88	6.02

CLASS 133LMPC SPOT MAGNETIC LATCHING MERCURY-WETTED LATHING RELAYS

Ideal for memory applications Bi-stable SPDT contacts-biased permanent magnetic holds either contact pos. w/out coil power until coil polarity is reversed. Oper. 2 ms aver. no contact bounce. Contact load rated 50VA at 2.0 amps. max. or 400V max resistive. Contact resistance 50 milliohms aver. capacitance across contacts, 3.0 pf aver. life 25 million cycles. Contacts SPDT. Shipping weight 4 ounces. $2^5/_8 x 3/_4 x 4^1/_{64}$"

SINGLE WOUND COILS

Stock No.	Type	COIL DATA VDC	COIL DATA Ohms	1-24	25-49	50-74	75-99	100-499
56F935	W133LMPCX-18	6	250	9.88	8.99	8.40	7.90	6.92
56F936	W133LMPCX-19	12	1000	9.92	8.93	8.43	7.94	6.94
56F937	W133LMPCX-20	24	4000	10.07	9.06	8.56	8.06	7.05

DOUBLE WOUND COILS

Stock No.	Type	COIL DATA VDC	COIL DATA Ohms	1-24	25-49	50-74	75-99	100-499
56F938	W133LMPCX-23	6	120/120	11.25	10.13	9.56	9.00	7.88
56F939	W133LMPCX-24	12	160/460	11.32	10.19	9.62	9.06	7.92
56F940	W133LMPCX-25	24	1800/1800	11.42	10.28	9.71	9.14	7.99

CLASS 101 ENCAPSULATED MINIATURE REED RELAYS

SPST-$1^1/_2$"L, ½"W, $^9/_{16}$"H. DPST-$1^1/_2$"L, $^{11}/_{16}$"W, $^9/_{16}$"H. Gold contacts rated at 10 VA @ .5 amps max. or 200 VAC max. resistance. Operating time 1 millisecond average. Release time ½ millisecond average. Wt. 1 oz.

Stk. No.	Type	Volt	Ohm	Cont.	1-24	25-49	50-74	75-99	100-499
56F459	W101PCX-5	6VDC	65	SPST	5.11	4.60	4.34	4.09	3.58
56F460	W101PCX-6	12VDC	250	SPST	5.16	4.64	4.39	4.13	3.61
56F461	W101PCX-7	24VDC	1000	SPST	5.26	4.73	4.47	4.21	3.68
56F462	W101PCX-8	8.0MADC	5000	SPST	5.68	5.11	4.83	4.54	3.98
56F464	W101PCX-10	12VDC	150	DPST	7.18	6.46	6.10	5.74	5.03
56F465	W101PCX-11	24VDC	650	DPST	7.24	6.52	6.15	5.79	5.07

CLASS 102 ENCAPSULATED STANDARD REED RELAYS

SPST $2^1/_4$"L, $^{21}/_{32}$" W, $^5/_8$"H. DPST $2^1/_4$"L. $1^1/_4$"W, $^5/_8$"H. Operate, 3 ms. average. Release, ½ ms. average. Contact Load Rating, 15VA at 1 amp. max. or 250 VAC max., non-inductive. Life Expectancy, 20 million cycles at full load; 100 million at ½ load Wt. 3 oz.

Stk. No.	Type	Volt	Ohm	Cont.	1-24	25-49	50-74	75-99	100-499
56F468	W102PCX-2	12VDC	400	SPST	4.83	4.35	4.10	3.86	3.38
56F469	W102PCX-3	24VDC	1500	SPST	4.87	4.38	4.14	3.90	3.41
56F472	W102PCX-6	12VDC	200	DPST	6.28	5.65	5.34	5.02	4.40
56F473	W102PCX-7	24VDC	800	DPST	6.33	5.70	5.38	5.06	4.43

CLASS 103 ENCAPSULATED STANDARD REED RELAYS

SPDT $2^1/_4$"L, $^{21}/_{32}$"W, $^5/_8$"H. Double pole-double throw $2^1/_2$"L, $1^1/_4$"W, ¾" H. SPDT or DPDT. Contacts rated 10 watts resistive load, .5 amp or 250 VAC max. Operating and release time less than 2 millisecond average. Weight, 3 ounces.

Stk. No.	Type	Volt	Ohm	Cont.	1-24	25-49	50-74	75-99	100-499
56F475	W103PCX-1	6VDC	100	SPDT	7.22	6.50	6.14	5.78	5.05
56F476	W103PCX-2	12VDC	400	SPDT	7.27	6.54	6.18	5.82	5.09
56F477	W103PCX-3	24VDC	1500	SPDT	7.32	6.59	6.22	5.86	5.12
56F480	W103PCX-6	12VDC	200	DPDT	10.79	9.71	9.17	8.63	7.55
56F481	W103PCX-7	24VDC	800	DPDT	10.84	9.76	9.21	8.67	7.59

CLASS 104 ENCAPSULATED MINIATURE SPDT OR DPDT DRY REED RELAYS

Contacts, rated 3VA @¼ amp. max. or 28 V. max. Life expectancy: 10 million cycles at rated load. Oper. time 1ms aver. Shipping weight 5 ounces.

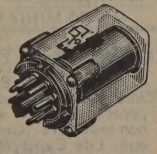
Stk. No.	Type	Volt	Ohm	Cont.	1-24	25-49	50-74	75-99	100-499
56F428	W104PCX-8	12VDC	225	SPDT	10.12	9.11	8.60	8.10	7.08
56F429	W104PCX-9	24VDC	10000	SPDT	10.22	9.20	8.69	8.18	7.15
56F432	W104PCX-4	12VDC	150	DPDT	14.62	13.16	12.43	11.70	10.23
56F433	W104PCX-5	24VDC	650	DPDT	14.68	13.21	12.48	11.74	10.28

SERIES "131PC" ENCAPSULATED MINIATURE MERCURY WETTED RELAY

Contacts rated 28VA @ 1 amp or 100 V max. resistive period oper. and release time 1 ms aver. 100 million cycles life. Weight 2 ounces.

Stk. No.	Type	Volt. or Curr.	Res. (Ohms)	Cont.	1-24	25-49	50-74	75-99	100-499
56F375	W131PCX-9	12VDC	250	SPST	8.44	7.60	7.17	6.75	5.91
56F376	W131PCX-10	24VDC	1000	SPST	8.55	7.70	7.27	6.84	5.99
56F379	W131PCX-13	12VDC	150	DPST	10.66	9.59	9.06	8.53	7.46
56F380	W131PCX-14	24VDC	650	DPST	10.71	9.64	9.10	8.57	7.50

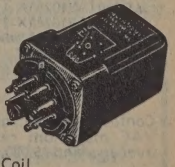
ENCLOSED DPDT PLUG-IN REED RELAY



Type 103CP. Each assembly contains two or three SPDT dry reeds with plug in mounting in plastic dust cover. All are DPDT Rated: 10 watts resistive load. .5 amp or 250 VAC max. Life expectancy: 25 million cycles at rated. 50 million cycles at ½ rated. 100 million cycles at low load. Dimensions: 1⅜" x 1⅜" x$2^1/_8$". Wt. 5 oz.

Stk. No.	Type	Volt or Cur.	Coil (Ohms)	1-24	25-49	50-74	75-99	100-499
56F360	W103CPX-7	6VDC	75	12.92	11.63	10.98	10.34	9.04
56F361	W103CPX-8	12VDC	300	12.95	11.66	11.01	10.36	9.07
56F362	W103CPX-9	24VDC	1K	13.01	11.71	11.06	10.41	9.11
56F363	W103CPX-10	8MADC	5K	13.57	12.21	11.53	10.86	9.50

103 LCP PLUG-IN LATCHING REED RELAY



Requires no coil current to hold either of 2 latching positions. Bi-Stable SPDT. Operate: 2 ms average. Contact bounce: 2 ms average. Contact Load Rating: 10VA at 0.2 amp. max. or 200 VDC max. resistive. Contact resistance: 150 milliohms average Typical life: 25 million operations—longer at reduced loads. $1^3/_8$"x$1^3/_8$"x$2^1/_8$" High. Wt. 5 oz.

Single Wound Coil except (*) Double Wound Coil

Stock No.	Type W103	Coil V	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F941	LCPX-8	12	1000	8.33	7.50	7.08	6.66	5.83
56F942	LCPX-9	24	4000	8.57	7.71	7.28	6.86	6.00
56F943	LCPX-12*	12	460/460	9.97	8.97	8.47	7.98	6.98
56F944	LCPX-13*	24	1800/1800	10.02	9.02	8.52	8.02	7.01

Magnecraft Standard And Miniature Reed Relays

ELECTRIC COMPANY

IC COMPATIBLE REED RELAYS

W101M

W104M

Small size low profile P.C. mounting and low operating power needed for I.C. compatibility. Size: open 1 x 7/16 x 1/2, leads 5/8 P.C. type mtg. 1 1/8 x 1 3/32 x 3/8 Class 101M and 101 MPC. SPST-NO .5 amp @ 10 VA or 100 VDC max. Operate Time: 1 ms aver. Release Time: .5 ms aver. Nom. Power: 40 MW; Typical Life: 5 million operations; Mounting: Class 101M, in-line axial lead, with molded bobbin, Class 101MPC P.C. type mounting with metal cover over molded bobbin. Class 104M and 104MPC. SPDT, .25 amp at 3 VA or 18 VDC max. Operate Time: .5 ms aver. Release Time .5 ms aver. Mounting Class 104M in-line axial lead, with molded bobbin. Class 104MPC, PC type mounting with metal cover over molded bobbin.

SPST-NO

Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-449
56F975	W101MX-35	5	500	2.68	2.41	2.28	2.14	1.88
56F976	W101MX-41	3	250	2.68	2.41	2.28	2.14	1.88
56F977	W101MPCX-104	5	450	4.12	3.71	3.50	3.30	2.88

SPDT

56F978	W104MX-9	5	500	6.20	5.58	5.27	4.96	4.34
56F979	W104MX-10	3	250	6.20	5.58	5.27	4.96	4.34
56F980	W104MPCX-46	5	300	7.53	6.78	6.40	6.02	5.27

TYPES W101M & W104M MINIATURE REED RELAYS

W104M

W101M

Specifications: nominal coil power 300mw, operate time 1 ms av., release time less than 1 ms, contact bounce less than 0.5 ms av. Dielectric contact 250 VAC RMS. Dielectric contact & coil 750 VAC RMS. Contact resistance 150 mΩ av. Size: 1/2 x 7/16 x 1". Shpg. wt. 1 oz.

TYPE W101M—SPST-NO

Contacts rated 12 volt-amps maximum at 0.25 amp .maximum, or 200 VAC maximum resistive. Capacitance across contacts: 0.7 pf average, and 5,000,000 operations at rated load. (*) Milliamps.

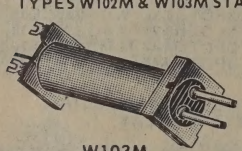
Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F909	W101MX-1	6	100	2.20	1.98	1.87	1.76	1.54
56F910	W101MX-2	12	250	2.25	2.03	1.91	1.80	1.58
56F911	W101MX-3	24	500	2.25	2.03	1.91	1.80	1.58
56F912	W101MX-4	9*	2500	2.43	2.19	2.07	1.94	1.70

TYPE W104M—SPDT

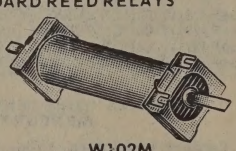
Contacts rated 3 volt-amps maximum at 0.25 amp maximum, or 28 VAC maximum, resistive. Capacitance across contacts is 1.3 pf average, and 10,000,000 operations at rated load. (*) Milliamps.

Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F913	W104MX-1	6	100	5.63	5.07	4.79	4.50	3.94
56F914	W104MX-2	12	250	5.68	5.11	4.83	4.54	3.98
56F915	W104MX-3	24	500	5.68	5.11	4.83	4.54	3.98
56F916	W104MX-4	9*	2500	5.87	5.28	4.99	4.70	4.11

TYPES W102M & W103M STANDARD REED RELAYS



W103M



W102M

Specifications: nominal coil power 300 mw, operate time less than 3 ms, release time 0.5 ms av., contact bounce less than 1 ms av. Dielectric contact 500 VAC RMS. Dielectric contact & coil 750 VAC RMS. Contact resistance: 100 milliohm av. Size: 1/2 x 19/32 x 2 1/8". Shpg. wt. 2 oz.

TYPE W102M—SPST—NO

Contact rated 15 volt-amps maximum at 1 amp maximum, or 250 VAC maximum resistive. Capacitance across contacts is 0.9 pf average, and 20,000,000 operations at rated load. (*) Milliamps.

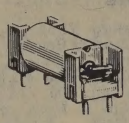
Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F900	W102MX-1	40*	100	2.18	1.96	1.85	1.74	1.53
56F901	W102MX-2	6	200	2.25	2.03	1.91	1.80	1.58
56F902	W102MX-3	12	500	2.25	2.03	1.91	1.80	1.58
56F903	W102MX-4	24	2000	2.47	2.22	2.10	1.98	1.73
56F904	W102MX-5	5.5*	5000	2.63	2.37	2.24	2.10	1.84

TYPE W103M—SPDT

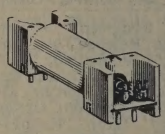
Contact rated 10 volt-amps maximum at .5 amp maximum or 250 VAC maximum resistive. Capacitance across contacts is 3.0 pf average, and 25,000,000 operations at rated load. (*) Milliamps.

Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F905	W103MX-1	6	200	4.23	3.81	3.60	3.38	2.96
56F906	W103MX-2	12	500	4.23	3.81	3.60	3.38	2.96
56F907	W103MX-3	24	2000	4.45	4.01	3.78	3.56	3.12
56F908	W103MX-4	5.5*	5000	4.62	4.16	3.93	3.70	3.23

LOW COST PC TYPE REEDS



W101MPC



W104MPC

Molded nylon bobbin with electrical insulation. One piece reed support terminal pin. Class 101MPC Cont. 10 VA @ .5 amp max. or 200 VDC max. non-indc. · SPST-NO Nom. Pow. 500 MW Min. Size 1 1/8 x 3/8 x 3/8, Wt. 1 oz. P.C. pins .150 Ctrs. Class 102MPC Cont. 15 VA @ 1 amp. max. or 250 VDC non-induc. SPST-NO Nom. Pow. 500 MW Std. Size: 2 5/8 x 5/8 x 23/32. Wt. 1 Oz. P.C. pins .200 Ctrs. Both models SPST-NO.

W101MPC-Miniature .5 Amp

Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-449
56F981	W101MPCX-122	6	70	2.65	2.39	2.25	2.12	1.99
56F982	W101MPCX-123	12	300	2.65	2.39	2.25	2.12	1.99
56F983	W101MPCX-124	24	1100	2.65	2.39	2.25	2.12	1.99

W102 MPC-Standard 1 Amp

56F984	W102MPCX-145	6	70	2.50	2.25	2.13	2.00	1.89
56F985	W102MPCX-146	12	250	2.50	2.25	2.13	2.00	1.89
56F986	W102MPCX-147	24	1000	2.50	2.25	2.13	2.00	1.89

ENCAPSULATED AXIAL LEAD REED RELAYS

CLASS "W 101EP" SPST REED RELAYS

SPST-NO rated at 10 VA at .5 amperes maximum or 200 VDC maximum. Life expectancy 5 million cy at rated load. Operate time 1 millisecond average release time 1/2 millisecond average. Axial lead wires for coil and contacts. Encapsulated molded case. Overall length 3" body length 1", 7/16" diameter. Weight, 1 oz.

Stock No.	Type	Coil MA	Coil VDC	Coil Ohms	Nom. Pwr.	1-24	25-49	50-74	75-99	100-499
56F382	W101EPX-5	···	6	65		3.62	3.26	3.08	2.90	2.53
56F383	W101EPX-6	···	12	225	600	3.62	3.26	3.08	2.90	2.53
56F384	W101EPX-7	···	24	1000	MW	4.24	3.82	3.60	3.39	2.97
56F385	W101EPX-8	8		5000		4.68	4.21	3.98	3.74	3.28

CLASS "W104EP" SPDT REED RELAYS

SPDT rated at 3 VA at .250 amps. or 28 VAC maximum. Life expectancy 10 million cy at rated load. Operate time and release time 1 millisecond average. Axial lead wires for coil and contacts. Encapsulated molded case. Overall length 3", body length 1", diameter 7/16" Weight, 1 ounce.

Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F386	W104EPX-2	6	65	7.37	6.63	6.26	5.90	5.16
56F387	W104EPX-3	12	225	7.37	6.63	6.26	5.90	5.16
56F388	W104EPX-4	24	1000	8.05	7.25	6.84	6.44	5.64

MICRO-MINIATURE CLASS "W105EP" SPST REED RELAYS

3/4" long axial leads for both coil and contacts. Use in either printed circuit applications or circuits designed for point-to-point wiring. DC Coil Power Required: 300 mw avg; Release Time; 500 Microseconds, average. Contact Load Rating; 100 Millivolt-Amperes maximum at 10 Milliamperes max. or 12 Volts maximum, non-inductive; Contact Resistance: 200 Milliohms, average; average: Life Expectancy, Rated Load: 10 Million cy 1/4" in diameter by 7/16" long. Wt. 1 oz.

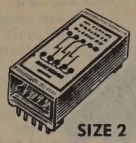
Stock No.	Type	Coil VDC	Coil Ohms	1-24	25-49	50-74	75-99	100-499
56F351	W105EPX-1	6	90	6.18	5.56	5.25	4.94	4.33
56F352	W105EPX-2	12	350	6.18	5.56	5.25	4.94	4.33
56F353	W105EPX-3	24	1300	6.30	5.67	5.36	5.04	4.41

Printed Circuit Reed Relays *Magnecraft*

ELECTRIC COMPANY

MINIATURE SERIES MPC RELAYS

SIZE 1



SIZE 2

Miniature MPC Reed Relays offer more than versatility alone . . . they're fast and reliable! Form A Dry Reed MPC Relays provide operating times of one msec. average and life expectancies of 5 million cycles at rated loads! Contact ratings and mechanical construction is fully consistent with circuit requirements. Ideal units for compact printed circuit design.

CLASS 101MPC FORM A MINIATURE DRY REED RELAYS

DC Power Required: 500 Milliwatts; Operating Time: 1 Millisecond, average; Release Time: 0.5 Millisecond, average; Contact Bounce: 1 less than 0.5 msec. average; Contact Load Rating: 10 Volt-Amperes maximum at 500 Milliampers maximum or 200 Volts maximum, non-inductive; Contact Resistance: 150 Milliohms, average; Capacitance Across Contacts: 0.8 Picofarad, average; Life Expectancy. Rated Load: 5 million hz Diel. sta. cont. to coil: 500 Volts AC, RMS: Operating Position: Any; Ambient Temperature Range: —50°F. to +185°F. Size 1 Single-Pole—$1\frac{1}{8}$x$1\frac{3}{32}$x$\frac{3}{8}$"; Size 2 Triple Pole—$1\frac{1}{8}$x$\frac{39}{64}$x$\frac{3}{8}$". Wt. 1 oz.

Stk. No.	Type W101-	Act.	COIL DATA VDC	COIL DATA OHMS	1-24	25-49	50-74	75-99	100-499
56F316	MPCX-1	SPST-	6	70	3.60	3.24	3.06	2.88	2.52
56F317	MPCX-2	SPST-	12	300	3.60	3.24	3.06	2.88	2.52
56F318	MPCX-3	SPST	24	1100	3.63	3.27	3.09	2.90	2.54
56F320	MPCX-5	3PST-	6	50	6.75	6.08	5.74	5.40	4.73
56F321	MPCX-6	3PST-	12	220	6.75	6.08	5.74	5.40	4.73
56F322	MPCX-7	3PST-	24	850	6.77	6.09	5.75	5.42	4.74

CLASS 104MPC FOR MC MINIATURE DRY REED RELAYS

DC Power Required: 500 Milliwatts; Operating Time: 1 Millisecond, average; Release Time: 1 Millisecond, average; Contact Resistance: 150 Milliohms, average; Diel. str., cont. to coil: 500 Volts AC, RMS; Operating Position: Any; Contact Load Rating: 3 Volt-Amperes maximum at 250 Milliamperes maximum or 28 Volts maximum, non-inductive; Size 1 Single-Pole—$1\frac{1}{8}$"x$1\frac{3}{32}$x$\frac{3}{8}$"; Size 2 Double-Pole—$1\frac{1}{8}$x$\frac{39}{64}$x$\frac{3}{8}$". Wt. 1 oz.

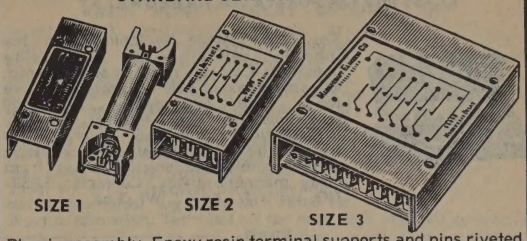
Stk. No.	Type W104-	Act.	COIL DATA VDC†	COIL DATA OHMS	1-24	25-49	50-74	75-99	100-499
56F324	MPCX-1	SPDT	6	70	6.82	6.14	5.80	5.46	4.77
56F325	MPCX-2	SPDT	12	300	6.83	6.15	5.81	5.46	4.78
56F326	MPCX-3	SPDT	24	1100	6.85	6.17	5.82	5.48	4.80
56F328	MPCX-5	SPDT	6	50	11.62	10.46	9.88	9.30	8.13
56F329	MPCX-6	SPFT	12	220	11.63	10.47	9.89	9.30	8.14
56F330	MPCX-7	SPDT	24	850	11.65	10.49	9.90	9.32	8.16

MICRO-MINIATURE SERIES MPC RELAYS

Encapsulated axial lead units specifically designed for high density printed circuit application. Switch capsule and design features provide fast switching plus low internal noise. Contacts: SPST-NO: Contact Load Rating: 100 Millivolt-Amperes maximum, at 10 Milliamperes maximum or 12 Volts maximum, non-inductive; Contact Resistance: 200 Milliohms, average; Diel. str., cont. to coil: 050 VAC RMS. Operating Position: Any; DC Coil. Power required: 300 Milliwatts.: Size 1: Single-Pole—$\frac{5}{8}$x$\frac{5}{16}$x$1\frac{1}{32}$". Wt. 1 oz.

Stk. No.	Type No.	Coil Volts DC	1-24	25-49	50-74	75-99	100-499
56F332	W105MPCX-1	6	5.45	4.91	4.63	4.36	3.82
56F333	W105MPCX-2	12	5.47	4.92	4.65	4.38	3.83
56F334	W105MPCX-3	24	5.58	5.02	4.74	4.46	3.91

STANDARD SERIES MPC RELAYS



SIZE 1 SIZE 2 SIZE 3

Plug-in assembly. Epoxy resin terminal supports and pins riveted into mortised position. Steel cover gives mechanical protection and magnetic shielding. Switch hermetically sealed.

CLASS 102MPC FORM A DRY REED RELAYS

DC Power Required: ½ watt nom; Operating Time: 3 msec. average; Releast Time: $\frac{1}{2}$ msec. average; Contact Bounce: less than 1 msec. average; Contact Load Ratings 15 VA at 1 amp max. or 250 VAC max.; non-inductive load; Contact Resistance 0.1 ohm. Life Expectancy: 20 million cycles; Dielectric str., cont. to coil: 500 VAC RMS; Operating Position: Any; Ambient Temp. Range: —50°F. to +185°F.; Maintenance: None. Size 1 Single Pole—$2\frac{5}{8}$x$\frac{3}{4}$x$\frac{41}{64}$"; Size 2 Triple-Pole—$2\frac{5}{8}$x$1\frac{3}{16}$x$\frac{41}{64}$"; Size 3 Six Pole—$2\frac{5}{8}$x$1\frac{31}{32}$x$\frac{41}{64}$"; All are normally open. Wt. 2 oz.

Stk. No.	Type W102-	Act.	COIL DATA VDC	COIL DATA OHMS	1-24	25-49	50-74	75-99	100-499
56F416	MPCX-6	SPST	6	70	3.29	2.96	2.79	2.63	2.30
56F417	MPCX-7	SPST	12	250	3.29	2.96	2.79	2.63	2.30
56F418	MPCX-8	SPST	24	1000	3.29	2.96	2.79	2.63	2.30
56F300	MPCX-48	3PST	6	50	5.62	5.06	4.78	4.50	3.94
56F301	MPCX-49	3PST	12	175	5.63	5.07	4.79	4.51	3.95
56F302	MPCX-50	3PST	24	750	5.77	5.20	4.91	4.62	4.04
56F987	MPCX-53	6PST	12	100	9.30	8.37	7.91	7.44	6.51
56F306	MPCX-54	6PST	24	375	9.35	8.42	7.95	7.48	6.55

CLASS 103MPC FORM C DRY REED RELAYS

Contact load rating: 10 VA at $\frac{1}{2}$ amp max., or 250 VAC max., non-inductive load; contact resistance 0.1 ohm; dielectric str., cont. to coil: 500 VAC RMS; DC power required: $\frac{1}{2}$ watt nom. Life expectancy 25 million hz. Ambient temp. range: —50 to +185°F. Operating time: 2 msec, release time: $\frac{1}{2}$ msec. Size 1 SPDT—$2\frac{5}{8}$x$\frac{3}{4}$x$\frac{41}{64}$"; Size 2 3PDT—$2\frac{5}{8}$x$1\frac{9}{16}$"x$\frac{41}{64}$"; Size 3 3PDT—$2\frac{5}{8}$x$1\frac{31}{32}$x$\frac{41}{66}$". Wt. 2 oz.

Stock No.	Type W103	Act.	COIL DATA VDC	COIL DATA OHMS	1-24	25-49	50-74	75-99	100-499
56F422	MPCX-2	SPDT	6	70	5.83	5.25	4.96	4.66	4.08
56F423	MPCX-3	SPDT	12	250	5.83	5.25	4.96	4.66	4.08
56F424	MPCX-4	SPDT	24	1000	5.83	5.25	4.96	4.66	4.08
56F308	MPCX-30	DPDT	6	50	8.33	7.50	7.09	6.67	5.84
56F309	MPCX-31	DPDT	12	175	8.33	7.50	7.09	6.67	5.84
56F310	MPCX-32	DPDT	24	750	8.47	7.63	7.20	6.78	5.93
56F312	MPCX-34	4PDT	6	25	14.60	13.14	12.41	11.68	10.22
56F314	MPCX-36	4PDT	24	375	14.77	13.29	12.55	11.82	10.34

103 LMPC LATCHING FORM C REED RELAYS

Magnetic latching; requires no coil current to hold SPDT contacts. Contacts rated at 10 Volt Amp @ .2 amps max. or 200 VDC max. Life expectancy, 25 million operations. Size: $2\frac{5}{8}$" x $\frac{41}{64}$" x $\frac{3}{4}$". Wt. 3 oz.

Single Wound Coil

Stock No.	Type	Volts DC	Ohm	1-24	25-49	50-74	75-99	100-499
56F391	W103LMPCX-4	6	250	7.07	6.36	6.01	5.66	4.95
56F392	W103LMPCX-5	12	1000	7.07	6.36	6.01	5.66	4.95
56F393	W103LMPCX-6	24	4000	7.26	6.53	6.17	5.81	5.08

Double Wound Coil

56F396	W103LMPCX-9	6	120/120	8.33	7.50	7.08	6.66	5.83
56F397	W103LMPCX-10	12	460/460	8.33	7.50	7.08	6.66	5.83
56F398	W103LMPCX-11	24	1800/1800	9.00	8.10	7.65	7.20	6.30

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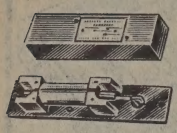
Power Reed And Plunger Relays

MAGNECRAFT

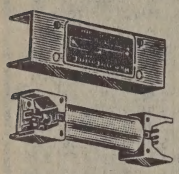
CLASS 102V 5000 FORM A VOLT REED RELAY



For high voltage switching with the inherent reliability of reed relay operation. Contacts rated at 50 Volt Amp. @ 3 amps max. or 5000 VDC max. resistive load. Life expectancy 20,000,000 operations. Op time, 3 millisec. average, release time 0.5 millisec. average. Internally insulated metal cover protects coil assembly and shields relays from stray magnetic fields. Contacts: SPST-NO. 4½"x15/16"x7/8". Wt. 3 oz.

Stock No.	Type	Volt. or. Curr.	Res. Ohms	1-24	25-49	50-74	75-99	100-499
56F369	W102VX-10	6 V	70	13.69	12.32	11.64	10.95	9.58
56F370	W102VX-11	12 V	250	13.73	12.36	11.67	10.98	9.61
56F371	W102VX-12	24 V	1000	13.78	12.40	11.71	11.02	9.65
56F372	W102VX-13	48 V	4000	14.15	12.74	12.03	11.32	9.91
56F373	W102VX-14	9.0 MA	7000	14.58	13.12	12.39	11.66	10.21

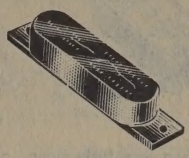
102RMPC FORM A POWER REED RELAY



Type 102 RMPC. Provides the printed circuit design engineer with the first reed relay capable of switching up to 100 watts at 3 amps and within 1 msec. average. SPST-NO. Requiring ½ watt nominal operating power and rated 100VA @ 3 amps or 250 volts maximum. Dimensions: 2⅜L, ¾W, 41/64H.

Stock No.	Type	VDC	Ohms	1-24	25-49	50-74	75-99	100-499
56F356	W102RMPCX-1	6	70	7.87	7.08	6.69	6.30	5.51
56F357	W102RMPCX-2	12	250	7.88	7.09	6.70	6.31	5.52
56F358	W102RMPCX-3	24	1000	7.93	7.14	6.74	6.34	5.55
56F359	W102RMPCX-4	48	4000	8.18	7.36	6.95	6.54	5.73

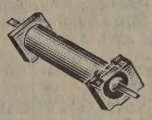
CLASS 102 HV & UHV HI-VOLTAGE RELAY



Switching to 20,000 volts. Contact Combination: SPST-NO. Contact Load Rating: 102HV 10,000 V peak at .001 amp; 102 UHV 20,000 volts peak at .001 amp. Nominal Coil Power: 1.5W avg. Operate Time: 25 ms, including bounce. Contact Resistance: 100 milliohms average. Typical Life: 1 million operations at rated load, longer at reduced loads. Solder terminals molded construction with specially designed insulation system. Approx. size: 4-½ x ⅞ x ¾. Weight 2 oz.

Stk. No.	Type	COIL-DC Volts	COIL-DC Ohms	1-24	25-49	50-74	75-99	100-499
				HV				
56F290	W102HVX-1	6	25	19.88	17.89	16.90	15.90	13.92
56F291	W102HVX-2	12	100	19.88	17.89	16.90	15.90	13.92
56F292	W102HVX-3	24	400	19.88	17.89	16.90	15.90	13.92
				UHV				
56F293	W102UHVX-1	6	25	33.62	30.26	28.58	26.90	23.53
56F294	W102UHVX-2	12	100	33.62	30.26	28.58	26.90	23.53
56F295	W102UHVX-3	24	400	33.62	30.26	28.58	26.90	23.53

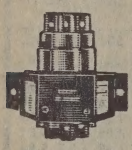
CLASS 102 RM-POWER REED RELAY



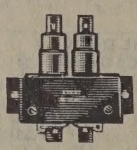
Developed to meet the increasing demand for higher current switching with reed relay reliability and lower cost. Contacts: SPST-NO, 3 amps @ 100 VA max. or 250 VAC max. Operate Time: 1.5 ms aver. Release Time: 1 ms aver. Contact Bounce: 1 ms aver. Nom. Power: 300 MW Size: bobbin 2-1/8x19/32x1/2, leads 9/16 @ Wt. 1 oz. approx.

Stock No.	Type	COIL-DC Volts	COIL-DC Ohms	1-24	25-49	50-74	75-99	100-499
56F296	W102RMX-5	6	200	4.18	3.76	3.55	3.34	2.93
56F297	W102RMX-6	12	500	4.22	3.80	3.59	3.38	2.95
56F298	W102RMX-7	24	2500	4.33	3.90	3.68	3.46	3.03
56F299	W102RMX-8	48	5000	4.53	4.08	3.85	3.62	3.17

EBERT MERCURY PLUNGER RELAYS



A-111



A-11,B-11,H-11

A-1,A-2,B-1,H-1

S&T

Silent, mercury to mercury action relay for power control applications. Terminals in front for easy access. Contacts rated 550 Volts AC.

EPOXY ENCASED METAL TUBE TYPES

Epoxy encased metal tube withstands physical shock.

MINIATURE SERIES A 25 AMPS (115VAC)

Stk. No.	Type	Description	Size	1-9	10-49
59F1600	A-1	Single pole NO	4¼x3x2¼"	21.10	18.47
59F1601	A-2	Single pole NC	4¼x3x2¼"	25.10	22.00
59F1602	A-11	2-pole both NO	4¼x4¼x2½"	40.75	35.60
59F1603	A-111	3-pole ALL NO	4¼x4¼x2½"	54.75	47.90

STANDARD SERIES B 50 AMPS (115VAC)

Stk. No.	Type	Description	Size	1-9	10-49
59F1604	B-1	Single pole NO	4¾x3x2¼"	24.65	21.60
59F1605	B-11	2-pole both NO	4¾x4¼x2½"	48.00	42.00

HEAVY DUTY SERIES H 100 AMPS (115VAC)

Stk. No.	Type	Description	Size	1-9	10-49
59F1606	H-1	Single pole NO	7½x4x3½"	64.50	56.50
59F1607	H-11	2-pole both NO	7½x6½x4"	129.00	113.00

COMPLETELY ENCAPSULATED RELAYS

Use for extreme environmental conditions. Molded in terminal connectors eliminates need for enclosures.

MINIATURE SERIES S 25 AMPS (115VAC)

Stk. No.	Type	Description	Size	1-9	10-49
59F1608	S-1	Single pole NO	3½x1¾x1⅝"	23.00	20.10
59F1609	S-2	Single pole NC	3½x1¾x1⅝"	25.00	22.10

MR-1, MR-2 EM-1,HD-1

MR-11,EM-11,HD-11

"100" Relay

STANDARD SERIES T 50 AMPS

Stk. No.	Type	Description	Size	1-9	10-49
59F1610	T-1	Single pole NO	3⅞x2x1⅞"	28.50	25.00
59F1611	T-2	Single pole NC	3⅞x2x1⅞"	30.50	27.00

OPEN CONSTRUCTION TYPES MINIRELAY 20 AMPS (115VAC) CSA LISTED

Stk. No.	Type	Description	Size	Net	2-up
59F1612	MR-1	Single pole NO	3x1⅞x1½"	13.35	11.68
59F1613	MR-2	Single pole NC	4x1⅞x1½"	13.90	12.16
59F1614	MR-11	2 pole both NO	4½x3x1⅞"	24.75	21.65

HEAVY DUTY 60 AMPS (115VAC) UL&CSA LISTED

Stk. No.	Type	Description	Size	NET	2-up
69F1615	EM-1	Single pole NO	4¾x2⅝x2½"	15.10	13.20
59F1618	EM-11	2 pole both NO	5¼x4x3⅜"	29.20	25.52

HEAVY DUTY 60 AMPS (112VAC) UL&CSA LISTED

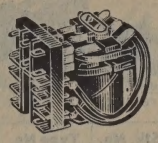
Stk. No.	Type	Description	Size	NET	2-up
59F1617	HD-1	Single pole NO	2⅜x5¼x3¾"	22.35	19.50
59F1618	HD-11	2 pole both NO	2⅜x5¾x3¾"	40.50	35.40

"100" RELAY 100 AMPS (115VAC) CSA LISTED

Encapsulated relay tube to withstand physical shock and rough handling.

Stk. No.	Type	Description	Size	NET	2-up
59F1619	100	Single pole NO	7x3½x3⅜"	43.10	37.70
59F1620	100	Single pole NC	7x3½x3⅜"	45.10	39.70

•NEW MEDIUM POWER AC DC RELAY 10-AMP



Highly efficient relay for communications, automation, remote control switching circuits and laboratory applications. All terminals are solder lug type and molded in phenolic panel block for coils as well as contacts. Barriers in panel block raised to meet U/L over-surface spacing; U/L insulation throughout. Contacts rated 10 amps at 60 cycles, 120 VAC, non-inductive load. Mounting: Single mounting hole, 6-32 tap. Shpg. wt., 2.5 oz.

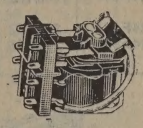
TYPE 1240 -AC VOLTS

Stk. No.	Type	Poles	1-24	25-49	50-99	100-249	250-Up
24F3400	1240-2C-6AC	DPDT	4.13	3.72	3.51	2.89	2.68
24F3401	1240-3C-6AC	3PDT	4.68	4.21	3.98	3.28	3.04
24F3402	1240-2C-24AC	DPDT	4.13	3.72	3.51	2.89	2.68
24F3403	1240-3C-24AC	3PDT	4.68	4.21	3.98	3.28	3.04
24F3404	1240-2C-120AC	DPDT	4.13	3.72	3.51	2.89	2.68
24F3405	1240-3C-120AC	3PDT	4.68	4.21	3.98	3.28	3.04
24F3406	1240-2C-240AC	DPDT	4.40	3.96	3.74	3.08	2.86
24F3527	1240-3C-240AC	3DPT	4.95	4.46	4.21	3.47	3.22

TYPE 1245-DC VOLTS

Stk. No.	Type	Poles	1-24	25-49	50-99	100-249	250-Up
24F3407	1245-2C-6DC	DPDT	3.74	3.37	3.18	2.62	2.43
24F3408	1245-3C-6DC	3PDT	4.24	3.82	3.60	2.97	2.76
24F3409	1245-2C-12DC	DPDT	3.74	3.37	3.18	2.62	2.43
24F3410	1245-3C-12DC	3PDT	4.24	3.82	3.60	2.97	2.76
24F3411	1245-2C-24DC	DPDT	3.74	3.37	3.18	2.62	2.43
24F3412	1245-3C-24DC	3PDT	4.24	3.82	3.60	2.97	2.76
24F2413	1245-2C-110DC	DPDT	4.13	3.72	3.51	2.89	2.68
24F3414	1245-3C-110DC	2PDT	4.68	4.21	3.08	3.28	3.04

MEDIUM POWER AC-DC RELAY



Type 1200 and 1205. Suited to communications, remote control. Heavy solder lug type terminals molded in phenolic black, with barriers for over-surface insulation Contacts rated 10 amperes at 60 Hz, 120 V. AC non-inductive load. AC types. U.L. Listed. Size: 1⅝"x1"x1½". Mounting single mtg. hole. 6-32 TAP. 2.5 oz.

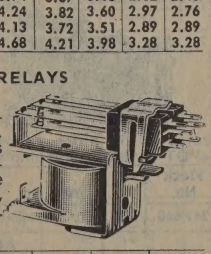
TYPE 1200—AC VOLTS

Stk. No.	Type	Poles	Volts	1-24	25-49	50-99	100-249	250-Up
24F833	1200-2C-6A	DPDT	6	4.13	3.72	3.51	2.89	2.68
24F834	1200-3C-6A	3PDT	6	4.68	4.21	3.98	3.28	3.04
24F835	1200-2C-24A	DPDT	24	4.13	3.72	3.51	2.89	2.68
24F836	1200-3C-24A	3PDT	24	4.68	4.21	3.98	3.28	3.04
24F837	1200-2C-120A	DPDT	120	4.13	3.72	3.51	2.89	2.68
24F838	1200-3C-120A	3PDT	120	4.68	4.21	3.98	3.28	3.04
24F2450	1200-2C-240A	DPDT	240	4.40	3.96	3.74	3.08	2.68
24F2451	1200-3C-240A	3DPT	240	4.95	4.46	4.21	3.47	3.22

TYPE 1205—DC VOLTS

24F839	1205-2C-6D	DPDT	6	3.74	3.37	3.18	2.62	2.43
24F840	1205-3C-6D	3PDT	6	4.24	3.82	3.60	2.97	2.76
24F2452	1205-2C-12D	DPDT	12	3.74	3.37	3.18	2.62	2.43
24F2453	1205-3C-12D	3PDT	12	4.24	3.82	3.60	2.97	2.76
24F841	1205-2C-24D	DPDT	24	3.74	3.37	3.18	2.62	2.43
24F842	1205-3C-24D	3PDT	24	4.24	3.82	3.60	2.97	2.76
24F2455	1205-2C-110D	DPDT	110	4.13	3.72	3.51	2.89	2.89
24F2456	1205-3C-110D	3PDT	110	4.68	4.21	3.98	3.28	3.28

900 SERIES DPDT RELAYS



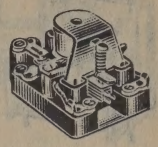
Number of parts and assembly time reduced by 50%. Eliminates cold flow. Higher voltage breakdown. Contacts D.P.D.T. can control up to 10 amps. resistive load at 120 V.A.C. 2 point. Single screw mounting. Unitary field and core, no gap between core and field piece. UL Approved. Size 2¹¹⁄₁₆ x 1¹¹⁄₁₆.

Stock No.	Type & Coil Volts	1-9	10-24	25-49	50-99	100-Up
62F1875	900-2C-24VAC					
62F1876	900-2C-120VAC					
62F1877	900-2C-240VAC	1.90	1.80	1.65	1.55	1.38
62F1878	905-2C-6VDC					
62F1879	905-2C-12VDC					
62F1880	905-2C-24VDC					

As above, but with ³⁄₁₆ quick-disconnect terminals

24F2444	910-2C-24AC					
24F2445	910-2C-120AC					
24F2446	910-2C-240AC	1.90	1.80	1.65	1.55	1.38
24F2447	915-2C-6DC					
24F2448	915-2C-12DC					
24F2449	915-2C-24DC					

•NEW POWER RELAY GROUP-25 AMP.



Inverted coil construction protects armature and contacts from mechanical damage or electrical shorting. Series 2600U and 2605U have screw type terminals and are DPDT. Press to test armature lever makes for convenient manual circuit testing. Series 2620U and 2625U are manufactured with the same specs, but are DPST. For mounting there are two .196" dia. holes in base. Size 3⁵⁄₁₆" x2½"x1⅛". Shpg. wt. 8 oz. Recessed SPDT, auxiliary switch has solder lug blade tails rated for 10 amp. operation. Terminal kit for easy do it yourself conversion.

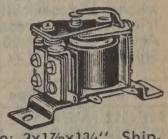
DPDT

Stk. No.	Type	Volts	1-24	25-49	50-99	100-249	250-Up
24F3415	2600U-DPDT-24A	24AC	7.43	6.69	6.32	5.10	4.83
24F3416	2600U-DPDT-120A	120AC	7.43	6.69	6.32	5.20	4.83
24F3417	2600U-DPDT-240A	240AC	7.81	7.03	6.64	5.47	5.08
24F3418	2605U-DPDT-12D	12DC	7.43	6.69	6.32	5.20	4.83
24F3419	2605U-DPDT-24D	24DC	7.43	6.69	6.32	5.20	4.83
24F3420	2605U-DPDT-110D	110DC	7.81	7.03	6.64	5.47	5.08

DPST

24F3421	2620U-DPST-24A	24AC	5.65	5.09	4.80	3.96	3.67
24F3422	2620U-DPST-120A	120AC	5.65	5.09	4.80	3.96	3.67
24F3423	2620U-DPST-240A	240AC	6.15	5.54	5.23	4.31	4.00
24F2990	2625U-DPST-12D	12DC	5.70	5.13	4.85	3.99	3.71
24F3424	2625U-DPST-24D	24DC	5.70	5.13	4.85	3.99	3.71
24F3425	2625U-DPST-110D	110DC	6.15	5.54	5.23	4.31	4.00
24F3426	2600U-SPQT-Aux.-SW	.....	1.49	1.34	1.27	1.04	.97
24F3427	2600U-QC. Terminal Kit	.....	.74	.67	.63	.52	.48

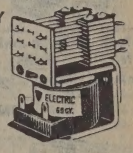
HEAVY DUTY INDUSTRIAL RELAY—AC



Type IR-220A. Rugged unit breaks up to 20 amperes, at 240 volts. Armature is equipped with Phenolic contact mounting block carrying ⅝" dual contacts. Phenolic is tested at 1500 volts breakdown to ground. Contacts are silver alloy. Relay is available in SPST-NO contact combination only. Contact rating at 60 cycles, 20 amps. 240 V non-inductive load. Size: 3x1⅞x1¾". Shipping wt. 5.5 oz.

Stock No.	Type	Volts	1-24	25-49	50-99	100-249	250-499
24F052	IR-220A-24A	24	4.95	4.46	4.21	3.47	3.22
24F053	IR-220A-120A	115	5.56	5.00	4.73	3.89	3.61
24F054	IR-220A-240A	230	6.11	5.50	5.19	4.28	3.67

ALL-PURPOSE ECONOMY AC-DC RELAY



Types IR-640 & 645. Compact, lightweight relay capable of unusually heavy power control for its size. Contact rating at 60 Hz, 120-V non-inductive load. All contact ratings are 10 amps. *Normally open. U/L listed. Size 1¹¹⁄₁₆x1½x1". Shpg. wt., 4 oz.

AC VOLTS

Stock No.	Type And Coil Volts	Cont. Comb.	1-24	24-49	50-99	100-249	250-499
24F000	IR-640U-A-6A	SPST*	3.19	2.87	2.71	2.23	2.07
24F001	IR-640U-C-6A	SPDT	3.47	3.12	2.95	2.43	2.26
24F002	IR-640U-2C-6A	DPDT	3.74	3.37	3.18	2.62	2.43
24F003	IR-640U-4C-6A	4PDT	5.50	4.95	4.68	3.85	3.58
24F004	IR-640U-A-24A	SPST*	3.19	2.87	2.71	2.23	2.07
24F005	IR-640U-C-24A	SPDT	3.47	3.12	2.95	2.43	2.26
24F006	IR-640U-2C-24A	DPDT	3.74	3.37	3.18	2.62	2.43
24F007	IR-640U-4C-24A	4PDT	5.50	4.95	4.68	3.85	3.58
24F008	IR-640U-A-120A	SPST*	3.19	2.87	2.71	2.23	2.07
24F009	IR-640U-C-120A	SPDT	3.47	3.12	2.95	2.43	2.26
24F010	IR-640U-2C-120A	DPDT	3.74	3.37	3.18	2.62	2.43
24F011	IR-640U-4C-120A	4PDT	5.50	4.95	4.68	3.85	3.58
24F012	IR-640U-2C-240A	DPDT	4.62	4.16	3.93	3.23	3.00

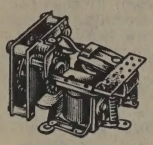
DC VOLTS

24F013	1R-645-A-6D	SPST*	3.19	2.87	2.71	2.23	2.07
24F014	1R-645-C-6D	SPDT	3.47	3.12	2.95	2.43	2.26
24F015	1R-645-2C-6D	DPDT	3.74	3.37	3.18	2.62	2.43
24F016	1R-645-4C-6D	4PDT	5.50	4.95	4.68	3.85	3.58
24F106	1R-645-A-12D	SPST*	3.19	2.87	2.71	2.23	2.07
24F107	1R-645-C-12D	SPDT	3.47	3.12	2.95	2.43	2.26
24F108	1R-645-2C-12D	DPDT	3.74	3.37	3.18	3.62	2.43
24F109	1R-645-4C-12D	4PDT	5.50	4.95	4.68	3.85	3.58
24F017	1R-645-A-24D	SPST*	3.19	2.87	2.71	2.23	2.07
24F018	1R-645-C-24D	SPDT	3.47	3.12	2.95	2.43	2.26
24F019	1R-645-2C-24D	DPDT	3.74	3.37	3.18	3.62	2.43
24F020	1R-645-4C-24D	4PDT	5.50	4.95	4.68	3.85	3.58
24F021	1R-645-A-110D	SPST*	3.19	2.87	2.71	2.23	2.07
24F022	1R-645-C-110D	SPDT	3.47	3.12	2.95	2.43	2.26
24F023	1R-645-2C-110D	DPDT	3.74	3.37	3.18	3.62	2.43
24F024	1R-645-4C-110D	4PDT	5.50	4.95	4.68	3.85	3.58

Guardian Relays

ELECTRICAL RESET STEP RELAY

Type IR-PER

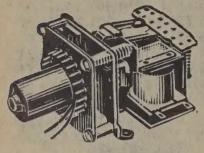


Type MER

Type IR-PER. Positive mechanical stops available to limit "steps." Resets when coil energized. Coil V 120 VAC; 45W (stepping coil), 15W (reset coil). No. of pts: 40. 36 active contacts. Size 3x3⅜x3⁹⁄₁₆. Wt. 22 oz. **Type MER.** Reset stepper with positive acting interlock, actuated by magnet. Positive reset on one-hundredth of second. Coil V 120 VAC. 18W stepping coil, 7W reset coil. No. of pts: 24. 22 active contacts. Size 3¼x2¾₁₆x3 1/9. Wt. 11.5 oz.

Stk. No.	Type & Volts	VA.	1-24	25-49	50-99	100-249	250-499
24F766	IR-PER-120A	50-10	28.90	26.00	24.57	20.23	18.79
24F865	MER-120A	35-9	17.35	15.62	14.75	12.15	11.28
62F1919	MER-24DC	35-9	17.35	15.62	14.75	12.15	11.28

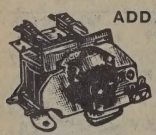
MER-SOL STEP RELAYS



The same as MER Stepper above but with an added Solenoid. Energizing the solenoid physically moves the wiper (S) away from the deck. This allows advance or reset of the wipers without contacting the deck. This innovation adds many switching circuit advantages as well as increasing contact capacity and increasing electrical life. The power input to step magnet is reduced from 35VA to 20VA on this particular unit, (Solenoid is meant to be energized whenever reset coil is energized), because of the greatly reduced friction during reset. 20.8 Watts 20.9 wvolt Amperes 24 points 22 Active contacts 20 Steps P/S. Size L 4⅜" W 3⁵⁄₁₆" H 2³⁄₁₆". Shipping weight 14 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249	250 & Up
62F1862	MER-SOL-120AC	24.75	22.28	21.04	17.33	16.09
62F1863	MER-SOL-24DC	24.75	22.28	21.04	17.33	16.09

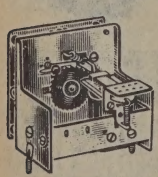
ADD AND SUBTRACT STEP RELAY



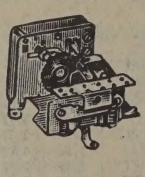
Type IR-MAS. Add and Subtract Stepper. Guardian Steppers intermittent duty units at 10% duty cycle, max. energization single period, 5 min. Coil 120 VAC, 10 W. No. of pts: 30. Zero position switch only 1¹³⁄₁₆x3⅛x3". Shpg. wt., 11 oz.

Stock No.	Type and Volts	VA.	1-24	25-49	50-99	100-249	250-Up
24F772	IR-MAS-120A	12	19.00	17.00	16.15	13.30	12.35

CONTINUOUS ROTATION STEP RELAY



Type IR-P.C.



Type IR-M.C.

Type IR-P.C. Oilite shaft bearing. Beryllium copper pawl control shutter. Solder beaded for easy soldering. Life expectancy at 4,000,000 steps; operate at 15% below, or 10% above voltage. Coil. 120 VAC. 45W; no. of pts.: 40. 40 active contacts. Size 3⅜x3x3⁹⁄₁₆. Wt. 17 oz. **Type IR-M.C.** Smaller rotation stepper similar to P.C.; life expectancy 2,000,000 steps. Coil V 120 VAC, 18W. No. pts. 24. 24 active contacts. Size: 2³⁄₁₆x3x3¼.

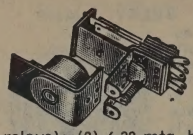
Stk. No.	Type and AC Volts	VA.	1-24	25-49	50-99	100-249	250-Up
24F762	IR-PC-120A	40	21.95	19.76	18.66	15.37	14.27
24F764	IR-MC-120A	30	16.25	14.63	13.81	11.38	10.56

ROTOMITE STEPPER-DC

Continuous rotation on 12 positions up to 20 step per sec. Stepping mechanism, coils and contacts completely (metal) enclosed. 3 amps resistive, 1 amp inductive (50% P.F.). Tests well over 1,000,000 operations. Appr.: bus. machines, lighting, sorting, computer circuits, and counting. Size: 2"L.x1³⁄₁₆" D. Shpg. wt., 5 oz.

Stk. No.	Mfg. No.	VDC	1-24	25-49	50-99	100-249	250-Up
24F125	IR-705-12P-6D	6	7.26	6.53	6.17	5.08	4.72
24F126	IR-705-12P-12D	12					
24F127	IR-705-12P-24D	24					

UNIVERSAL "200" SERIES RELAYS



With coil assembly (coil and field piece) and contact assembly (switch blades, armature, return spring, and mtg. bracket). Contacts: 60 Hz. AC non-induct. Stnd. size: 2⅞ x 1¾ x 1". Midget: 1⅝" long. Mtg. (all 200 relays): (2) 6-32 mtg. holes. .687" ctr. 4 oz.

Stk. No.	Type No.	Volts	1-24	25-49	50-99	100-249	250-Up
24F810	200- 6A	6AC	2.04	1.84	1.73	1.43	1.33
24F811	200- 12A	12AC	2.04	1.84	1.73	1.43	1.33
24F812	200- 24A	24AC	2.04	1.84	1.73	1.43	1.33
24F813	200-120A	120AC	2.37	2.13	2.01	1.66	1.54
24F814	200-240A	240AC	3.14	2.83	2.67	2.20	2.04
24F820	200- 6D	6DC	2.20	1.98	1.87	1.54	1.43
24F821	200- 12D	12DC	2.20	1.98	1.87	1.54	1.43
24F822	200- 24D	24DC	2.20	1.98	1.87	1.54	1.43
24F823	200- 32D	32DC	2.20	1.98	1.87	1.54	1.43
24F824	200-110D	110DC	2.92	2.63	2.48	2.04	1.90
24F815	200-5000D	5000Ω	2.53	2.28	2.15	1.77	1.64
24F829	200-10000D	10000Ω	2.92	2.63	2.48	2.04	1.90

CONTACT SWITCH ASSEMBLIES

*Rating 8 amps. **Rating 10 amps. †Rating 12.5 amps.

Stk. No.	Type	Contacts	1-24	25-49	50-99	100-249	250-Up
24F800	200-1	SPDT*	1.76	1.58	1.50	1.23	1.14
24F801	200-2	DPDT*	2.31	2.08	1.96	1.62	1.56
24F830	200-3	DPDT	1.76	1.58	1.50	1.23	1.14
24F802	200-4	DPDT†	2.59	2.33	2.20	1.81	1.68
24F805	200-5	4PDT*	4.07	3.66	3.46	2.85	2.65
24F803	200-M1	Midget SPDT**	1.65	1.49	1.40	1.16	1.07
24F804	200-M2	Midget DPDT**	2.04	1.84	1.73	1.43	1.33
24F831	200-M3	DPDT	1.76	1.58	1.50	1.23	1.14
24F806	200-M5	Midget 4PDT*	3.30	2.97	2.81	2.31	2.15

SEQUENCE RELAY

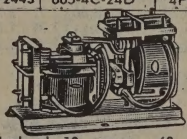
For on/off control of lighting, motors, appliances and speaker applications, among others. Each impulse (up to 10 steps per second) reverses contacts. Contacts rated 12½ amps, 115V, 60 Hz. Size: 3x1³⁄₈x2¹⁄₁₆". Shpg. wt., 7.5 oz.

TYPE 665-DC VOLTS

Stock No.	Type	Cont. Comb.	Volts	1-24	25-49	50-99	100-249	250-Up
24F2437	660-C-24A	SPDT	24	7.54	6.77	6.41	5.28	4.90
24F193	660-C-120A	SPDT	120	7.54	6.77	6.41	5.28	4.90
24F2438	660-2C-24A	DPDT	24	8.14	7.33	6.92	5.70	5.29
24F194	660-2C-120A	DPDT	120	8.14	7.33	6.92	5.70	5.29
24F2439	660-4C-24A	4PDT	24	11.83	10.65	10.06	8.28	7.69
24F2440	660-4C-120A	4PDT	120	11.83	10.65	10.06	8.28	7.69

TYPE 665— DC VOLTS

24F2441	665-C-24D	SPDT	24	7.54	6.77	6.41	5.28	4.90
24F2442	665-2C-24D	DPDT	24	8.14	7.33	6.92	5.70	5.29
24F2443	665-4C-24D	4PDT	24	11.83	10.65	10.06	8.28	7.69

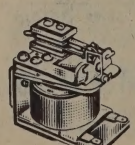


INTERLOCKING RELAY 120V AC

Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits continuously without coil power consumption. Unit is electrically pulse operated with mechanical hold and electrical release. Contacts rated at 10 amps., 60 Hz. non-inductive. Size 1¹³⁄₁₆X1¾x2⅞". 4PDT contacts. Shipping wt., 5.5 oz.

Stock No.	Mfg. No.	1-24	25-49	50-99	100-249	250-Up
24F868	IR-1200/1200-4C-120A	10.40	9.36	8.48	8.32	7.28

AC-60 Hz LATCHING ON/OFF RELAY



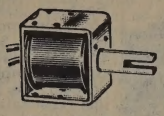
Type IR-640L. Recommended for positive ON/OFF control of positioning devices, remote controls, lighting circuits and many additional applications. Impulse as short as 20 M.S. energizes coil to reverse position of snap-action switches. Holds last position of switch with coil de-energized. Contacts rated for 5 amperes, at 60 Hz, 115 V. AC noninductive load. Size 2¹⁄₁₆" x 1⅝"x1⅛" Shpg. Wt. 4 oz.

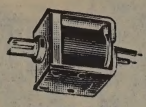
Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-Up
24F097	IR-640L-A-120A	SPST	4.90	4.41	4.17	3.43	3.19
24F098	IR-640L-C-120A	SPDT	5.23	4.71	4.45	3.66	3.40

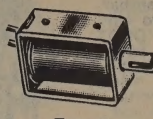
Guardian Solenoids

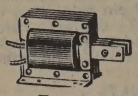
AC AND DC SOLENOIDS

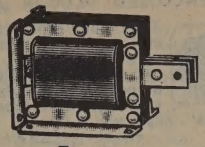
Type 1A1


Type 2 and 4


2HD AC-DC


Type 11


Type 12


Type 14

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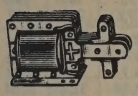
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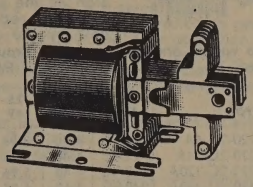
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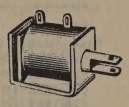
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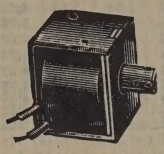
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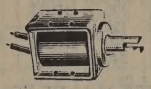
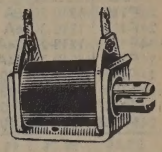

4HD-DC


Type 34AC-DC

Available in both intermittent and continuous duty types. Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85° C. above 24° C. ambient, without giving sufficient time to cool between operation cycles. Continuous duty types are designed so they will not rise more than 85° C. above the 24° C. ambient temperature when operated at rated load. Plunger has slotted end with 1/8" diameter hole for coupling.

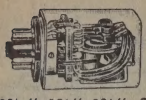
***Pull Data Obtained During "Cold" Operation, when plunger is down.**

Stock No.	Type	Volts	Current	Duty	Ohms	Amps	Adj. Stroke (in.)	Max. *Lift (oz.)	SIZE Height (in.)	SIZE Length (in.)	SIZE Width (in.)	Shpg. Wt. (oz.)	1-24	25-49	50-99	100-249	250-499
24F870	1A1	115	AC	Inter.	300	.17	1/8-1/2	8	1 1/16	1 3/4	1 5/16	4.5	3.47	3.12	2.95	2.43	2.26
24F871	1A1	115	AC	Cont.	675	.076	1/8-3/8	3	1 1/16	1 3/4	1 5/16	4.5	3.47	3.12	2.95	2.43	2.26
24F078	2	115	AC	Inter.	60	.50	1/8-7/8	33	1 5/8	1 9/16	1 7/16	10	4.05	3.65	3.44	2.84	2.63
24F079	2	115	AC	Cont.	166	.155	1/8-7/8	10.5	1 5/8	1 9/16	1 7/16	10	4.05	3.65	3.44	2.84	2.63
62F1897	2HD	115	AC	Inter.	39	.6	1/8-3/4	38	1 11/16	1 13/16	1 7/16	13	9.53	8.58	8.10	6.67	6.19
62F1898	2HD	115	AC	Cont.	113	.13	1/8-3/4	17	1 11/16	1 13/16	1 7/16	13	9.53	8.58	8.10	6.67	6.19
24F872	4	115	AC	Inter	37	.64	1/8-1	24	1 5/8	2	1 7/16	14.5	4.62	4.16	3.93	3.23	3.00
24F873	4	115	AC	Cont.	133	.14	1/8-1	8	1 5/8	2	1 7/16	14.5	4.62	4.16	3.93	3.23	3.00
24F890	11	24	AC	Inter.	3.5	1.7	1/8-1	25	1 3/16	1 5/16	1 27/32	7.5	3.47	3.12	2.95	2.43	2.26
24F080	11	24	AC	Cont.	8	.46	1/8-1	12	1 3/16	1 5/16	1 27/32	7.5	3.47	3.12	2.95	2.43	2.26
24F081	11	115	AC	Inter.	85	.38	1/8-1	25	1 3/16	1 5/16	1 27/32	7.5	3.47	3.12	2.95	2.43	2.26
24F082	11	115	AC	Cont.	200	.1	1/8-1	12	1 3/16	1 5/16	1 27/32	7.5	3.47	3.12	2.95	2.43	2.26
24F086	12	115	AC	Inter.	100	.27	1/8-1	32	1 7/16	1 5/8	1 3/16	6	4.91	4.42	4.16	3.44	3.19
24F087	12	115	AC	Cont.	150	.155	1/8-7/8	22	1 7/16	1 5/8	1 3/16	6	4.91	4.42	4.16	3.44	3.19
24F874	14	115	AC	Inter.	11	1.4	1/8-1 1/2	110	2 1/16	2 7/16	1 15/16	19	6.64	5.98	5.64	4.65	4.32
24F875	14	115	AC	Cont.	18	.52	1/8-1 1/2	60	2 1/16	2 7/16	1 15/16	19	6.64	5.98	5.64	4.65	4.32
24F090	16	115	AC	Inter.	41	.54	1/8-3/4	90	1 7/16	1 5/8	1 1/4	7.5	4.05	3.65	3.44	2.84	2.63
24F876	16	115	AC	Cont.	85	.19	1/8-3/4	50	1 7/16	1 5/8	1 1/4	7.5	4.05	3.65	3.44	2.84	2.63
24F892	16	230	AC	Inter.	200	.230	1/8-3/4	90	1 7/16	1 5/8	1 1/4	7.5	4.05	3.65	3.44	2.84	2.63
24F893	16	230	AC	Cont.	350	.110	1/8-3/4	50	1 7/16	1 5/8	1 1/4	7.5	4.05	3.65	3.44	2.84	2.63
24F092	18	115	AC	Inter.	8.8	1.45	1/8-1	280	2 1/16	2 1/2	2 1/16	13 3/16	5.49	4.94	4.67	3.87	3.57
24F093	18	115	AC	Cont.	19.7	.39	1/8-1	145	2 1/16	2 1/2	2 1/16	13 3/16	5.49	4.94	4.67	3.87	3.57
24F894	18	230	AC	Inter.	45	.590	1/8-1	280	2 1/16	2 1/2	2 1/16	13 3/16	5.98	5.20	4.91	4.05	3.76
24F895	18	230	AC	Cont.	78	.20	1/8-1	145	2 1/16	2 1/2	2 1/16	13 3/16	5.98	5.20	4.91	4.05	3.76
24F754	24	115	AC	Inter.	310	.130	1/16-5/8	16	1	1 1/4	27/32	27/32	3.75	3.38	3.19	3.00	2.44
24F755	24	115	AC	Cont.	500	.07	1/16-5/8	10.5	1	1 1/4	27/32	27/32	3.75	3.38	3.19	3.00	2.44
62F1905	34	115	AC	Inter.	400	.11	1/16-1/2	15	17/64	1 1/8	1 1/16	3/4	2.54	2.29	2.16	1.78	1.65
62F1906	34	115	AC	Cont.	865	.055	1/16-1/2	7	17/64	1 1/8	1 7/64	3/4	2.54	2.29	2.16	1.78	1.65
24F885	4	24	DC	Inter.	15	1.6	1/8-1	110	1 5/8	2 1/16	1 7/16	14.5	4.62	4.16	3.93	3.23	3.00
24F886	4	24	DC	Cont.	54	.48	1/8-7/8	55	1 5/8	2 1/16	1 7/16	14.5	4.62	4.16	3.93	3.23	3.00
24F887	4	115	DC	Inter.	346	.33	1/8-1	110	1 5/8	2 1/16	1 7/16	14.5	4.91	4.42	4.17	3.44	3.19
24F888	4	115	DC	Cont.	1300	.09	1/8-7/8	55	1 5/8	2 1/16	1 7/16	14.5	4.91	4.42	4.17	3.44	3.19
24F889	11	6	DC	Inter.	2	3.00	1/8-7/8	34	1 3/16	1 7/8	1 5/16	7.5	3.47	3.12	2.95	2.43	2.26
24F083	11	6	DC	Cont.	4.5	1.2	1/8-5/8	25	1 3/16	1 7/8	1 5/16	7.5	3.47	3.12	2.95	2.43	2.26
24F891	11	24	DC	Inter.	3.4	.750	1/8-7/8	25	1 3/16	1 7/8	1 5/16	7.5	3.47	3.12	2.95	2.43	2.26
24F084	11	24	DC	Cont.	2.5	.333	1/8-5/8	25	1 3/16	1 7/8	1 5/16	7.5	3.47	3.12	2.95	2.43	2.26
24F756	22	6	DC	Inter.	4	1.27	1/16-3/8	24	3/4	1 1/4	3/4	2.5	3.23	2.91	2.75	2.26	2.10
24F757	22	6	DC	Cont.	9	.667	1/16-1/4	13	3/4	1 1/8	3/4	2.5	3.23	2.91	2.75	2.26	2.10
24F758	22	24	DC	Inter.	60	.4	1/16-3/8	24	3/4	1 1/8	3/4	2.5	3.23	2.91	2.75	2.26	2.10
24F759	22	24	DC	Cont.	144	.167	1/16-1/4	13	3/4	1 1/8	3/4	2.5	3.23	2.91	2.75	2.26	2.10
24F176	28	24	AC	Inter.	7.5	.900	1/16-1/2	35	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F177	28	24	AC	Cont.	17.4	.340	1/16-1/2	20	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F178	28	115	AC	Inter.	220	.160	1/16-1/2	35	1 3/16	1 1/8	1 5/16	3.5	3.75	3.38	3.19	3.00	2.44
24F179	28	115	AC	Cont.	400	.077	1/16-1/2	20	1 3/16	1 1/8	1 5/16	3.5	3.75	3.38	3.19	3.00	2.44
24F218	28	6	DC	Inter.	3.3	1.80	1/16-1/2	35	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F219	28	6	DC	Cont.	7.7	.78	1/16-3/8	24	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F220	28	12	DC	Inter.	13	.92	1/16-1/2	35	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F221	28	12	DC	Cont.	27	.45	1/16-3/8	35	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F222	28	24	DC	Inter.	50	.48	1/16-1/2	41	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
24F223	28	24	DC	Cont.	104	.23	1/16-3/8	24	1 3/16	1 1/8	1 5/16	3.5	3.23	2.91	2.75	2.26	2.10
62F1899	2HD	24	DC	Inter.	20	1.2	1/8-3/4	100	1 1/16	1 1/8	1 7/16	13	9.82	8.84	8.35	6.87	6.38
62F1900	2HD	24	DC	Cont.	64	0.4	1/8-3/4	50	1 11/16	1 25/32	1 7/16	13	9.82	8.84	8.35	6.87	6.38
62F1901	4HD	24	DC	Inter.	15	1.6	1/8-3/4	156	1 5/8	1 25/32	1 7/16	13	7.05	6.35	5.99	4.94	4.58
62F1902	4HD	24	DC	Cont.	50	.092	1/8-3/4	70	1 5/8	2 3/16	1 7/16	15	7.05	6.35	5.99	4.94	4.58
62F1903	4HD	115	DC	Inter.	350	.48	1/8-3/4	156	1 5/8	2 3/16	1 7/16	15	7.05	6.35	5.99	4.94	4.58
62F1904	4HD	115	DC	Cont.	1200	.33	1/8-3/4	70	1 5/8	2 3/16	1 7/16	15	7.05	6.35	5.99	4.94	4.58
62F1907	34	6	DC	Inter.	4.0	1.4	1/16-1/2	17	17/64	2 3/16	3/4	2.5	2.54	2.29	2.16	1.78	1.63
62F1908	34	6	DC	Cont.	9.1	.66	1/16-1/2	8.5	17/64	1 1/8	3/4	2.5	2.54	2.29	2.16	1.78	1.63
62F1909	34	24	DC	Inter.	66	.36	1/16-1/2	17	17/64	1 1/8	3/4	2.5	2.54	2.29	2.16	1.78	1.63
62F1910	34	24	DC	Cont.	145	.16	1/16-1/2	8.5	17/64	1 1/8	3/4	2.5	2.54	2.29	2.16	1.78	1.63

Relays

GUARDIAN RELAYS

ENCLOSED PLUG-IN AC-DC RELAY



Type 1210. Type 1215. Enclosed in a transparent, lightweight Lexan case, resistant to temperatures of 200°F. 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated for 10 amperes and 60 Hz. 120 V. AC non-inductive load. A.C. types. U.L. listed. Size 2 3/32"x1 3/8"x1 3/8". Shpg. wt., 3.5 oz.

TYPE 1210—AC VOLTS

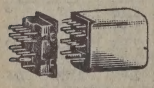
Stock No.	Type	Volts	Cont. Comb.	1-24	25-49	50-99	100-249
24F115	1210-2C-6A	6	DPDT	6.60	5.94	5.61	4.62
24F116	1210-3C-6A	6	3PDT	8.25	7.43	7.01	5.78
24F117	1210-2C-24A	24	DPDT	6.60	5.94	5.61	4.62
24F118	1210-3C-24A	24	3PDT	8.25	7.43	7.01	5.78
24F119	1210-2C-120A	120	DPDT	6.60	5.94	5.61	4.62
24F120	1210-3C-120A	120	3PDT	8.25	7.43	7.01	5.78
24F2457	1210-2C-240A	240	DPDT	6.88	6.19	5.85	4.82
24F2458	1210-3C-240A	240	3PDT	8.35	7.68	7.25	5.97

TYPE 1215—DC VOLTS

24F121	1215-2C-6D	6	DPDT	6.60	5.94	5.61	4.62
24F122	1215-3C-6D	6	3 PDT	8.25	7.43	7.01	5.78
24F2459	1215-2C-12D	12	DPDT	6.60	5.94	5.61	4.62
24F2460	1215-3C-12D	12	3 PDT	8.25	7.43	7.01	5.78
24F123	1215-2C-24D	24	DPDT	6.60	5.94	5.61	4.62
24F124	1215-3C-24D	24	3 PDT	8.25	7.43	7.01	5.78
24F2461	1215-2C-110D	110	DPDT	7.15	6.44	6.08	5.01
24F2462	1215-3C-110D	110	3 PDT	7.80	7.92	7.48	6.16

Type 1210N. Neon lamp lights when coil is energized or indicates circuit fault. Contacts 10 amp at 120VAC. Wt., 3.5 oz.

Stock No.	Mfg. No.	Coil Res.	Cont. Comb.	1-24	25-49	50-99	100-249
24F191	1210N-2C-120A*	1110	DPDT	7.43	6.69	6.32	5.20
24F192	1210N-3C-120A†	1110	3PDT	8.80	7.92	7.48	6.16



1310 AC, 1315 DC. Miniature plug-in relays. Contact arrangement: 4PDT with contacts rated at 5amp at 115v. AC or 30 volts DC resistive. Power req. approx. 1.2 volt amp. at nom. voltage for AC 0.9 watts for DC. Temp. range —45°C to 70°C. Insulation resistance 1500 megohms minimum. Shipping wt. 1½ oz.

Stk. No.	Type	Coil Voltage	25-49	50-99	100-249	250-499	500-Up
24F3232	1310-4C	6AC	5.50	4.95	4.44	3.85	3.58
24F3233	1310-4C	12AC	5.50	4.95	4.44	3.85	3.58
24F3234	1310-4C	24AC	5.50	4.95	4.44	3.85	3.58
24F3235	1310-4C	120AC	5.85	5.26	4.68	4.09	3.80
24F3236	1315-4C	6DC	4.50	4.05	3.60	3.15	2.93
24F3237	1315-4C	12DC	4.50	4.05	3.60	3.15	2.93
24F3238	1315-4C	24DC	4.50	4.05	3.60	3.15	2.93
24F3239	1315-4C	110DC	5.25	4.72	3.20	3.15	3.14

Printed Circuit Type 1310P AC, 1315P DC. Contacts rated 5 amp at 30VDC or 115VAC. Life 100 million operations. Wt. 1-⅛ oz.

Stk. No.	Type	Coil Voltage	25-49	50-99	100-249	250-499	500-Up
24F3240	1310P-4C	6AC	5.50	4.95	4.44	3.85	3.58
24F3241	1310P-4C	12AC	5.50	4.95	4.44	3.85	3.58
24F3242	1310P-4C	24AC	5.50	4.95	4.44	3.85	3.58
24F3243	1310P-4C	120AC	5.85	5.26	4.68	4.09	3.80
24F3244	1315P-4C	6DC	4.50	4.05	3.60	3.15	2.93
24F3245	1315P-4C	12DC	4.50	4.05	3.60	3.15	2.93
24F3246	1315P-4C	24DC	4.50	4.05	3.60	3.15	2.93
24F3247	1315P-4C	110DC	5.25	4.72	4.20	3.67	3.41

SERIES 1220 AC-1225 DC RELAY

Features "UNI-GUARD" continuous loop moving blades; AMP Faston 110 Series quick connect or socket plug-in. The 1220 Relay comes complete with mounting bracket. The 1220/1220 is an electrical reset relay 1220M is a manual reset relay with same concept design as the standard 1220 series. Relay is reduced in height and cost by the elimination of radio type plug extra wiring and sub assembly between relay and plug. U/L Recognized. 1 5/32" x 1 11/16" x 1-9/16". DPDT except *3PDT

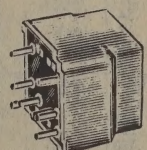
Stk. No.	Type	Coil Volt	1-24	25-49	50-99	100-249	250-499
62F1881	IR-1220-2C-6A	6AC	4.40	3.96	3.74	3.08	2.86
62F1882	IR-1220-2C-24A	24Ac	4.40	3.96	3.74	3.08	2.86
62F1883	IR-1220-2C-120A	120AC	4.40	3.96	3.74	3.08	2.86
62F1884	IR-1220-2C-240A	240AC	4.68	4.21	3.98	3.28	3.04
62F1885	IR-1220-3C-6A*	6AC	4.95	4.46	4.21	3.47	3.22
62F1886	IR-1220-3C-24A*	24AC	4.95	4.46	4.21	3.47	3.22
62F1887	IR-1220-3C-120A*	120AC	4.95	4.46	4.21	3.47	3.22
62F1888	IR-1220-3C-240A*	240AC	5.23	4.71	4.45	3.66	3.40
62F1889	IR-1225-2C-6D	6DC	4.40	3.96	3.74	3.08	2.86
62F1890	IR-1225-2C-12D	12DC	4.40	3.96	3.74	3.08	2.86
62F1891	IR-1225-2C-24D	24DC	4.40	3.96	3.74	3.08	2.86
62F1892	IR-1225-2C-110D	110DC	4.68	4.21	3.98	3.28	3.04
62F1893	IR-1225-3C-6D*	6DC	4.95	4.46	4.21	3.47	3.22
62F1894	IR-1225-3C-12D*	12DC	4.95	4.46	4.21	3.47	3.22
62F1895	IR-1225-3C-24D*	24DC	4.95	4.46	4.21	3.47	3.22
62F1896	IR-1225-3C-110D*	110DC	5.23	4.71	4.45	3.66	3.40

MANUAL RESET (1220M)

24F3428	1220M-2C-24A	24AC	6.05	5.45	5.14	4.24	3.93
24F3429	1220M-2C-120A	120AC					
24F3430	1225M-2C-24D	24DC					

LATCHING RESET (1220/1220)

24F3431	IR-1220/1220-2C-24A	24AC	13.75	12.38	11.69	9.63	8.94
24F3432	IR-1220/1220-2C-120A	120AC					
24F3433	IR-1225/1225-2C-24D	24DC					



NEW 1350PC AND 1355PC

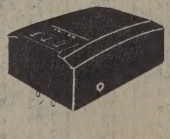
Series 1350. Printed Circuit Plug-In Relay. COIL: Standard voltages from 6-120V AC, 60Hz and from 6-110V DC. Volt Range: Operates satisfactorily from 15% below rated voltage and will not be damaged when continuously energized at 10% above rated voltage. Insulation Resistance: Minimum of 500,000 megohms measured at 500V DC. Terminals: .060 diameter on .1 grid spacing, 13/64" long. CONTACTS: Contacts are rated for 3 amperes at 115V AC resistive. Material: Fine silver or silver alloy. Combination: 2 pole dbl. throw—switch cap. Insulation: Glass epoxy contact terminal board & molded nylon cover. Size 1-1/16" x 31/32".

Stk. No.	Model	Coil Voltage	1-24	25-49	50-99	100-249	250-Up
62F1942	IR-1350PC-2C-24A	24AC	4.20	3.78	3.57	3.36	2.94
62F1943	IR-1350PC-2C-120A	120AC	4.55	4.09	3.87	3.64	3.18
62F1944	IR-1355PC-2C-6D	6DC	4.20	3.78	3.57	3.36	2.94
62F1945	IR-1355PC-2C-12D	12DC	4.20	3.78	3.57	3.36	2.94
62F1946	IR-1355PC-2C-24D	24DC	4.20	3.78	3.57	3.36	2.94

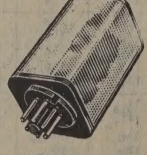
ALCO

ISOLATION RELAYS

FR101 FR102



FRE103



FRP104

Millions of applications because of compact size. Typical uses are in automatic apparatus demanding isolated control circuits. Relay combines isolated step down transformer & sensitive low volt, relay in a single laminated core construction. Operates from 95-125 VAC.

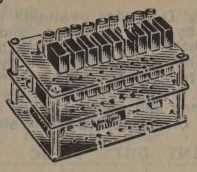
Model FRP-104. A standard octal base plug feature is added to the basic isolation relay for the industrial user. The relay is protected by a plastic dust cover. SPDT @ 5 amps. Same specs as above.

Model FRE-103. SPDT plug-in relay has 3-way receptacle top portion. Comes in plastic case. Same specs as above.

Stk.No.	Type	Action	1-99	100-499	500-999
61F968	FR-101	SPST	3.85	3.01	2.62
61F969	FR-102	SPDT	4.45	3.47	3.03
61F1206	FRE-103	SPDT	4.95	3.82	3.37
61F970	FRP-104	SPDT	5.45	4.25	3.71

Guardian Relays

•NEW SLS 100 SERIES



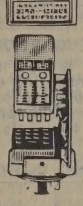
Steppers are the only power solid state steppers to accept either high level or logic level inputs with high noise immunity for industrial applications. Output of each step is a 120 VAC 2½ amp switch, constructed so that many configurations can be accomplished from stacked modules. Standard "off the shelf" models have ten or twenty steps. Units may be obtained with pulsers to make them self-stepping steppers. They can be cascaded or paralled to perform complex switching and control functions. Built for operation on input power of 120 VAC, 50-60 Hz or 400 Hz and 24 VDC. All solid state construction offers the advantages of mechanical noise free operation and under proper operating conditions, practically unlimited life.

(*) A in part number indicates step advance by either mechanical switch closure or D.C. pulse.
(**) S indicates self-stepping.

Stk. No.	Type	Volts	Steps	1-24	25-49	50-99	100-up
39F3016	SLS110-2A111	120 VAC	10	130.00	123.50	117.00	97.50
39F3017	SLS110-1A211	24 VDC	10	112.00	106.40	100.80	84,00
39F3018	SLS120-2A111	120 VAC	20	225.00	214.25	202.95	169.15
39F3019	SLS120-1A211	24 VDC	20	189.40	181.95	170.45	142.05
39F3020	SLS110-25111	120 VAC	10	137.50	130.15	122.62	107.75
39F3021	SLS110-15211	24 VDC	10	119.50	113.05	106.42	89.25
39F3022	SLS120-25111	120 VAC	20	232.50	221.90	208.57	174.40
39F3023	SLS120-15211	24 VDC	20	196.90	188.60	176.07	147.30
62F1947	SLS Connector Kit			1.00			

SERIES IR-BDT

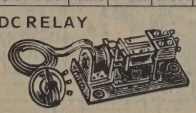
•WILL OPERATE ON LOW OR HIGH LINE
•REPLACEABLE ELECTRO-MECHANICAL RELAY



Time delay incorporates an all silicone transistor circuit which operates over a wide input range of 75-125VAC 50-60 Hz, and draws only 5 ma prior to time out. Temp. stability is inherrent. Positive reset of the tantalum capacitor is assured by the use of internal control. Solid state circuit by design is immune to transient noise found on commercial power lines. Transient voltages up to 2500 volts peak (short duration) can be tolerated. Output 5 amp DPDT contacts (output relay U/L listed). Accuracy thru temp and volt range 10%. Size 2⅕"H x 1½"W x 1⅗"D.

Stk. No.	Model	Volts	Delay Range	1-24	25-49	50-99	100-up
39F3024	IR-BDT-0-10-120V	120 VAC	1 to 10 sec.	17.10	16.25	15.40	12.80
39F3025	IR-BDT-0-60-120V	120 VAC	10 to 60 Sec.	17.60	16.75	15.85	13.20
39F3026	IR-BDT-0-10-24V	24 VDC	1 to 10 Sec.	16.90	16.05	15.20	12.65
39F3027	IR-BDT-0-60-24V	24 VDC	10 to 60 Sec.	17.10	16.25	15.40	12.80

RESET OVERLOAD DC RELAY



Type X300-ER. Protects from current surges and continues overloads. Remote panel installation of control potentiometer simplifies adjustment of relay to operate on any current value from 250 to 750 ma. Auxiliary for pilot light indication of "overload" or "clear" position. Insulation, coil to ground rated 3,000 V. Size: 4¾x2x1 15/16". Shpg. wt. 13 oz.

Stk. No.	Type	Volts	1-24	25-49	50-99	100-249	250-Up
24F852	X300-ER	6 AC	11.00	9.90	9.35	7.70	7.15

ENGINEER'S CONTACT SWITCH KIT

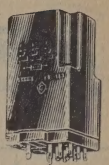
Indispensable to those who design, build, repair or test electrical controls. Contains large assortment of switch blades, contacts, separators, adapters, fish papers, bushings, etc. All standard high-quality Guardian parts. Shpg. wt. 1¾ lbs.
24F094 NET 12.50

32-POLE DC RELAY

Type IR-805-S. Group selector relay can simultaneously make common up to 32 circuits. All circuits insulated from ground. Contact blades molded in thermosetting phenolic. Phenolic plunger housing, 32 poles made common upon energization. Coil Res. Ohms 72. Size, 2 7/32"x1 17/32"2⅛". Shpg. wt., 6 oz.
oz.

Stock No.	Type	Volts	1-24	25-49	50-99	100-249	250-up
24F058	IR-805-S	24 DC	5.50	4.95	4.68	3.85	3.58

SERIES TD

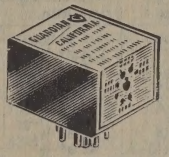


Series TD

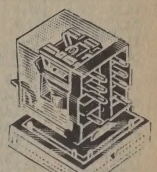
Accurate and compact solid state time delay. 3 PDT contacts handle up to 10 amp resistive load. Six standard model relays for 24VDC and 120 VAC 50/60 cycles provike delays from 1 to 180 sec. All units utilize silicon semiconductors and precision tantalum capacitors for reliability. 15 turn screw-type potentiometer furnishes high resolution and accuracy. Accurate to 5% of a nominal setting over its complete temperature and voltage range. Repeatability is 2% after a line interruption of 50 milliseconds. Termination can be quick disconnects socket or solder connections. Size 3"x1⅜"x1 9/16". Shipping weight, 5 oz.

Stock No.	Type No.	Coil Volts	Adj. Range (Sec)	1-49	50-99	100-Up
62F1912	TDO-62C30-120A	120VAC	.5-30	16.32	15.69	14.52
62F1913	TD-33C15-24D	24VDC	1-15	24.20	21.88	19.69
62F1914	TD-33C60-24D	24VDC	10-60	25.19	22.67	20.40
62F1915	TD-33C180-24D	24VDC	50-180	32.09	29.88	26.90
62F1916	TD-63C15-120A	120VAC	1-15	29.70	26.73	24.06
22F1917	TD-63C60-120A	120VAC	10-60	30.06	27.54	24.79
62F1918	TD-63C180-120A	120VAC	50-180	36.85	33.16	29.84

TIME DELAY MODULES



TMP-O
TMP-R



TMT-O
TMT-R

Model TMT. SPNO: Solid state time delay module. Relay driver with external resistor adjustment for setting desired with external resistor adjustment for setting desired time delay. For 100 sec. unit, 22K/sec up to 2.2 megs; for 300 sec. unit, 5K/sec up to 1 meg. Modules may be interconnected (stacked)) to increase time delay. Screw mounting; center hole, 11/64" dia. Size: 2" long by 2" wide by .63" thick. Contacts: Solder tabs (tapered). **Model TMP.** Same as Model TMT but with standard octal plug mounting and no solder tabs. (TMTO and TMPO-time delay on operate; TMTR and TMPR-time on release).

Stk. No.	Type	Time Range Sec	Volts	1-49	50-99	100-Up
62F1926	IR-TMT-O-100-24D	5-100	24DC	11.59	11.10	10.41
62F1927	IR-TMT-R-100-24D	.5-100	24DC	15.60	14.94	14.01
62F1928	IR-TMT-O-300-24D	100-300	24DC	14.76	14.14	13.26
62F1929	IR-TMT-R-300-24D	100-300	24DC	18.72	17.94	16.82
62F1930	IR-TMT-O-100-120A	.5-100	120AC	11.59	11.10	10.41
62F1931	IR-TMT-R-100-120A	.5-100	120AC	15.60	14.94	14.01
62F1932	IR-TMT-O-300-120A	100-300	120AC	14.76	14.14	13.26
62F1933	IR-TMT-R-300-120A	100-300	120AC	18.72	17.94	16.82
62F1934	IR-TMP-0-100-24D	.5-100	24DC	12.91	12.37	11.60
62F1935	IR-TMP-R-100-24D	.5-100	24DC	17.48	16.75	15.71
62F1936	IR-TMP-O-300-24D	100-300	24DC	15.25	14.61	13.70
62F1937	IR-TMP-R-300-24D	100-300	24DC	19.86	19.02	17.84
62F1938	IR-TMP-O-100-120A	.5-100	120AC	12.91	12.37	11.60
62F1939	IR-TMP-R-100-120A	.5-100	120AC	17.48	16.75	15.71
62F1940	IR-TMP-O-300-120A	100-300	120AC	15.25	14.61	13.70
62F1941	IR-TMP-R-300-120A	100-300	120AC	19.86	19.02	17.84

SOLID STATE RELAYS

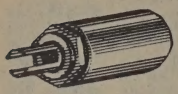
Series 6100-6200. Universal (A.C. or D.C.) control voltage with complete circuit isolation from the load switching circuit. Externally adjustable pull in voltage level from 80-130 VAC or DC, with close differential between pull in and drop out for applications where accurate voltage sensing is required. Control of high inrush lamp, inductive or normal resistive leads is maintained from 10 ma to 3 amps. Internal filtering prevents random turn on of "off" contacts. Sizes (A) 2"x1 9/16"x1 1/16" (B) 2¾"x1⅜x1⅜" (C) 3"x1⅜"x1 7/16" (D) 3 3/16"x1 15/16"x1 15/16" Wt. 6300 8 oz.

SOLID STATE RELAYS

Stk. No.	Type	Contacts	Amps	Size	1-49	50-99	100 & Up
62F1854	6100-THA	SPST N,O	1	A	17.95	16.16	15.26
62F1855	6110-OHA	SPST N,O	1	B	18.50	16.85	15.73
62F1856	6100-THC	SPDT	1	A	22.95	20.66	19.51
62F1857	6110-OHC	SPDT	1	B	23.50	21.15	19.98
62F1858	6300-THA	SPST N,O	3	C	20.45	18.40	17.38
62F1859	6310-OHA	SPST N,O	3	D	20.95	18.86	17.81
62F1860	6300-THC	SPDT	3	C	27.45	24.71	23.33
62F1861	6310-OHC	SPDT	3	D	28.95	26.06	24.61

Guardian Solenoids

PULL TYPE SOLENOIDS



Tubular Solenoids from a 7/16 to a 1½" Diameter available in both Intermittent and Continuous Duty 24VDC. Clear design allows side by side mounting, and permitting easy installation just insert threaded bushing through chassis hole and tighten furnished nut. Computers, Aircraft and missels, Office Equipment and Copy Machines are some of the typical applications for these products. Intermittent Types cannot be energized for more than 1 minute or be permitted to rise more than 85°C above 25°C ambient, without giving sufficient time to cool between operations. Continuous Duty Types are designed so that they will not rise more than 85°C above the 25°C ambient temperature when operated at rated load. Life expectancy at rated load is 10 million cycles.

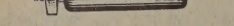
TUBULAR INTERMITTENT DUTY 24VDC

Stk. No.	Type	Stroke & Lift Oz. Per Inch Min.	Max.	Size, Inches L X Dia.	Ohms	Watts	1-24	25-49	50-99	100-249	250-499
24F2971	T3.5x9	11 at 1/32"	.5 at 1/2"	1 1/8x3/16	58	10	3.10	2.79	2.64	2.48	2.17
24F2972	T4x7	10 at 1/32"	.5 at 1/4"	7/8x1/2	82	7	4.20	3.78	3.57	3.36	2.49
24F2973	T4x12	15 at 1/32"	.5 at 5/8"	1 1/2x1/2	38	12	4.50	4.05	3.83	3.60	3.15
24F2974	T4x6	17 at 1/32"	.5 at 13/16"	2x1/2	28	20	4.80	4.32	4.08	3.84	3.36
24F2975	T6x12	35 at 1/16"	1 at 5/8"	1 1/2x3/4	25	12	5.00	4.50	4.25	4.00	3.50
24F2976	T8x9	50 at 1/16"	1 at 9/16"	1 1/4x1	30	19	5.15	4.63	4.38	4.12	3.60
24F2977	T8x16	80 at 1/16"	2 at 1 1/4"	2x1	15	38	5.40	4.86	4.59	4.32	3.78
24F2978	T12x13	150 at 1/8"	4 at 7/8"	1 5/8x1 1/2	14	40	6.50	5.85	5.52	5.20	4.55
24F2979	T12x19	175 at 1/8"	6 at 1 1/2"	2 3/8x1 1/2	9.5	60	7.10	6.39	6.03	5.68	4.97

TUBULAR CONTINUOUS DUTY 24VDC

Stk. No.	Type	Stroke & Lift Oz. Per Inch Min.	Max.	Size, Inches L X Dia.	Ohms	Watts	1-24	25-49	50-99	100-249	250-499
24F2980	T3.5x9	8 at 1/32"	.25 at 5/16"	1 1/8x3/16	295	3	3.20	2.88	2.72	2.57	2.24
24F2981	T4x7	4 at 1/32"	.25 at 5/32"	7/8x1/2	240	2.4	4.30	3.87	3.65	3.44	3.01
24F2982	T4x12	6 at 1/32"	.25 at 5/16"	1 1/2x1/2	165	2.6	4.60	4.14	3.91	3.68	3.22
24F2983	T4x16	10 at 1/32"	.5 at 7/8"	2x1/2	145	4	4.90	4.41	4.16	3.92	3.43
24F2984	T6x12	20 at 1/16"	1 at 1/2"	1 1/2x3/4	165	4.8	5.10	4.59	4.33	4.08	3.57
24F2985	T8x9	15 at 1/16"	1 at 3/8"	1 1/8x1	145	4.5	5.20	4.68	4.42	4.16	3.64
24F2986	T8x16	40 at 1/16"	2 at 11/16"	2x1	105	6	5.50	4.95	4.65	4.40	3.85
24F2987	T12x13	48 at 1/8"	1 at 3/4"	1 5/8x1 1/2	82	6.6	6.70	6.03	5.69	5.36	4.69
24F2988	T12z19	80 at 1/8"	1 at 1 1/4"	2 3/8x1 1/2	58	10	7.20	6.48	6.12	5.76	5.04

• NEW PUSH TYPE SOLENOIDS



The T3.5, T4 (in two lengths) and the T6 have been fitted with non-magnetic metal push rods which push out from the threaded mounting end of the solenoid and are designated as TP3.5, TP4, and TP6 types in tubular solenoid construction the push types are equal in "lift" to pull type. For all push type tubular solenoids in the table below the lengths of the push rods are the same as the maximum stroke lengths specified. Hex nuts as well as "L" shaped brackets for either panel or surface mounting are furnished.

TUBULAR INTERMITTENT DUTY 24VDC

Stk. No.	Type	Stroke Max.	Min.	Size	Ohms	Watts	Wt. Oz.	1-24	25-49	50-99	100-249	250-499
24F3434	TP3.5x9	1102 at 1/32"	0.5 Oz. at 1/2"	1 1/8x7/16	57	10	3.5	3.60	3.29	3.14	2.98	2.67
24F3435	TP4x12	1502 at 1/32"	0.5 Oz. at 5/8"	1 1/2x1/2	48	12	3.5	5.00	4.55	4.33	4.10	3.65
24F3436	TP4x16	1702 at 1/32"	0.5 Oz. at 13/16"	2x1/2	29	20	3.5	5.30	4.82	4.58	4.34	3.86
24F3437	TP6x12	3502 at 1/16"	1 Oz. at 5/8"	1 1/2x3/4	48	12	5	5.50	5.00	4.75	4.50	4.00

TUBULAR CONTINUOUS DUTY 24VDC

24F3438	TP3.5x9	8 Oz. at 1/32"	.25 Oz. at 5/16"	1 1/8x7/16	195	3	3.5	3.70	3.38	3.22	3.07	2.74
24F3439	TP4x12	6 Oz. at 1/32"	.25 Oz. at 5/16"	1 1/2x1/2	220	2.6	3.5	5.10	4.64	4.41	4.18	3.72
24F3440	TP4x16	10 Oz. at 1/32"	.05 Oz. at 7/8"	2x1/2	145	4	3.5	5.40	4.91	4.66	4.42	3.93
24F3441	TP6x12	20 Oz. at 1/16"	1 Oz. at 1/2"	1 1/2x3/4	125	4.8	5	5.60	5.09	4.83	4.58	4.07

BOX FRAME INTERMITTENT DUTY

Stk. No.	Type	Volts	Ohms	Stroke Max.	Min.	Watts	1-24	25-49	50-99	100-249	250-499
24F3442	11P	24AC	3.5	20 Oz. at 1/8"	4.8 Oz. at 1"	7.5	3.97	3.62	3.45	2.93	2.76
24F3443	11P	120AC	85	20 Oz. at 1/8"	4.8 Oz. at 1"	7.5	3.97	3.62	3.45	2.93	2.76
24F3444	11P	6DC	2	32 Oz. at 1/8"	1.6 Oz. at 3/4"	7.5	3.97	3.62	3.45	2.93	2.76
24F3445	11P	24DC	31	32 Oz. at 1/8"	1.6 Oz. at 3/4"	7.5	3.97	3.62	3.45	2.93	2.76
24F3446	16P	120AC	41	90 Oz. at 1/8"	30 Oz. at 3/4"	7.5	4.55	4.15	3.94	3.34	3.13
24F3447	18P	120AC	8.8	280 Oz. at 1/8"	80 Oz. at 1"	16.5	5.99	5.54	5.17	4.34	4.07
24F3448	28P	24AC	7.5	28 Oz. at 1/16"	4 Oz. at 1/2"	3.5	3.97	3.62	3.45	2.93	2.76
24F3449	28P	120AC	220	28 Oz. at 1/16"	4 Oz. at 1/2"	3.5	4.25	3.88	3.69	3.50	2.94
24F3450	28P	6DC	3.3	28 Oz. at 1/16"	1.6 Oz. at 1/2"	3.5	3.73	3.41	3.25	2.76	2.60
24F3451	28P	12DC	13	28 Oz. at 1/16"	1.6 Oz. at 1/2"	3.5	3.73	3.41	3.25	2.76	2.60
24F3452	28P	24DC	50	28 Oz. at 1/16"	1.6 Oz. at 1/2"	3.5	3.73	3.41	3.25	2.76	2.60

Sizes: 11P—1 5/16x1 27/32x1 3/16, 16P-1 5/8x1 1/4x1 1/2, 18P-2 1/2x1 13/16x2 1/16, 28P - 1 1/2x1 5/16x1 3/16

BOX FRAME CONTINUOUS DUTY

Stk. No.	Type	Volts	Ohms	Stroke Max.	Min.	Watts	1-24	25-49	50-99	100-249	250-499
24F3453	11P	24AC	8	9.6 Oz. at 1/8"	0.8 Oz. at 1"	7.5	3.97	3.62	3.45	2.93	2.76
24F3454	11P	120AC	200	9.6 Oz. at 1/8"	0.8 Oz. at 1"	7.5	3.97	3.62	3.45	2.93	2.76
24F3455	11P	6DC	4.5	20 Oz. at 1/8"	0.8 Oz. at 3/4"	7.5	3.97	3.62	3.45	3.93	2.76
24F3456	11P	24DC	72	20 Oz. at 1/8"	0.8 Oz. at 3/4"	7.5	3.97	3.62	3.45	3.93	2.76
24F3457	16P	120AC	85	50 Oz. at 1/8"	10 Oz. at 3/4"	7.5	4.55	4.15	3.94	3.34	3.13
34F3458	18P	120AC	19.7	145 Oz. at 1/8"	40 Oz. at 1"	16.5	5.99	5.54	5.17	4.34	4.07
24F3459	28P	24AC	17.4	16 Oz. at 1/16"	2 Oz. at 1/2"	3.5	3.97	3.62	3.45	2.93	2.76
24F3460	28P	120AC	400	16 Oz. at 1/16"	2 Oz. at 1/2"	3.5	4.25	3.88	3.69	3.50	2.94
24F3461	28P	6DC	7.7	19 Oz. at 1/16"	0.8 Oz. at 3/8"	3.5	3.73	3.41	3.25	2.76	2.60
24F3462	28P	12DC	27	19 Oz. at 1/16"	0.8 Oz. at 3/8"	3.5	3.73	3.41	3.25	2.76	2.60
24F3463	28P	24DC	104	19 Oz. at 1/16"	0.8 Oz. at 3/8"	3.5	3.73	3.41	3.25	2.76	2.60

SERIES 11 SPDT RELAYS

Small, low cost relays for 1 ampere switching at 28 VDC/115 VAC resistive. DC types are designed for sliding current or on-off 50 mw signals. AC is used for .3va on-off signals. Good environmental capability. UL and CSA listed. 11F and 11 FZ screw mounting with solder lug terminals. $1\frac{7}{32}$" x $1\frac{3}{16}$ x $1\frac{1}{16}$". 11 FP shoulder lug mounting with printed circuit terminals, $1\frac{7}{32}$" sq. x $1\frac{5}{16}$". Temp. range: —40 to +122° F. Shpg. wt. 3 oz.

DC RELAYS

Stock No.	Type and Coil Ohms	Ma DC	Nominal Voltage	1-99	100-249	250-499
24F1987	11F-250-G-SIL	14.0	6VDC	2.70	2.57	2.43
24F1988	11F-550-G-SIL	9.5	·····	2.70	2.57	2.43
24F360	11F-1000-G-SIL	7.0	12VDC	2.70	2.57	2.43
24F361	11F-2300-G-SIL	4.6	·····	2.70	2.57	2.43
24F362	11F-6000-G-SIL	2.9	24VDC	2.95	2.80	2.66
24F363	11F-9000-G-SIL	2.4	·····	3.25	3.09	2.43
24F1990	11FP-1000-G-SIL	7.0	12VDC	2.80	2.66	2.52
24F1991	11FP-2300-G-SIL	4.6	·····	2.80	2.66	2.52
24F3161	11FP-6000-G-SIL	2.9	24VDC	3.25	3.09	2.93

AC RELAYS

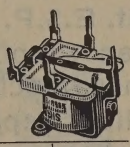
Stock No.	Type and Coil ohms	Volts AC	1-49	50-74	75-99	100-249
24F380	11FZ-9000-ACS-SIL	115	4.95	4.70	4.46	3.96

SERIES 50 DPDT, 3PDT RELAYS

Enclosed, plug-in, compact, multipole relay for switching of industrial loads of 5 or 10 amps. 10 million oper. mech. life. Temp. range: +14°F to +141°F. Contact rating: 10 amps at 28 VDC/115 VAC. H.$2\frac{3}{32}$" x $1\frac{3}{8}$" sq. 20R02. 50R0L2: 8-pin plug. 50R03, 11-pin plug. UL/CSA listed. Shpg. wt. 4 oz.

Stock No.	Type SCO & Coil V.	Coil Ohms	Action	1-49	50-74	75-99	100-249
24F2705	50R02-12AC	23.5	DPDT	6.00	5.70	5.40	4.80
24F2706	50R02-24AC	95	DPDT	6.00	5.70	5.40	4.80
24F2707	50R02-115AC	2300	DPDT	6.00	5.70	5.40	4.80
24F3139	50R0L2-115AC	2300	DPDT	7.10	6.75	6.39	5.64
24F2709	50R02-12DC	95	DPDT	6.00	5.70	5.40	4.80
24F2710	50R02-24DC	430	DPDT	6.00	5.70	5.40	4.80
24F2019	50R02-48DC	1630	DPDT	6.00	5.70	5.40	4.80
24F2711	50R02-110DC	10000	DPDT	6.35	6.03	5.72	5.08
24F2714	50R03-24AC	95	3PDT	6.90	6.56	6.21	5.52
24F2715	50R03-115AC	2300	3PDT	6.90	6.56	6.21	5.52
24F2717	50R03-12DC	95	3PDT	6.90	6.56	6.21	5.52
24F2718	50R03-24DC	430	3PDT	6.90	6.56	6.21	5.52
24F2719	50R03-110DC	10000	3PDT	7.35	6.98	6.62	5.88

TYPE 65 COMMERCIAL SPDT RELAYS



Responds positively to low-power signals. 5 million operation mechanical life. Contact load rating: 1 A. Nom. power; 90 mw. 65F1 (screw mount, with holder term). 65FP1 (terminals with printed circuit) for mfg. UL-CSA listed. DC voltage. Shpg. wt.: 1 oz.

Stock No.	Type	Ohms	1-99	100-249	250-499
24F1981	65F1A-6 DC	410	1.50	1.43	1.35
24F1982	65F1A-12 DC	1640	1.50	1.43	1.35
24F1983	65F1A-24 DC	6560	1.50	1.43	1.35
24F1984	65FP1A-6DC	410	1.60	1.52	1.44
24F1985	65FP1A-12DC	1640	1.60	1.52	1.44
24F1986	65FP1A-24DC	6560	1.60	1.52	1.44

SERIES 67 AC AND DC—4PDT

Switches 3 ampere loads from 1.2 VA or 900 MW signals. Solder or printed circuit terminals. Temp. range of —4°F. to +140°F. 14-prong plug, designed for stud MNT. $1\frac{5}{16}$ x $1\frac{7}{64}$ x $\frac{55}{64}$" UL-CSA listed. Shpg. wt. 1.5 oz.

Stock No.	Type and Coil Volts	Ohms Coil	1-49	50-74	75-99	100-249
24F2829	67R4-12AC	43	5.00	4.75	4.50	4.00
24F2830	67R4-24AC	160	5.00	4.75	4.50	4.00
24F2831	67R4-115AC	3900	5.40	5.13	4.62	4.32
24F2832	67R4-6DC	40	4.40	4.18	3.96	3.52
24F2833	67R4-12DC	160	4.40	4.18	3.96	3.52
24F2834	67R4-24DC	650	4.40	4.18	3.96	3.52
24F2835	67R4-48DC	2600	4.60	4.37	4.14	3.68
24F2836	67R4-110DC	11000	5.10	4.85	4.59	4.08
(*)with Arc Barrier & additional rating of 120VAC, $1/_{10}$ H.P. per pole						
45F365	67RV4-12DC-SCO*	160	4.40	4.18	3.96	3.52
45F366	67RV4-24DC-SCO*	650	4.40	4.18	3.96	3.52
45F367	67RV4-115AC-SCO*	3900	5.40	5.13	4.86	4.32
24F2837	AD28 Solder Term. Skt.		.60	.57	.54	.48
24F2838	AD29 PC Socket		.60	.57	.54	.48

SERIES 62 DC DPDT, 4PDT 6PDT RELAYS

Type 62

Excellent stability, exceptional life at moderate loads. Rated 2 amperes. Nominal power for 2 pole and 4 pole: 700 milliwatts. For 6 pole: 1.4 watts. Plastic dust cover, stud mounting, and solder or printed-circuit terminal sockets 62R2 8 prong plug, 62R4 14 prong plug, 62R6 20-prong plug. Features a temperature range of +14°F to +158°F. Sensitive types rated for one million operations at maximum load. Voltage adjusted types with bifurcated contacts rated for 50 million operations switching dry-circuit loads. $13/_{16}$"x$3/_4$"x$1\frac{9}{32}$" UL/CSA Listed. Shpg. wt. 1 oz.

STANDARD CONTACTS— 2 AMP

Stock No.	Type and coil volts	Coil Ohms	Action	1-49	50-74	75-99	100-249
24F2675	62R2-6DC	52	DPDT	3.05	2.90	2.75	2.44
24F2676	62R2-12DC	185	DPDT	3.05	2.90	2.75	2.44
24F2677	62R2-24DC	700	DPDT	3.05	2.90	2.75	2.44
24F2678	62R2-48DC	2500	DPDT	3.15	2.99	2.84	2.52
24F2679	62R2-110DC	15,000	DPDT	4.50	4.28	4.05	3.60
24F2680	62R4-6DC	52	4PDT	3.40	3.23	3.06	2.72
24F2681	62R4-12DC	185	4PDT	3.40	3.23	3.06	2.72
24F2682	62R4-24DC	700	4PDT	3.40	3.23	3.06	2.72
24F2683	62R4-48DC	2500	4PDT	3.60	3.42	3.24	2.88
24F2684	62R4-110DC	15000	4PDT	5.00	4.75	4.50	4.00
24F2685	62R6-6DC	25	6PDT	4.40	4.18	3.96	3.52
24F2686	62R6-12DC	90	6PDT	4.40	4.18	3.96	3.52
24F2687	62R6-24DC	430	6PDT	4.40	4.18	3.96	3.52
24F2688	62R6-48DC	1550	6PDT	4.65	4.42	4.19	3.72
24F2689	62R6-110DC	9000	6PDT	5.60	5.32	5.04	4.48
SCO Contacts—5amps @ 28VDC or 115 VAC							
45F372	62R2-12DC	185	DPDT	3.15	2.99	2.84	2.52
45F373	62R2-24DC	700	DPDT	3.15	2.99	2.84	2.52
24F3146	62R4-12DC	185	4PDT	3.60	3.42	3.24	2.88
24F3147	62R4-24DC	700	4PDT	3.60	3.42	3.24	2.88
45F374	62R6-12DC	90	6PDT	4.80	4.56	4.32	3.84
45F375	62R6-24DC	430	6PDT	4.80	4.56	4.32	3.84
Bifurcated Contacts—2amps * 28VDC or 115 VAC							
45F376	62R2T-12DC	185	DPDT	3.45	3.28	3.11	2.76
45F377	62R2T-24DC	700	DPDT	3.45	3.28	3.11	2.76
45F378	62R4T-12DC	185	1PDT	4.00	3.80	3.60	3.20
45F379	62R4T-24DC	700	4PDT	4.00	3.80	3.60	3.20
45F380	62R6T-12DC	90	6PDT	4.90	4.66	4.41	3.92
24F3155	62R6T-24DC	430	6PDT	4.90	4.66	4.41	3.92
SENSITIVE TYPES—1 AMP @ 28VDC OR 115VAC							
45F386	62R2S-1000	1000	DPDT	3.40	3.23	3.06	2.72
45F381	62R2S-2500	2500	DPDT	3.40	3.23	3.06	2.72
45F382	62R2S-5000	5000	DPDT	3.80	3.61	3.42	3.04
45F383	62R2S-10,000	10,000	DPDT	4.20	3.99	3.78	3.36
45F384	62R4S-2500	2500	4PDT	3.80	3.61	3.42	3.04
45F359	62R4S-5000	5000	4PDT	4.20	3.99	3.78	3.36
45F360	62R4S-10,000	10,000	4PDT	4.60	4.37	4.14	3.68
45F361	62R6S-2500	2500	6PDT	4.90	4.66	4.41	3.92
45F362	62R6S-5000	5000	6PDT	5.40	5.13	4.86	4.32
45F365	62R6S-10,000	10,000	6PDT	5.90	5.61	5.31	4.72
24F2690	AD22-Solder term. socket DPDT			.55	.52	.50	.44
24F3156	AD41-P.C. term. socket DPDT			.55	.52	.50	.44
24F2692	AD24-Solder term. socket 4PDT			.65	.62	.58	.52
24F3157	AD42-P.C. term. socket 4PDT			.65	.62	.58	.52
24F2694	AD26-Solder term. socket 6PDT			.95	.90	.86	.76
24F3158	AD43-P.C. term. socket 6PDT			.95	.90	.86	.76

SERIES 68 AC & DC—SPDT, DPDT, 3PDT RELAYS

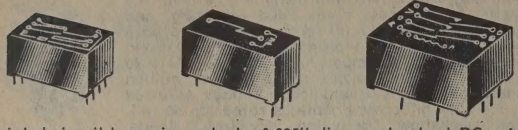
Versatile low-cost, general purpose relay for production-line switching of light to medium power loads. Fast installation—.187" terminals. Contact rating 10 amps at 28 VDC/115 VAC. 5 x 10^5 operations. Nominal power AC 1- and 2-pole types, 2.1 va; 3-pole types, 2.5 va; DC, 1.2 w. Miniumum operating temperature: —49°F. Maximum: AC 1- and 2-pole, +131°F; 3-pole, +113°F: DC, + 158°F. Polycarbonate cover. 68R34 has flange mtg. SCO contacts. 2.900"h. U/L listed. Weight 2.7 oz.

Stock No.	Type & Coil Res.	Coil Ohms	Action	1-49	50-74	75-99	100-249
24F3125	68R1-115AC	2250	SPDT	3.35	3.18	3.02	2.68
24F3126	68R1-12DC	120	SPDT	3.25	3.09	2.93	2.60
24F3127	68R1-24DC	470	SPDT	3.25	3.09	2.93	2.60
24F3128	68R2-115AC	2250	DPDT	4.10	3.90	3.69	3.28
24F3129	68R2-12DC	120	DPDT	3.65	3.47	3.69	2.92
24F3130	68R2-24DC	470	DPDT	3.65	3.47	3.29	2.92
24F3131	68R3-115AC	2000	3PDT	4.60	4.37	4.14	3.68
24F3132	68R3-12DC	120	3PDT	4.20	3.99	3.78	3.36
24F3133	68R3-24DC	470	3PDT	4.20	3.99	3.78	3.36
24F3134	68R34-115AC	2000	3PDT	4.60	4.37	4.14	3.68
24F3135	68R34-12DC	120	3PDT	4.20	3.99	3.78	3.36
24F3136	68R34-24DC	470	3PDT	4.20	3.99	3.78	3.36
24F3137	AD62-1 P.C. term. socket			.75	.71	.68	.60
24F3138	AD 63 -Solder term. socket			.85	.81	.77	.68

SIGMA Reed and High Performance Relays

REED RELAYS

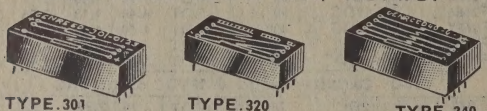
•NEW SERIES 200 SPST 4PDT



Printed-circuit-type pin contacts, 0.025" dia. on standard PC grid spacing. Magnetically shielded for min. interaction. .5 amp contact-rated at 12 VDC. Drop-out 80% of pickup current. SPST switching is accomplished by A capsules; for double throw switching C capsule is used. Ship. wt. app. 1 oz.

Stock No.	Type No.	Coil Ohm	Action	1-9	10-24	25-99	100-249	250-499
45F324	210-12	420	SPST	4.20	3.78	3.36	2.94	2.73
45F325	201-12	420	SPDT	5.75	5.18	4.60	4.03	3.74
45F326	220-12	280	DPST	4.95	4.46	3.96	3.47	3.22
45F327	202-12	280	DPDT	9.70	8.73	7.76	6.79	6.31
45F328	240-12	140	4PST	7.15	6.44	5.72	5.01	4.65
45F329	204-12	140	4PDT	18.00	16.20	14.40	12.60	11.70

•NEW SERIES 300-SPST 6PST, SPDT-4PDT



TYPE.301 TYPE.320 TYPE.340

Multiswitch PC-Pin type. Pin contacts 0.025" dia., on stand. PC grid-spacing. Magnetically shielded for min. interaction. .5 amp contact rated at 12 and 24 VDC. Drop-out 80% of pickup current. SPST switching is accomplished by A capsules; for SPDT switching C capsule is used. Ship. wt. app. 1 oz.

Stk. No.	Stk. No	Type No.	Res. 12V	Ohms 24V	Action	1-9	10-24	25-99	100-249	250-499
45F330	45F337	310	280	1500	SPST	3.50	3.15	2.80	2.45	2.28
45F331	45F338	301	280	1500	SPDT	4.65	4.19	3.72	3.26	3.02
45F332	45F339	320	280	1500	DPST	4.60	4.14	3.68	3.22	2.99
45F333	45F340	302	280	1500	DPDT	7.35	6.62	5.88	5.15	4.78
45F334	45F341	340	120	640	4 PST	6.80	6.12	5.44	4.76	4.42
45F335	45F342	304	77	410	4 PDT	14.60	13.14	11.68	10.22	9.49
45F336	45F343	360	77	410	6 PST	8.60	7.74	6.88	6.02	5.59

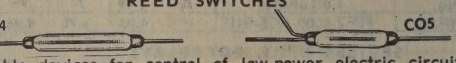
•NEW SERIES 400-SPST-4PDT

Printed-circuit-type pin contacts .03" dis. on standard .1" grid spacing. Electrostatically and magnetically shielded to min. interaction. Qualify to MIL-R-5757/29. 5amp contact rated at 26.5VDC. Drop-out 80% of pickup current. Single throw switching is accomp. by a capsule; for double throw switching use capsule C. Shipping wt. app. 1 oz.

Stk. No.	Type No.	M575/29-	Coil Amps	Act.	1-24	25-99	100-249	250-499
45F300	410-001	001	2350	SPST	5.50	4.40	4.05	3.74
45F301	401-002	002	1450	SPDT	9.00	7.20	6.66	6.12
45F302	420-003	003	925	DPDT	7.20	5.76	5.33	4.90
45F303	411-004	004	925	DPDTST	12.00	9.60	8.88	8.16
45F304	402-005	005	925	DPDT	14.10	11.28	10.43	9.59
45F305	403-009	009	650	3PDT	19.00	15.20	14.06	12.92
45F306	440-010	010	460	4PTS	11.00	8.80	8.14	7.48
45F307	431-011	011	460	4PSTDT	18.00	14.40	13.32	12.24
45F308	422-012	012	460	4PSTDT	20.00	16.00	14.80	13.60
45F309	413-013	013	460	4PSTDT	22.00	17.60	16.28	14.96
45F310	404-014	014	460	4PDT	24.00	19.20	17.76	16.32

REED SWITCHES

A14 C05



Adapatable devices for control of low-power electric circuits. Form A—SPST with pull-in range 20 to 60 amp-turns and Form C—SPDT with pull-in range 40 to 85 amp-turns. A14 series has .1" dia., .8" length and 1.5" overall. A31 series has .09" dia., .560" length and 1.35" overall. C05 series has .125" dia., .625" length and 1.36" overall. A14 series has gap location in center and all others have offset gaps. The min. gap brkdn. for all units is 200 VDC with initial contact resist. of .10 ohms.

Stock No.	Mfg. Form No.	Rating Amp	1-19	20-99	100-499	500-999
45F311	A14-003	.5	1.00	.82	.72	.62
45F312	A14-007	1	1.00	.82	.72	.62
45F314	A14-012	.5	1.10	.90	.79	.68
45F315	A14-013	.1	1.10	.90	.79	.68
45F317	C05-058	.5	3.00	2.50	2.10	1.80
45F318	C05-059	.75	3.00	2.50	2.10	1.80

Let NEWARK put E.S.P. to work for you!

There's nothing psychic about it. E.S.P. means Extra Service Procurement. Newark can supply semiconductors with specific parameters you need, including burn-in and tests to MIL specs. We can deliver capacitors with tolerances matched as close as 0.5%. Newark can deliver any quantity and virtually any value of resistors precisely matched to tolerances of 0.1%. We can stamp, cut, stripe and strip any size or type of wire and cable to meet your needs.

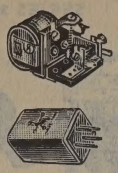
If you have packaging problems, we have the answers. Resistors, capacitors and other axial lead devices can be reel or tape packaged with leads trimmed, formed and ready for insertion into PC boards on your production line. We can meet military, commercial, domestic or export packaging requirements.

Newark can also modify meters, lights and switches with special scales and engravings to meet your needs. Each of these services is available on quotation basis with speedy five-day delivery.

Call Newark now. . .you'll be glad you did!

SERIES 4DC—SPDT

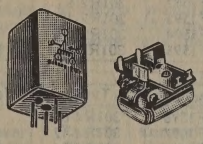
For vacuum tube and transistor drives; and applications requiring high dropout or narrow differential. Ideal for circuits where energizing current does not drop to zero. Pickup power: 20 mw. Contact rating: 2 amp at 28VDC/115VAC. Temperature range: +32 to +112 F. Unenclosed 4F has screw mounting, with solder terminals. 4R has aluminum dust cover and 5 pin plug. **4F:** $1^{3}/_{4} \times 1^{1}/_{2} \times 1^{15}/_{32}$". Shp. wt. 2¼ oz. **4R:** $1^{9}/_{16}$ sq. x $2^{19}/_{32}$". UL-CSA listed. Sh. wt. 3¾ oz.



Stock No.	Mfr's. Type	Coil Ohms	1-24	1-49	50-74	75-99	100-249
24F352	4F-1000 S-SIL	1 K	4.5	7.40	7.03	6.66	5.92
24F353	4F-2500 S-SIL	2.5K	3.0	7.40	7.03	6.66	5.92
24F354	4F-5000 S-SIL	5 K	2.0	7.80	7.41	7.02	6.24
24F350	4F-8000 S-SIL	8 K	1.6	8.05	7.65	7.25	6.44
24F1700	4F-10,000 S-SIL	10 K	1.4	8.05	7.65	7.25	6.44
24F2770	4R-1000 S-SIL	1 K	4.5	10.10	9.60	9.09	8.08
24F3170	4R-2500S-SIL	2.5K	3.0	11.10	10.55	9.99	8.88
24F2771	4R-5000 S-SIL	5 K	2.0	10.40	9.88	9.36	8.32
24F2772	4R-8000 S-SIL	8 K	1.6	10.70	10.17	9.63	8.56
24F2773	4R-10,000 S-SIL	10 K	1.4	10.70	10.17	9.63	8.56

SERIES 5DC—SPDT

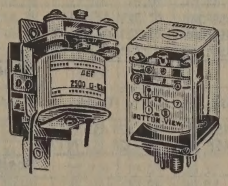
Sensitive type for overload—underload detection. Withstands overloads of 30:1. Contact ratings: S: 1 amp; SS: .25 amp. Temp.: S: —4 to +158°F.; SS: +50 to 140°F. **5F.** Unenclosed, screw mounting, solder terminals. $1^{3}/_{8} \times 1^{3}/_{4} \times 1^{1}/_{2}$". Ship. wt. 4½ oz. **5R.** 5 pin plug $1^{9}/_{16}$ sq. x $2^{9}/_{32}$. UL-CSA listed. Ship. wt. 5¾ oz.



Stock No.	Mfr's. Type	Coil Ohms	Ma DC	1-49	50-74	75-99	100-249
24F355	5F-1000 S-SIL	1. K	2.3	10.50	9.98	9.45	8.40
24F356	5F-2500 S-SIL	2.5K	1.4	10.50	9.98	9.45	8.40
24F357	5F-5000 S-SIL	5. K	1.0	11.25	10.69	10.13	9.00
24F358	5F-10,000 S-SIL	10. K	.70	12.30	11.69	11.07	9.84
24F3171	5F-16000S-SIL	16. K	.55	13.30	12.64	11.97	10.64
24F3174	5RO-1000S-SIL	1. K	2.3	14.30	13.59	12.87	11.44
24F3177	5RO-10,000S-SIL	10 K	.70	16.15	15.34	14.54	12.92
24F2774	5F-1000SS-PAL	1. K	1.0	11.95	11.35	10.76	9.56
24F2775	5F-10,000SS-PAL	10. K	.30	13.70	13.02	12.60	11.20
24F2776	5R-1000S-SIL	1. K	2.3	13.30	12.64	11.97	10.64
24F2777	5R-2500 S-SIL	2.5K	1.4	13.30	12.64	11.97	10.64
24F2778	5R-5000 S-SIL	5. K	1.0	14.00	13.30	12.60	11.20
24F1742	5R-10,000 S-SIL	10. K	.70	15.00	14.25	13.50	12.00
24F1743	5R-16,000 S-SIL	16. K	.55	16.15	15.34	14.54	12.92

SERIES 48DC—SPDT

Low cost sensitive relay for use in alarm systems requiring operation from 10 mw. Bridge type contact structure. Compliant armature for good contact wipe. Contact rating: 2 amp; Temp.: —4 to +158°F. **48F.** Unenclosed, screw mounting, solder terminals. $1^{17}/_{64} \times 2^{9}/_{32} \times 1^{7}/_{16}$" Ship. wt. 3 oz. **48RO:** Plastic dust cover, 8 pin octal plug. $1^{23}/_{64}$ sq. x $2^{7}/_{64}$". UL-CSA listed. Ship. wt. 4 oz.



Stock No.	Mfr's. Type	Coil Ohms	Ma DC	1-49	50-74	75-99	100-249
24F2779	48F-1000G-SIL	1. K	3.2	6.70	6.37	6.03	5.36
24F2780	48F-2500G-SIL	2.5K	2.0	6.70	6.37	6.03	5.36
24F2783	48RO-1000G-SIL	1. K	3.2	7.85	7.46	7.07	6.28
24F2784	48RO-2500G-SIL	2.5K	2.0	7.85	7.46	7.07	6.28

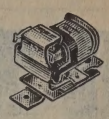
GENERAL PURPOSE SERIES 59 SPDT RELAYS

Snap switch relay features an excellent contact rating of 2 amperes. The precise contact assembly provides positive operations from on-off or slowly changing signals. Mechanical life; 1,000,000 operations. Temperature range: +14° to 158°F. **59A01D:** Metal dust cover, 8-pin plug, dia. 1⅛ x $1^{9}/_{32}$" height. Nominal power: 300 mw. U.L.-CSA Listed. Shipping weight: 2 oz.

Stock No.	Type and coil V.	Coil Ohms	1-99	100-249	250-499
24F1978	59A01D-6DC	120	3.90	3.71	3.51
24F1979	59A01D-12DC	465	3.90	3.71	3.51
24F1980	59A01D-24DC	1800	3.90	3.71	3.51

SERIES 41 AC & DC—SPDT

Industrial relay. Operates from on-off AC/DC signals. Adjustment: S: 40 mw; ACS; .2 va; ACG: .4 va ACG rated 5 amp. S, ACS: 2 amp. Temp.: —67 to +185°F. **41F 41FZ:** unenclosed, screw mounting, solder terminals. $1^{17}/_{64} \times 2^{9}/_{32} \times 1^{7}/_{16}$". **41ROZ. 41RO:** aluminum dust cover, 8-pin. $1^{21}/_{64}$ x sq. $2^{1}/_{16}$". **41RO6;** plastic dust cover, 8-pin, $1^{23}/_{64}$sq. x $2^{7}/_{64}$". **41JOZ:** hermetically sealed, 8-pin, 1⅝ sq. x ⅝". UL-CSA listed. Shpg. wt. Enclosed: 4 oz.; unenclosed 2½ oz.



AC TYPES

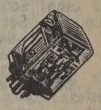
Stock No.	Mfr's. Type & Coil Ohms	Nom.	1-49	50-74	75-99	100-249
24F369	41FZ-5000 ACG-BSL	115	4.85	4.61	4.37	3.88
24F368	41FZ-10000 ACS-SIL	115	5.95	5.65	5.36	4.76
24F2787	41JOZ-12,000 ACS-SIL	150	14.70	13.97	13.23	11.76
24F2788	41ROZ-5000 ACG-BSL	115	6.85	6.51	6.17	5.48
24F2789	41RZ-5000 ACG-BSL	115	6.85	6.51	6.17	5.48

DC TYPES

Stock No.	Mfr's. Type & Coil Ohms	Volts	1-49	50-74	75-99	100-249
24F2790	41F-200 S-SIL	6	5.15	4.89	4.64	4.12
24F2791	41F-500 S-SIL	.....	5.15	4.89	4.64	4.12
24F1714	41F-1000 S-SIL	12	5.15	4.89	4.64	4.12
24F2792	41F-5000 S-SIL	24	5.35	5.08	4.82	4.28
24F1747	41F-10,000 S-SIL	.....	5.65	5.37	5.09	4.52
24F3169	41R-5000S SIL	24	7.85	7.46	7.07	6.28
24F1716	41RO-1000 S-SIL	12	7.30	8.94	6.57	5.84
24F2793	41RO-5000 S-SIL	24	7.50	7.13	6.75	6.00
24F2794	41RO-10,000 S-SIL	.....	7.85	7.46	7.04	6.28
24F2795	41RO6-1000 S-SIL	12	7.30	6.94	6.57	5.84
24F2796	41RO6-2500 S-SIL	.....	7.30	6.94	6.57	5.84
24F2797	41RO6-5000 S-SIL	24	7.50	7.13	6.75	6.00

SERIES 42 AC & DC —DPDT

100 mw for 1-billion-operation mechaniial life. Adjustment S: 100 mw; G: 200 mw; ACS, .3 va; ACG; .5 va Contact ratings: ACG, G; 5 amp ACS, S. 2 amp. Temp.: —67°F to +185°F, plastic covers to 158°F .42 F; open, stud mounting terminals. $1^{11}/_{32} \times 1^{13}/_{32}$". 42RO, 42ROZ: Plastic dust cover with 8-pins. $1^{23}/_{64}$ sq. x $2^{7}/_{64}$". 42RO6Z: differ in wiring only, 4210Z: Hermetically sealed, 8-pin, 1⅝ sq. x 2⅜". UL-CSA listed. Shpg. wt. 5¼.



AC TYPES

Stock No.	Mfr's. Type & Coil Ohms	Nom. Volts	1-49	50-74	75-99	100-249
24F2798	42JOZ-4000 ACG-SIL	115	13.40	12.73	12.06	10.72
24F2799	42ROZ-8 ACG-SIL	6	7.75	7.36	6.98	6.20
24F2800	42ROZ-50 ACG-SIL	12	7.75	7.36	6.98	6.20
24F2801	42ROZ-200 ACG-SIL	24	7.75	7.36	6.98	6.20
24F2802	42ROZ-4000 ACG-SIL	115	7.75	7.36	6.98	6.20
24F2049	42RO6Z-4000 ACG-SIL	115	7.75	7.36	6.98	6.20
24F2803	42ROZ-7000 ACS-SIL	115	9.30	8.84	8.37	7.44

DC TYPE

Stock No.	Mfr's. Types & Coil Ohms	Nom. Volts	1-49	50-74	75-99	100-249
24F2804	42RO-200 G-SIL	12	7.75	7.36	6.98	6.20
24F2805	42RO-500 G-SIL	.....	7.75	7.36	6.98	6.20
24F2806	42RO-1000 G-SIL	24	7.75	7.36	6.98	6.20
24F2807	42RO-2500 G-SIL	48	7.75	7.36	6.98	6.20
24F2808	42RO-5000 G-SIL	.....	8.10	7.70	7.29	6.48
24F2809	42RO-10,000 G-SIL	.....	8.30	7.89	7.47	6.64
24F1810	42RO-12,000 G-SIL	.....	8.70	8.27	7.83	6.96
24F2041	42RO6-500 G-SIL	.....	7.75	7.36	6.98	6.20
24F2010	42RO6-1000 G-SIL	24	7.75	7.36	6.98	6.20
24F2043	42RO6-2500 G-SIL	48	7.75	7.36	6.98	6.20
24F2011	42RO6-5000 G-SIL	.....	8.10	7.70	7.29	6.48
24F2045	42RO6-10,000 G-SIL	.....	8.30	7.89	7.47	6.64
24F2811	42RO-150 S-SIL	6	8.55	8.12	7.70	6.84
24F2812	42RO-500 S-SIL	12	8.55	8.12	7.70	6.84
24F2813	42RO-1000 S-SIL	.....	8.55	8.12	7.70	6.84
24F2814	42RO-2500 S-SIL	24	8.55	8.12	7.70	6.84
24F2815	42RO-5000 S-SIL	.....	8.55	8.12	7.70	6.84
24F2009	42RO6-500S-SIL	12	8.95	8.50	8.06	7.16
24F2817	42RO6-1000 S-SIL	.....	8.55	8.12	7.70	6.84
24F3179	42RO6-2500S-SIL	24	8.55	8.12	7.70	6.84

NEWARK

YOUR ONE-STOP

HEADQUARTERS

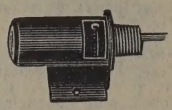
SIGMA Relays

SERIES 8 LIGHT-ACTUATED

8RCO1A

8P3

8P7


8P4

Two-part systems employ integral receiver units (containing photo-cell and relay) and prefocussed light sources. Three-part systems have miniaturized light sources and receivers, for use where space is limited; receivers connect to remote amplifier-relay units.

TWO-PART (INTEGRAL RECEIVER) SYSTEMS

All units operate from 115 VAC, 50/60 hz, and are housed in NEMA type 1 only enclosures. Complete system consists of 8L3 light source plus receiver unit appropriate to application. Operate over a 12 foot range; no inter-wiring necessary.

8P3, 8P5 & 8P6 General-Purpose Receiver. For switching rates up to 600 operations/minute contacts rated 10A or 28VDC/115VAC. Wt., 13 oz.

8P8, 8P9 and 8P10 High-Speed Receivers. Operate 1200 times per minute. Relay contacts rated 5A at 28VDC/115VAC, 2.5A at 230-VAC. 8P8 comes with wire leads, ½" conduit bushing and mtg. bracket 8P9 has bracket and octal plug. Wt., 13 oz.

8RCO1A & 8RCO2A Miniature Low-Cost Receivers. 120 cycles/minute switching. Plug-in units fit standard 5-pin socket; SPDT relay contacts rated 3A at 28VDC/115VAC. May be used for beam-breaking or fluctuating-intensity applications: 8RCO1A relay picks up at 5 foot-candles, drops out at .1 fc.; 8RCO2A for high-ambient-light conditions, picks up at 5 fc; opens at .5 fc. Supply voltage 115V 60 Hz, UL approved. Wt., 3 oz.

8L3 Light Source. Provides actuating beam for all 8P and 8R receivers. Set to span up to 12 feet. With mounting bracket, ½" conduit bushing, and 16" leads (18 AWG). Wt., 13 oz.

Stk. No.	Type	Action	Mounting	1-49	50-74	75-99	100-249
24F427	8P3-115	SPDT	Bracket	22.55	21.42	20.30	18.04
24F437	8P5-115	DPDT	Octal plug	22.55	21.42	20.30	18.04
24F438	8P6-115	SPDT	5-pin plug	21.55	20.47	19.40	17.24
24F428	8P9-115	SPDT	Bracket	45.15	42.79	40.64	36.12
24F1719	8RC01A	SPDT	5-pin plug	18.65	17.72	16.79	14.92
24F1720	8RC02A	SPDT	5-pin plug	18.65	17.72	16.79	14.92
24F430	8L3-115	Light Source	Bracket	16.40	15.58	14.76	13.12

THREE PART (REMOTE AMPLIFIER-RELAY) SYSTEMS

8P7 Subminiature Receiver. Beam range 12". 600 cycle/minute switching rate. Black plastic enclosure measures 1½x⅝".

8L7 Light Source. Matches 8P7. Lamp life 4000 hours. Wt. .32 oz.

8P4 Miniature Receiver. Max. range 25 ft. 600 operations/min. 1 x 2 7/16" Black anodized aluminum housing. Wt., 3 oz.

8L4 Light Source. For 8P4. Adjustable focus. Wt., 2.7 oz.

8A Amplifier-Relay Unit. DPDT rated 5A at 28 VDC or 115/230-VAC. Operates from 115/230 VAC; provides power for 8L7, 8L4 light sources and 8P7, 8L7 receivers 8½x5x2 9/16", unclosed, wt. 2 lbs.

8A3 Amplifier-Relay Unit. Indentical to 8A, but with time delay variable from .05 to 20 sec.

NOTE: For a complete photocontrol system, order the 8A or 8A3 control unit plus a suitable sourse-receiver combination.

Stk. No	Type	Descriptions	1-49	50-74	75-99	100-249
24F431	8P7	Wire lds. mtg. bkt.	14.90	14.16	13.41	11.92
24F432	8L7	Wire lds. mtg. bkt.	10.80	10.26	9.72	8.64
24F433	8P4	⅜" conduit fitting	16.40	15.58	14.76	13.12
24F434	8L4	⅜" conduit fitting	14.35	13.63	12.92	11.48
24F435	8A	Amp.-relay control	61.55	58.47	55.40	49.24
24F436	8A3	Amp.-relay control	82.10	77.99	73.89	65.68

SERIES 301-OPTO-ELECTRONIC RELAYS

301R1

301T

Lamp-to-photocell light-beam coupling isolates each circuit electrically. Solid-state. AC or DC input-output. 300-nw output cell power rating. Printed circuit terminals. Solder terminal socket. Switching functions include isolation interface. Range: —40 to +50C. Size: 1x½x½". wt. ¼ oz.

1 POLE

Stk. No.	Mfr's Type	Volts	1-49	50-74	75-99	100-249
24F1588	301R1-6	6	2.40	2.28	2.16	1.92
24F1589	301R1-12	12	2.40	2.28	2.16	1.92
24F1590	301R1-24	24	2.40	2.28	2.16	1.92
24F1591	301R1-150	150	2.40	2.28	2.16	1.92
45F344	301T1-6	6	1.00	.95	.90	.80
45F345	301T1-12	12	1.00	.95	.90	.80
45F346	301T1-150	150	1.00	.95	.90	.80

2 POLE

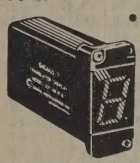
Stk. No.	Mfr's Type	Volts	1-49	50-74	75-99	100-240
24F1592	301R2-6	6	3.75	3.56	3.38	3.00
24F1593	301R2-12	12	3.75	3.56	3.38	3.00
24F1594	301R2-24	24	3.75	3.56	3.38	3.00
24F1595	301R2-150	150	3.75	3.56	3.38	3.00

4 POLE

Stk. No.	Type	Volts	1-49	50-74	75-99	100-240
24F1596	301R4-6	6	5.30	5.04	4.77	4.24
24F1597	301R4-12	12	5.30	5.04	4.77	4.24
24F1598	301R4-24	24	5.30	5.04	4.77	4.24
24F1599	AD32-1*	...	.70	.67	.63	.56
45F347	AD58-1**	...	.70	.67	.63	.56

*** Socket for solder terminal mounting. Fits all models. ** P. C. Socket**

• NEW DIGITAL TRANSLATOR DISPLAY



Provides translation and numeric display. Eliminates need for high-voltage-switching transistors. Photoconductor matrix, coupled optically to incandescent lamps controlled by binary-coded decimal input circuit, generates dec. output, 0 through 9, on integral 7 bar neon lighted display from 120 VAC, 50/60 Hz. Temperature range - 40C to +50C. Shipping Weight, 10 ounces.

Non-Buffered

Stk. No.	Type	Volts	1-49	50-74	75-99	100-249
45F348	321-AO-N6	6	33.50	31.83	30.15	26.80
45F349	321-AO-N12	12	33.50	31.83	30.15	26.80
45F350	321-AO-P12	12	35.15	33.69	31.64	28.36

Negative-Buffered

Stk. No.	Type	Volts	1-49	50-74	75-99	100-249
45F351	321-B1-N12	12	38.45	36.53	34.61	31.76
45F385	321-B2-N12	12	39.00	37.05	35.10	31.20

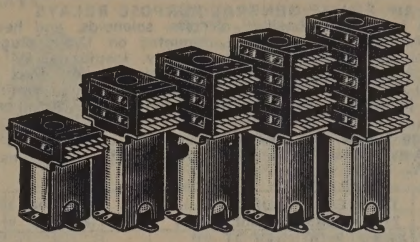
Positive-Buffered

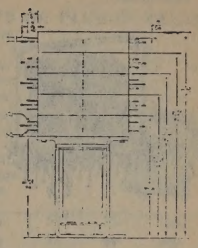
Stk. No.	Type	Volts	1-49	50-74	75-99	100-249
45F352	321-C1-N6	6	38.45	36.53	34.61	31.76
45F353	321-C1-N12	12	38.45	36.53	34.61	31.76
45F354	321-C1-P6	6	40.10	38.10	36.09	32.08
45F355	321-C2-N6	6	39.00	37.05	35.10	31.20
45F356	321-C2-N12	12	39.00	37.05	35.10	31.20
45F357	321-C2-P6	6	40.65	38.62	36.59	32.52
45F358	321-C2-P12	12	40.65	38.62	36.59	32.52

Need burn-in, matching, testing and special packaging for semiconductors and other components?
Want indicator light and meter calibration and modification, or special processing on wire and cable?
That's what Newark's Extra Service Procurement is all about.
Call your local Newark man today and let E.S.P. work for you!

Electronic Controls Inc. T-Bar®

- Stack-up Contact Wafers Switch up to 60 Poles at Once.
- Easily Mounted—With only 2 Screws—In Any Orientation.
- Easily Wired—Snap-on Crimp Terminals fit into 6-pole cavity Block Connectors.





SERIES 801 T-BAR RELAYS

Reliable, untra-compact, solenoid actuated relays with a unique design employing stacked-up enclosed contact wafers for up to 60-pole switching. Ideal for aircraft, telemetry, communications, computers. Gold plated silver contacts are rated to carry 500 watts resistive (5 amps), make or break 3 amps. Less than 30 milliseconds operate and release time. Min. life: 20 million mechanical operations. 1000 VAC dielectric strength, terminal-to-case; temperature range —55 to +85°C. Terminals will mate with T-Bar Connectors (below), which simply push onto contact wafers for quick, easy wiring, or solder connections may be made. Contact assemblies are in dust-tight plastic enclosures which measure 1 1/32" wide by 2 3/8" long; height is 13/32" per 12 pole wafer.

T-BAR RELAY COIL CHARACTERISTICS

All characteristics are nominal and subject to normal manufacturing tolerances. All are for continuous duty. 115 VAC units have a full-wave bridge rectifier and use the same coils listed under 110 VDC. Operate at 80%, release at 20% of nominal voltage. Actuator assembly size: 1.375" mtg. centers x 2 1/32" high, except one-water relay use a shorter actuator (1 15/32" high).

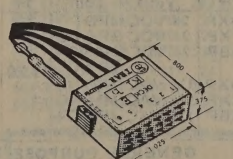
Coil Voltage	12A or 12C Wt.: 4.5 oz.			24A or 24C Wt.: 6.75 oz.			36A, 36C, 48A Wt.: 7.5 oz.			48C, 52A, 52C, 60A Wt.: 9 oz.		
	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts
115 VAC	3,963	.024	2.80	3,450	.027	3.10	2,355	.041	4.72	1,930	.049	5.62
110 VDC	3,963	.028	3.05	3,450	.032	3.54	2,355	.047	5.18	1,930	.057	6.27
48 VDC	778	.062	2.98	674	.071	3.41	438	.110	5.26	350	.137	6.58
28 VDC	258	.109	3.03	227	.123	3.44	150	.187	5.23	120	.233	6.52
24 VDC	193	.124	2.98	174	.138	3.32	111	.216	5.15	94	.255	6.12
12 VDC	49	.244	2.96	45	.267	3.19	28	.429	5.16	22	.545	6.54
6 VDC	12	.504	3.01	11	.541	3.24	7	.857	5.06	5.5	1.09	6.54

T-BAR DC RELAYS

Stk. No.	Type 801-	Action	DC Coil Volt.	1-24	25-49	50-74	75-99
59F700	4C24	4PDT	24	9.23	8.77	8.33	7.94
59F701	8C24	8PDT	24	13.21	12.55	11.92	11.36
59F764	12A12	12PST	12	15.66	14.88	14.13	13.47
59F765	12A24	12PST	24	14.24	13.53	12.85	12.25
59F766	12A28	12PST	28	14.24	13.53	12.85	12.25
59F767	12A48	12PST	48	15.66	14.88	14.13	13.47
59F768	12A110	12PST	110	14.24	13.53	12.85	12.25
59F702	12C12	12PDT	12	16.79	15.95	15.15	14.44
59F703	12C24	12PDT	24	15.26	14.50	13.77	13.12
59F750	12C28	12PDT	28	15.26	14.50	13.77	13.12
59F704	12C48	12PDT	48	16.79	15.95	15.15	14.44
59F705	12C110	12PDT	110	15.26	14.50	13.77	13.12
59F769	24A12	24PST	12	26.32	25.00	23.75	22.64
59F770	24A24	24PST	24	23.92	22.72	21.59	20.57
59F771	24A28	24PST	28	23.92	22.72	21.59	20.57
59F772	24A48	24PST	48	26.32	25.00	23.75	22.64
59F773	24A110	24PST	110	23.92	22.72	21.59	20.57
59F751	24C12	24PDT	12	30.20	28.69	27.26	25.97
59F712	24C24	24PDT	24	27.44	26.07	24.76	23.60
59F752	24C28	24PDT	28	27.44	26.07	24.76	23.60
59F713	24C48	24PDT	48	30.20	28.69	27.26	25.97
59F714	24C110	24PDT	110	27.44	26.07	24.76	23.60
59F774	36A12	36PST	12	34.93	33.18	31.52	30.04
59F775	36A24	36PST	24	31.75	30.16	28.65	27.31
59F776	36A28	36PST	28	31.75	30.16	28.65	27.31
59F777	36A48	36PST	48	34.93	33.18	31.52	30.04
59F778	36A110	36PST	110	31.75	30.16	28.65	27.31
59F753	36C12	36PDT	12	40.68	38.65	36.71	34.98
59F721	36C24	36PDT	24	36.98	35.13	33.37	31.80
59F754	36C28	36PDT	28	36.98	35.13	33.37	31.80
59F722	36C48	36PDT	48	40.68	38.65	36.71	34.98
59F723	36C110	36PDT	110	36.98	35.13	33.37	31.80
59F779	48A12	48PST	12	39.57	37.59	35.71	34.03
59F780	48A24	48PST	24	39.57	37.59	35.71	34.03
59F781	48A28	48PST	28	39.57	37.59	35.71	34.03
59F775	48C12	48PDT	12	51.29	48.73	46.29	44.11
59F756	48C24	48PDT	24	51.29	48.73	46.29	44.11
59F757	48C28	48PDT	28	51.29	48.73	46.29	44.11
59F758	48C48	48PDT	48	51.29	48.73	46.29	44.11
59F759	48C110	48PDT	110	51.29	48.73	46.29	44.11

CONNECTOR TOOLS

Model 88601. T-Bar Connector. For connecting wires to T-Bar switches or terminals. Nylon terminal block pushes onto wafer terminals. Wires are first crimped to snap-in terminal using the crimping tool below. Accommodates #18 to 26 stranded wire with max. insulation diameter of .074". Each connector handles 6 poles, single or double throw (18 terminals) consists of 1 connector-block, 20 crimp contacts, 2 labels and 1 retaining clip. (see index).
59F741. 1-99 NET 1.35
100-499 Each 1.25



88601 - T. BAR CONN.

8601-51 CRIMPING TOOL

Model 8601-51 Crimping Tool. For use with the connectors above. Crimps wire and insulation to snap-in terminals.
59F742. NET 59.75

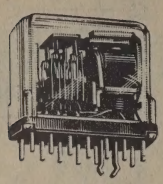
Model 8601-61. Extraction Tool. Removes snap-in terminal from connector block.
59F743 . NET 9.00

Model 8601-71. Connector Tong. For pushing on or withdrawing connectors from wafer terminals.
59F739. NET 1.00

T-BAR 115 VAC RELAYS

Stk. No.	Type 801-	Action	1-24	25-49	50-74	75-99
59F789	4C115	4PDT	14.34	13.62	12.94	12.33
59F790	8C115	8PDT	17.26	16.40	15.58	14.84
59F791	12A115	12PST(NO)	18.19	17.28	16.42	15.64
59F792	12C115	12PDT	19.12	18.16	17.26	16.44
59F793	24A115	24PST(NO)	28.16	26.75	25.42	24.22
59F794	24C115	24PDT	31.68	30.10	28.59	27.25
59F795	36A115	36PST(NO)	39.17	37.21	35.35	33.68
59F796	36C115	36PDT	41.22	39.16	37.20	35.45
59F798	48C115	48PDT	55.53	52.75	50.11	47.76
59F799	60A115	60PST(NO)	59.47	56.50	53.67	51.14

Dunco Industrial Relays



219

219. FRAME GENERAL PURPOSE RELAYS

For lab type "tail chasing" circuits, solenoids, and heaters. Clear thermoplastic enclosure, mounted on 12-pin plugs. 10 amp. contact current carrying capacity. Insulation: ¼" over the surface, ⅛" through air. 1500 dielectric test Max amb. 53°C. 20,000,000 cycle no-load life. Withstand 110% nominal V without damage. Oper: AC 85% nominal V; DC 80% nominal V.

Indicating Lamp. Neon lamp across relay coil indicates when power is available. Base 1½x2⅝". Height, 2 19/32" (less pins). UL listed. Wt. 7 oz.

Stk. No.	Type 219—	Coil Volts	DPDT Cont.	1-24	25-49	50-74	75 99	100-249
60F3101	XBXP	24DC	DPDT					
60F3102	XBXP	115DC	DPDT	14.10	13.40	12.69	11.28	9.87
60F3100	XBXP	115AC	DPDT					
60F3104	BBXP	24DC	+2NO					
60F3105	BBXP	115DC	+2NO					
60F3103	BBXP	115AC	+2NO					
60F3107	ABAP	24DC	+INO+INC	16.90	16.06	15.21	13.52	11.83
60F3108	ABAP	115DC	+INO+INC					
60F3106	ABAP	115AC	+INO+INC					

211

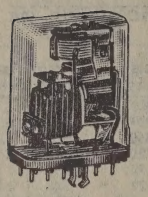
With Neon Indicating Light

Stock No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3194	219BBXPL	+2 NO					
60F3193	219ABAPL	+INO+INC	18.10	17.20	16.29	14.48	12.67

211 FRAME SEQUENCE 115VAC RELAYS

For applications requiring max. dependability in min. space. Double cam movement on each step. Molded spacers lock contacts into position and provide 150V insulation to meet U.L. requirements. Eight tooth ratchets are standard. Rated at 5 amps @ 115V AC. Operated 15% below rated AC voltage & 20% on DC Position: vertical with ratchets up. Min life: 1,000,000 oper. Size: 3¾ (less pins) x 2⅝x1 15/32". Wt.: 6 oz. *Contacts open and close alternately. **Transfer on each impulse.

Stk. No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3109*	211AXAP	DPST*	26.40	25.08	23.76	21.12	18.48
60F3111	211XBXP	DPDT**	29.10	27.74	26.19	23.28	20.37

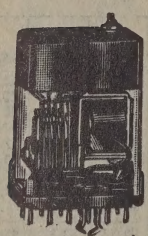


255

255 FRAME LATCH 115 VAC RELAYS

For dependable, long-life service on industrial panels. Combines standard 219 frame relay with latching frame. Min. life 10 million mech. oper. Coil rated for continuous duty. Cont. rated 10 amps. @ 115VAC. 115V electrical spacings of ¼" surface & ⅛" air. Size 3¾ x 2⅝ x 1 15/32". Wt. 9 oz.

Stk. No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3112	255XBXP	DPDT	28.10	26.70	25.29	22.48	19.67
60F3113	255XCXP	3PDT	30.80	29.26	27.72	24.64	21.56
60F3114	255BXBP	2NO; 2NC	30.80	29.26	27.72	24.64	21.56

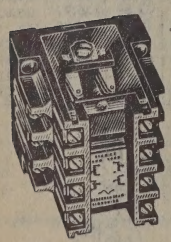


235

236ABXP FRAME TIME-DELAY 115VAC RELAYS

Solid state delay networks. 90:1 range. Cont: 10 amps. 115VAC resist. Repeat accuracy ±5% @ fixed V. Will operate at voltages from 95 to 125V, but timing var. inversely with voltages. 20 million mech oper. life. Size 3¾ x 2⅝ x 1 15/32".

Stock No.	Time Range	1-24	25-49	50-74	75-99	100-249
60F3115	0.2 to 20 sec.	66.80	63.46	60.12	53.44	46.76
60F3116	2.0 to 200 sec.	66.80	63.46	60.12	53.44	46.76



319

GENERAL PURPOSE PLUG-IN RELAYS

Type 219. 14 pin plug-in relay. Designed for miss free contact operations. Operating life: 20 million operations min. Operating time: 25 millisec. max. Release time: same as operating time max. AC relays operate at 85% and 110% nominal VAC. DC operates at 80% and 110% nom. VAC. Built in actuator.

Stock No.	Type 219	Coil Volts	DPDT Cont.	1-24	25-49	50-74	75-99	100-249
60F3050	XDXP	24 VDC	4PDT					
60F3051	FXXP	24 VDC	6P—NO					
50F3052	DXBP	24 VDC	4P-NO+2P-NC	19.20	18.24	17.28	15.36	13.44
60F3053	XDXP	115 VAC	4PDT					
60F3054	FXXP	115 VAC	6P—NO					
60F3055	DXBP	115 VAC	4P-NO+2P-NC					

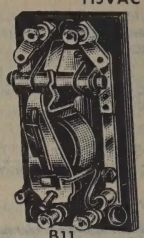
GENERAL PURPOSE RELAYS

Type 319. Uses same magnet and contact assemblies as Type 219. Designed for control and logic circuitry. Insulation for 300VAC service. Mechanical life: 20 million operations min. Operating time: 25 millisec. max. Release time: 20 millisec. max. Same volt. operating time as 219. Built in actuator.

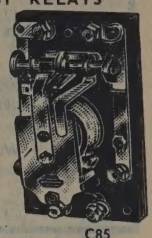
Stock No.	Type 319	Coil Volts	DPDT Cont.	1-24	25-49	50-74	75-99	100-249
60F3056	XDX	24 VDC	4PDT					
60F3057	FXX	24 VDC	6P—NO					
60F3058	DXB	24 VDC	4P-NO+2P-NC	14.50	13.78	13.05	11.60	10.15
60F3059	XDX	115 VAC	4PDT					
60F3060	FXX	115 VAC	6P—NO					
60F3061	DXB	115 VAC	4P-NO+2P-NC					

NEWARK FOR ALL YOUR ELECTRONIC NEEDS

B11 MIDGET FRAME SEQUENCE 115VAC DPST RELAYS



B11



C85

DPST cam-operated contacts repeat predetermined sequence continuously. Type B11BXX contacts open and close together. Type B11AXA contacts open and close alternately. Coils are for intermittent duty only. Contact ratings: 6 amps @ 24 VDC 115 VAC., 3 amps @ 230 VAC. ½ amp. @ 115 VDC. Eight tooth ratchets. Six terminals: #6-32 studs complete with wiring hardware for front connection. Size: 2 x 1 3/16". Av. wt., 1 lbs.

Stk. No.	Type	1-49	50-99	100-240
60F3124	B11BXX	28.10	25.29	22.48
60F3125	B11AXA	28.10	25.29	22.48

C85 FRAME POWER SEQUENCE 115VAC DPST RELAYS

DPST cam operated contacts repeat predetermined sequence continuously. Contacts open and close alternately. Contact ratings: 20 amps. @ 115 VAC or 24 VDC; 10 amps @ 230VDC; 1 amp @ 115VDC; ¼ amp @ 230VDC. Eight toothed ratchets. Same terminals as Type B11. Size: 3 x 5". Shpg. wt., 1 lb.

Stk. No.	Type	1-49	50-99	100-249
60F3127	C85AXA	44.50	40.05	35.60

PLASTIC RELAY ENCLOSURE

Make your own plug-in type enclosure for experimental circuits, timing devices, etc. It features the same construction as enclosures on this page. Fits Type 27390 socket on this page. Case is sturdy, thermoplastic with molded phenolic base. Size: 2⅝x1 15/32". Twelve usable pins with 10-amp current rating. Polarized by means of a mounting clip. All necessary hardware is included. Ship. weight, 4 oz.

Stk. No.	Type	Size	Net
60F3131	CX3671	2 19/32"high less pins	2.90
60F3132	CX3672	3¾" high less pins	3.00

TYPE 27390 12-PIN PLUG-IN SOCKET

Heavy-duty socket for all relays listed above. Front-connected screws have clamp plates for No. 14 wires. Base: 2 3/16 x 2 21/32 ht. 27/32" Wt. 3 oz.

60F3117. Each 2.50

SOCKET FOR 4-PDT & 6 POLE RELAYS

14 terminal socket accepts 219 4P-DT and 6 pole models. Front-connected screws with captive clamp plates holds two #14 wires. Construction same as 12 terminal versions above except for 2 additional terminals. Base 2 3/16 x 3 3/32 x 27/32. Wt. 3½ oz.

60F3065. Type 33377 .....2.80

Dunco Industrial Relays

214 FRAME GENERAL PURPOSE RELAYS

For general purpose applications. Insulation (G5) is Melamine bonded fibre glass which assures firm contact support. Longer operating life by use of wide hinge. AC relays operate over a range of 85% to 110% of nom. v. DC relays operate over a range of 80% to 110% of nom. g. Standard contacts are fine silver rated 10 amps, 115 VAC. Shpg. Wt. 5 oz.

OPEN

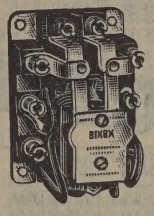
Stock No.	Type	Coil Volts	Action	1-24	25-49	50-74	75-99	100-249	250-499
60F3183	214XBX	115AC	DPDT	3.10	2.95	2.79	2.48	2.17	2.02
60F3184	214XBX	24DC	DPDT	3.10	2.95	2.79	2.48	2.17	2.02
60F3185	214XCX	115AC	3PDT	3.50	3.33	3.15	2.80	2.45	2.28
60F3184	214XCX	24DC	3PDT	3.50	3.33	3.15	2.80	2.45	2.28

ENCLOSED

60F3187	214XBX48P	115AC	DPDT	5.00	4.75	4.50	4.00	3.50	3.25
60F3188	214XBX48P	24DC	DPDT	5.00	4.75	4.50	4.00	3.50	3.25
60F3189	214XCX48P	115AC	3PDT	6.00	5.70	5.40	4.80	4.20	3.90
60F3190	214XCX48P	24DC	3PDT	6.00	5.70	5.40	4.80	4.20	3.90

STANDARD MIDGET OPEN-TYPE 115VAC RELAYS

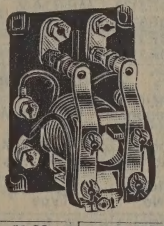
Use for control circuits and for operating small motors, heaters, lights. Contact resistive rating: 6 amps @ 24 or 111VAC or 24VDC; 3 amps @ 230 VAC; 0.5 amps @ 115VDC. Inrush on motor or lamp loads should not exceed 20 amps. Insulation spacing in accordance with U.L. requirements for 300 V. *U.L. listed. 1⅞ x 2¾". Shpg. wt., 1 lb.



Stk. No.	Type	Contacts	1-49	50-99	100-249
60F3118	B1HXX	DB-NO	10.30	9.27	8.24
60F3119	B1XAX	SPDT*	11.40	10.26	9.12
60F3120	B1XBX	DPDT*	14.50	13.05	11.60

STANDARD INDUSTRIAL OPEN-TYPE POWER 115VAC RELAYS

For supervisory, interlocking and power transferring. Cont. ratings: single-break type. 30 amps.@ 24, 115 or 230VAC pr 24VDC; 3 amps @ 115VDC; ¾ amp @ 230VDC; Heavy duty contacts that transfer when energized. Cont. spaced, relays insulated according to U.L. requir. *U.L. Listed. Stud terminals. Size: 3 X 4¼". Av. ft., 1 lb.



Stk. No.	Type	Contracts	1-49	50-99	100-249
60F3121	8BXX	SP-NO-DP	23.90	21.51	19.12
60F3123	A8CXX	3P-NO	27.00	24.30	21.60

FRAME 51 MIDGET MECHANICAL LATCH 115VAC RELAYS

Designed for logic functions concerned with independent control of circuits which must operate through power failure; logic involving "memory", normal AC hum elimination, retention of open or closed contact position over long periods without using coil power. Mechanical latching with electrical reset. Contact ratings: 6 amps or 115 VAC or 24 VDC; 3 amps at 230 VAC; 0.5 amps at 115 VAC. Coils approximate 5 volt amperes AC; 3 watts DC. Operates at 115 VAC. Sizes: **51XBX**—6 1/16 x 2⅜, **51BXX**—3¼ x 2⅜. Wt., 1½ lbs.

Stock No.	Type	Action	1-49	50-99	100-249
60F3278	51XBX46	DPDT	35.10	31.59	28.08
60F3280	51BXX46	2NO	21.20	19.08	16.96

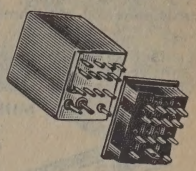
COMPACT POWER RELAYS

Type 415XBX. For instrument control, small motors, solenoid valves and heating elements. Contact arrangement: DPDT, single-break. Mechanical life, 20 million operations. Rating: 15 amperes. Size: Base 1⅞" long by 2¾" wide; Depth 1¾". Shipping Weight: 8 oz.

Stock No.	Coil Volts	1-49	50-99	100-249
60F3129	24VDC	8.40	7.56	6.72
60F3130	115VDC			
60F3128	115VAC			

MODEL 281 XDX MINIATURE WIRED OR PLUG-IN RELAY

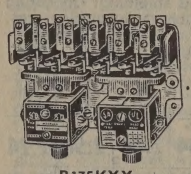
4PDT 3 amp contacts. Light duty relay contains in-line contacts. Enclosed by a removable nylon cover. Solder brass terminals and a single mounting stud for directly-wired applications; converts easily to plug-in by adding sockets. High contact packaging density makes it ideal for applications requiring large banks of relays. Contacts are fine silver buttons, gold flashed. Life expectancy 50 million mech. oper. min. 750,000 elec. oper. min.



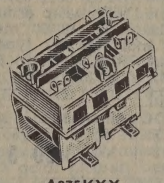
Stock No.	Coil Volts	Coil Cur.	Coil Ohms	1-24	25 49	50 74	75 99	100-249
60F3281	24AC	40MA	160	5.20	4.94	4.68	4.16	3.64
60F3282	115AC	10MA	3900	5.60	5.32	5.04	4.48	3.92
60F3283	12DC	76MA	160	4.50	4.28	4.05	3.60	3.15
60F3284	24DC	37MA	650	4.50	4.28	4.05	3.60	3.15
60F3285	110DC	10MA	11000	4.80	4.56	4.32	3.84	3.36

60F3286	32884—Solder Term. Socket	NET ..... .60
60F3287	32885—PC Term. Socket	NET ..... .60

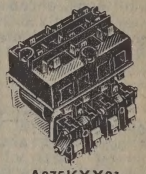
REVERSING CONTACTORS



B175KXX



A275KXX



A275KXX91

Model B175KXX. Control the reversal of single phase AC and DC motors. Withstands frequent reversing or jogging service, and severe shock and vibrations encountered in the hoist service. Two 3-pole solenoid operated contactors mounted on a common frame and mechanically interlocked to prevent simultaneous closure. Double-break silver cadmium oxide contacts rated 2 hp at 110-220v. 2-3 phrase; 3 hp at 440-450v., 2-3 phase; 1½ hp at 230 v., 1 hp at 115v. single phase. 5¼ x 4 7/16 x 3". U.L., C.S.A. listed. Shpg. wt., 2½ lbs.

Stk. No.	Type	Coil Vac	1-49	50-99	100-249
60F3174	B175KXX	24	27.50	24.75	22.00
60F3175	B175DXX	115			
60F3176	B175KXX	230			

Model A275KXX. Designed for continuous operation in heavy duty service. Applications in overhead doors, elevators, hoists, and other jogging equipment. 6 silver cadmium load contacts. One set of 3-pole, normally open, double break contacts per coil and armature; rated at 120VAC-15A, 240VAC-10A, 480VAC-10A, 1-2-3 phase, 1 HP (motor load). Two Mtg. holes, #8 screws. Size: 2 3/16 x 2 7/8 x 3 7/32". Wt. 1 lb.

Model A275KXX90 Same as Model A275KXX, plus a pair of SPDT auyiliary contacts for coil interlocking or electrical lockup.

Model A275KXX91. Same as Model A275KXX, plus a pair of DPDT auxiliary contacts for coil interlocking and electrical lockup.

Stock No.	Type	Coil Vac	1-49	50-99	100-249
60F3177	A275KXX	24	18.20	16.38	14.56
60F3178	A275KXX	120			
60F3179	A275KXX	230			
60F3180	A275KXX90	24	20.90	18.72	16.44
60F3181	A275KXX90	120			
60F3182	A275KXX90	230			
60F3062	A275KXX91	24	21.80	19.62	17.44
60F3063	A275KXX91	115			
60F3064	A275KXX91	230			

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Struthers-Dunn Reed Relays

STANDARD REED CHARACTERISTICS

Temp. range; 0°C to 50°C. Vib.; 10G to 450 cycles; Shock; 50G; Contact rating; 15 watts; 250 volts or 1 amp. Contact resistance; 50 milliohms maximum. Life expectancy; 200,000,000 operations at dry circuit level. 100,000,000 operations at one-half max.; 20,000,000 operations at maximum rating. Form A (SPST-NO), Form B (SPST-NC). Form C (SPDT)

MINIATURE REED CHARACTERISTICS

Contact rating; low level to 4 watts; 250 volts max. 125 MA max. Temp. range; 0°C to 50°C. Vib.; 10 G to 1000 cycles. Shock; 50G. Contact Res., 200 milliohms max. Life expectancy; 200,000,000. Oper. at dry circuit level. 20,000,000 oper. at ½ max. rating. 3,000,000 oper. at max. rating.

MINIATURE MOLDED SHIELD REEDS

Operating time is .5-2.5 msec. Release time less than 0.3 msec. Insulation resistance: 10,000 megs. MRR1A, 1 form A, N.O.; 425" dia. x 1.062". MRR2A. 2 form A, N.O.; 425x515x1.062". MRR4A 4 form A, N.O.; 53x810w1.062". Shpg. wt. 2 oz.

Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3154	MRR1A	6	288	4.20	3.99	3.78	3.36	2.94
60F3155	MRR1A	12	1152	4.20	3.99	3.78	3.36	2.94
60F3156	MRR1A	24	4600	6.20	5.89	5.57	4.95	4.33
60F3157	MRR2A	6	144					
60F3158	MRR2A	12	576					
60F3159	MRR2A	24	2300	7.70	7.32	6.93	6.16	5.39

STANDARD MOLDED SHIELDED REEDS

Axial leads, encapsulated with wrap around shielding. Operating time; .5 to 2.5 milliseconds, 10,000 megohms insulating res. Contact arrangement indicated by type numbers as follows: RR1A (1 Form A) and RR1B (1 Form B), .655" dia. x 1.875"; RR2A (2 Form A), .67 x .84 x 1.875". Shpg. wt. 4 oz.

Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3133	RR1A	6	90					
60F3134	RR1A	12	360	3.20	3.04	2.88	2.56	2.24
60F3135	RR1A	24	1440					
60F3136	RR1B	12	360	4.10	3.90	3.69	3.28	2.87
60F3137	RR1B	24	1440					
60F3138	RR2A	6	36					
60F3139	RR2A	12	145	5.00	4.75	4.50	4.00	3.50
60F3140	RR2A	24	580					

MINIATURE SIZE DRY REED RELAYS

Series MRRK. Enclosed in molded case with 0.1" P.C. grid. Oper. temp.: -25C to +85C. Insul. res.; exceeding 1000 megohms. Oper. time: 1 to 2 ms. Rating: 10 volt amps.

12 VOLTS D (COIL RES. 400 OHMS)

Stock No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3288	MRRK1A	Form "A" —SPST N.O.	3.60	3.42	3.24	2.88	2.52
60F3289	MRRK2A	Form "A" —DPST N.O.	5.20	4.94	4.68	4.16	3.64
60F3290	MRRK3A	Form "A" —3PST N.O.	7.00	6.65	6.30	5.60	4.90
60F3291	MRRK1C	Form "C" —SPDT	7.00	6.65	6.30	5.60	4.90
60F3292	MRRK2C	Form "C" —DPDT	10.00	9.50	9.00	8.00	7.00

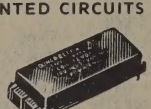
24 VOLTS (COIL RES.1600 OHMS)

60F3293	MRRK1A	Form "A" —SPST N.O.	4.00	3.80	3.60	3.20	2.80
60F3294	MRRK2A	Form "A" —DPST N.O.	5.40	5.13	4.86	4.32	3.78
60F3295	MRRK3A	Form "A" —3PST N.O.	7.00	6.65	6.30	5.60	4.90
60F3296	MRRK1C	Form "C" —SPDT	7.00	6.65	6.30	5.60	4.90
60F3297	MRRK2C	Form "C" —DPDT	10.00	9.50	9.00	8.00	7.00

LOW PROFILE SUBMINIATURE FOR PRINTED CIRCUITS

Type MRRS4A

Type MRRS2A



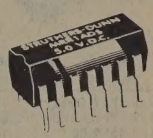
Type MRRS1A

Shielded internally. Designed to assure maximum environmental protection. Contact rating: 10 watts. Operate time: 1.0 ms. Temperature range: 0°C to +50°C. Shock resistance up to 50g. Mechanical lift 200,000,000 operations at dry circuit level; 10,000 operations at minimum rating. Std. 0.172" grid space, right angle leads arranged to prevent incorrect insertion into circuit board. Insulation resistance: 100 megohms. All ave. 1.3" long and .35" high. Wt. 4 oz.

MRRS1A-SPST .500 wide, MRRS2A-DPST .625 wide, MRRS4A-4PST .350 wide.

Stock No.	Type	Coil DC Volts Nom.	Coil DC Volts Oper.	Ohms	1-24	25-49	50-74	75-99	100-249
60F3206	MRRS1A	12	9.6	576	4.40	4.18	3.96	3.52	3.08
60F3207	MRRS1A	24	19.2	2300	4.40	4.18	3.96	3.52	3.08
60F3202	MRRS2A	12	9.6	380	6.10	5.80	5.49	4.88	4.27
60F3203	MRRS2A	24	19.2	1440	6.10	5.80	5.49	4.88	4.27
60F3204	MRRS4A	12	9.6	125	7.70	7.32	6.93	6.16	5.39
60F3205	MRRS4A	24	19.2	500	7.70	7.32	6.93	6.16	5.39

DUAL-IN-LINE REED RELAYS SPST-NO



Truly compatible with dual-in-line IC's including size and operating sensitivities that eliminate or minimize interface buffering. Pin spacing is industry standard for 14 pin dual-in-line IC's. (*) 4.5 volt must operate at 40 MW at 25°C. (**) 4.0 volt must operate at 40 MW at 70°C. Height above PC Board is .275". Contact rated at 10 VA max, 9125 Amp max, 150 volt max. Shipping Wt. 1 oz.

Stock No.	Mfg's. Type	Coil V	Ohms	1-9	10-24	25-74	75-99	100-249	250-499
60F3800	MRR1ADSR*	5	500	4.50	4.28	4.05	3.60	3.15	2.93
60F3801	MRR1ADS*	5	360	4.50	4.28	4.05	3.60	3.15	2.93
60F3802	MRR1ADS	12	1440	4.50	4.28	4.05	3.60	3.15	2.93
60F3803	MRR1ADL**	6	360	3.50	3.33	3.15	2.80	2.45	2.28
60F3804	MRR1ADL	12	1440	3.50	3.33	3.15	2.80	2.45	2.28

MINIATURE PRINTED CIRCUIT SHIELDED REEDS

Can be wired on 0.1 grid centers. MMR1AM, 1 form A; MRR1BM, 1 form B; MRR1A1BM, 1 form A, 1 form B; MRR2AM, 2 form A; MRR2BM 2 form B; Size; All aver. .50x.50x1.25". Shpg. wt. 5 oz.

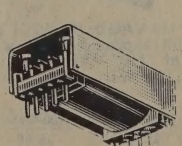
Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3162	MRR1AM	6	144					
60F3163	MRR1AM	12	576	5.70	5.42	5.13	4.56	3.99
60F3164	MRR1AM	24	2304					
60F3165	MRR1BM	12	576	5.90	5.61	5.31	4.72	4.13
60F3166	MRR1BM	24	2304					
60F3168	MRR1A1BM	12	288					
60F3169	MRR1A1BM	24	1152	7.70	7.32	6.93	6.16	5.39
60F3170	MRR2AM	12	288					
60F3171	MRR2AM	24	1152	6.80	6.46	6.12	5.44	4.76
60F3172	MRR2BM	12	288					
60F3173	MRR2BM	24	1152	7.00	7.32	6.93	6.16	5.39

STANDARD PRINTED CIRCUIT SHIELED REEDS

Entirely enclosed in a steel housing. Insulation resistance: 1000 megohms. RR1A1BM, 1 Form A, 1 Form B; 800x550x2.313" RR22-A2Bm 2 Form A, 2Form B; 1.200x550x2.93". RR1CM, 1 Form C; RRLM1CM, 1 Form C (latching-single coil,bistable) and RRLM1CM102, is same but double coil; .60x.55x2.93".

Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3143	RR1A1BM	6	36					
60F3144	RR1A1BM	12	144	7.00	6.65	6.30	5.60	4.90
60F3145	RR1A1BM	24	576					
60F3146	RR2A2BM	12	72					
60F3147	RR2A2BM	24	288	12.30	11.69	11.07	9.84	8.61
60F3148	RR1CM	12	1152					
60F3149	RR1CM	24	4600	12.70	12.07	11.43	10.16	8.89
60F3152	RRLM1CM102	12	480					
60F3153	RRLM1CM102	24	1920	12.70	12.07	11.43	10.16	8.89

MRRN SERIES



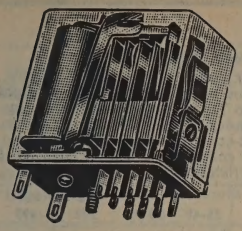
Low cost open dry reed relay designed for applications requiring reliability over an extremely long life. Snap-on metal covers for magnetic shielding. Contacts rated for low level to 12 volt-amperes. Non-magnetic P/C in-line terminals on 0.1" grid spacing. Size: 1⅛" long by ⅜" above the mounting board.

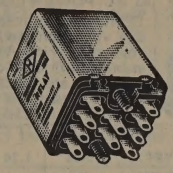
12 VOLTS DC

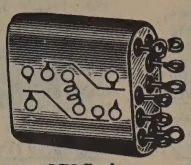
Stk. No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3088	MRRN1A	1 Form "A"—SPST N.O.	3.30	3.14	2.97	2.64	2.31
60F3089	MRRN2A	2 Form "A"—DPST N.O.	4.70	4.47	4.23	3.76	3.29
60F3090	MRRN3A	3 Form "A"—3PST N.O.	6.40	6.08	5.76	5.12	4.48
60F3091	MRRN4A	4 Form "A"—4PST N.O.	8.00	7.60	7.20	6.40	5.60
60F3092	MRRN1C	1 Form "C"—SPDT	6.50	6.18	5.85	5.20	4.55
60F3093	MRRN2C	2 Form "C"—DPDT	9.50	9.03	8.55	7.60	6.65

24 VOLTS DC

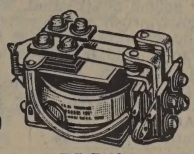
60F3094	MRRN1A	1 Form "A"—SPST N.O.	3.70	3.52	3.33	2.96	2.59
60F3095	MRRN2A	2 Form "A"—DPST N.O.	5.00	4.75	4.50	4.00	3.50
60F3096	MRRN3A	3 Form "A"—3PST N.O.	6.40	6.08	5.76	5.12	4.48
60F3097	MRRN4A	4 Form "A"—4PST N.O.	8.00	7.60	7.20	6.40	5.60
60F3098	MRRN1C	1Form "C"—SPDT	6.50	6.18	5.85	5.20	4.55
60F3099	MRRN2C	2 Form "C"—DPDT	9.50	9.03	8.55	7.60	6.65

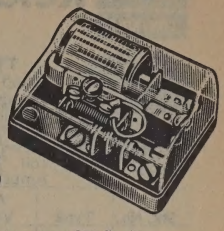

Type 67


W Series


MV Series

GH Series


PC Series


SV Series

MINIATURE INDUSTRIAL RELAY

Type 67. Uses armco magnetic ingot iron and a one piece frame and core to provide unusually precise adjustment. Has plastic protective cover. Sockets available. Listed below.

STANDARD ADJUSTMENT

Stk. No.	Type	Coil VDC	Ohms	Contacts Form	Amp	1-24	25-49	50-99	100-249
57F1600	67DP–A-2C3	6	52	2C	3	3.25	3.09	2.93	2.60
57F1601	67DP-D-2C3	12	185	2C	3	3.25	3.09	2.93	2.60
57F1602	67DP-G-2C3	24	700	2C	3	3.25	3.09	2.93	2.60
57F1605	67DP-D-4C3	12	185	4C	3	3.60	3.42	3.24	2.88
57F1606	67DP-G-4C3	24	700	4C	3	3.60	3.42	3.24	2.88
57F1610	67DP-H-6C3	24	430	6C	3	4.65	4.42	4.19	3.72
57F1621	67DP-D-4C5	12	185	4C	5	3.85	3.66	3.47	3.08
57F1622	67DP-G-4C5	24	700	4C	5	3.85	3.66	3.47	3.08
57F1626	67DP-H-6C5	24	430	6C	5	5.05	4.80	4.55	4.04
57F1630	67DP-J-8C5	24	350	8C	5	7.65	7.27	6.89	6.12

SENSITIVE ADJUSTMENT

Stk. No	Type	Ohms	Contacts Form	Amp	Curr. Ma.	1-24	25-49	50-74	75-99	100-249
57F1648	67DS-S-2C3	1,000	2C	3	8.5	3.55	3.20	3.03	2.68	2.48
57F1649	67DS-K-2C3	2,500	2C	3	5.8	3.55	3.20	3.03	2.68	2.48
57F1650	67DS-T-2C3	5,000	2C	3	4.1	4.05	3.65	3.45	3.06	2.83
57F1653	67DS-S-4C3	1,000	4C	3	13.0	3.96	3.57	3.38	2.99	2.77
57F1654	67DS-K-4C3	2,500	4C	3	8.4	3.96	3.57	3.38	2.99	2.77

CHASSIS SOCKETS

For 67 relay. Retaining ring & ground clip included.

Stk. No.	Poles	Socket No.	1-24	25-49	50-74	75-99	100-249
57F1658	2	6-1313-9	.55	.50	.48	.42	.39
57F1659	4	6-1313-11	.60	.54	.51	.45	.42
57F1660	6	6-1313-13	.95	.86	.81	.72	.67
57F1661	8	6-1313-15	1.30	1.17	1.11	1.06	.97

The above standard adjusted "67" series relays are available with U.L. recognition, U.L. File #E30741, for switching circuits up to 150 vac. To order, add "U" after the "67". (Ex. 67UDP-G-4C3.) Single and bifurcated contacts rated for resistive loads of 3 amps at 24 VDC or 115 VAC. All other specifications are the same as the standard part.

NEED PRINTED CIRCUIT MOUNTING? Add -1 after selected "67" or "67U" part number.

SERIES W RELAYS

DPDT Series. For plug-in application, also has quick connect terminals for use without socket. Mechanical life expectancy under low contact load conditions is in excess of 10,000,000 cycles. Contact ratings: 25 A resistive: 120 VAC or 240 VAC. 1 HP: 120 VAC. 2 HP: 240 VAC. 25 A resistive: 24 VDC. Small size, 1½ x 1½ x 1⅞". U.L. approved.

Stk. No.	Type	Volts	Ohms	1-24	25-49	50-74	75-99	100-249
24F1959	WU012D3	12 VDC	50	9.50	8.55	8.08	7.13	6.18
24F1960	WU024D3	24 VDC	250	9.50	8.55	8.08	7.13	6.18
24F1962	WU024A3	24 VAC	14	9.50	8.55	8.08	7.13	6.18
24F1963	WU115A3	115 VAC	250	9.50	8.55	8.08	7.13	6.18
24F1964	WU220A3	220 VAC	1,000	9.80	8.82	8.33	7.35	6.37
24F1972	WPS-C socket for above relays							

MICRO-MINIATURE CRYSTAL CAN RELAYS

MV Series. Hermetically sealed rotary action DPDT DC. Meets MIL-R-5757. Occupies ¼ inch. Spring leaf contact blades insure longer life, greater heat dissipation. Type number designates coil resist.; 120, 600, 1000. Items having plain can mounting arrangement have plug-in pin terminal arrangement; remaining have solder-hook arrangement. *44 ma. max. pull-in current, nom. coil voltage 12VDC. **21 ma., 26VDC. ***16 ma., 35VDC. †10 ma., 55VDC.

Stock No.	Type	Mounting	1-24	25-49	50-74	75-99	100-249
24F1910	MV2C120D-13*	2-hole brkt.					
24F1915	MV2C120D-24*	Plain can					
24F1917	MV2C600D-12**	Top studs	10.80	10.25	9.70	8.65	7.55
24F1918	MV2C600D-13**	2-hole brkt.					
24F1923	MV2C600D-24**	Plain can					
24F1931	MV2C1000D-24***†	Plain can					

GENERAL PURPOSE RELAYS

GHA and GHP Series. General purpose, continuous-duty relays, engineered for high efficiency at low cost. Contacts rated at 5 amps with resistive load. GHA series is open-frame relay with axial-type solder lug terminals, size 1 47/64 x 1 7/64 x 1 3/16". GHP relays have dustite plastic enclosure with octal base in SP and DPDT models, 11-pin base in 3PDT types; size 1 13/32 x 1 13/32 x 2 1/8". Wt. 2 oz.

5 AMPS.

Stk. No.	Type & Voltage	Ohms	Cont.	1-9	10-49	50-74	75-99	100-249
24F1020	GHA/1C/115VAC	1600	SPDT	3.10	2.95	2.79	2.48	2.17
24F1023	GHA/2C/ 24VAC	63	DPDT	3.76	3.57	3.38	3.01	2.63
24F1024	GHA/2C/115VAC	1600	DPDT	3.76	3.57	3.38	3.01	2.63
24F1026	GHA/3C/ 6VAC	4	3PDT	4.15	3.94	3.74	3.32	2.91
24F1034	GHA/2C/ 24VDC	400	DPDT	3.30	3.14	2.97	2.64	2.31
24F986	GHP/1C/115VAC	1600	SPDT	5.35	5.08	4.82	4.28	3.75
24F989	GHP/2C/115VAC	1600	DPDT	6.00	5.70	5.40	4.80	4.10

GHB and GHH Series. Same size and mountings as the GHA and GHP shown above, except contacts rated at 10 amps with a resisting load. GHB is open style with axial leads and GHH utilizes plastic enclosures with octal plug in base for SPST and DPDT models. 3PDT types use 11pin base. Enclosed size: 1 13/32 x 1 13/32 x 2 1/8. Wt., 3 oz.

10 AMPS.

Stock No.	Type & Voltage	Ohms	Cont.	1-24	25-49	50-74	75-99	100-249
60F1801	GABIC115VA	1600	SPDT	3.85	3.66	3.47	3.08	2.70
60F1802	GHB2C6VA	4	DPDT	3.85	3.66	3.47	3.08	2.70
60F1803	GHB2C24VA	63	DPDT	3.85	3.66	3.47	3.08	2.70
60F1804	GHB2C115VA	1600	DPDT	3.85	3.66	3.47	3.08	2.70
60F1805	GHB3C115VA	1600	3PDT	4.31	4.09	3.88	3.45	3.02
60F1806	GHB2C24VD	400	DPDT	3.44	3.27	3.10	2.75	2.41
60F1807	GHB3C12VD	100	3PDT	3.90	3.71	3.51	3.12	2.73
60F1808	GHH2C24VA	63	DPDT	6.10	5.80	5.49	4.88	4.27
60F1809	GHH2C115VA	1600	DPDT	6.10	5.80	5.49	4.88	4.27
60F1810	GHH3C115VA	1600	3PDT	7.59	7.21	6.83	6.07	5.31
60F1811	GHH2C24VD	400	DPDT	6.00	5.70	5.40	4.80	4.20
60F1812	GHH3C24VD	400	3PDT	7.54	7.16	6.79	6.03	5.28

The above "GH" relays are available with U.L. recognition, U.L. File #31481. To specify, add the letter "U" after the "GH" in the part number. (Ex. GHUA-2C-115VA.) GHUA and GHUP are U.L. recognized for loads of 5 amps at 115 vac or 1/10 hp at 120 vac. GHUB rated for 10 amps at 115 vac or ½ hp at 120 vac or ⅓ hp at 240 vac. GHUH is rated for 8.5 amps at 115 vac or ⅛ hp at 120 vac or ⅓ hp at 240 vac.

POWER RELAYS

PC Series. Compact, positive-acting relays for either AC or DC use. Used in air conditioning and lighting systems, garage door openers—wherever dependable circuit switching is necessary. Contacts rated at 15 amperes resistive, 5 amperes inductive at 115 VAC or 26.5 VDC. 2 tapped mounting holes 6-32 NC-2; 2" centers. 19/16" x 15/8" 25/8". Weight 8 oz.

Stk. No.	Type	Coil Resist.	Cont.	1-24	50-49	50-74	75-99	100-249
24F783	PC/1C/115VA	450 ohms	SPDT	5.60	5.32	5.04	4.48	3.92
24F939	PC/2C/6VA	1.6 ohms	DPDT	8.25	7.84	7.43	6.60	5.78
24F913	PC/2C/115VA	450 ohms	DPDT	8.25	7.84	7.43	6.60	5.78
24F943	PC/2C/24VD	250 ohms	DPDT	8.25	7.84	7.43	6.60	5.78
24F945	PC/3C/115VA	450 ohms	3PDT	12.20	11.59	10.98	9.76	8.54
24F947	PC/3C/24VD	250 ohms	3PDT	12.20	11.59	10.98	9.76	8.54
24F948	PC/4C/115VA	450 ohms	4PDT	16.05	15.25	14.45	12.84	11.24

SENSITIVE RELAYS

SV Series. Ultra-sensitive durable, dustite and fully adjustable relay incomparable for use in any DC circuit restricted to a few thousandths of a watt power consumption. Molded bakelite base has both screw and solder terminal connectors, and a convenient means of mounting is provided. SPDT, 1 amp contacts. Mtg. holes 9/64" dia. 1½ x 2 x 2 9/16". Shpg. wt., 6.5 oz.

Stock No.	Type	Ohms	Coil Cur.	1-24	25-49	50-74	75-99	100-249
24F920	SV/1C/1000D	1000	2.25 MA	10.72	10.18	9.65	5.58	7.50
24F922	SV/1C/2200D	2200	1.5 MA	10.72	10.18	9.65	5.58	7.50
24F776	SV/1C/3500D	3500	1.2 MA	10.90	10.36	9.81	8.72	7.63
24F924	SV/1C/5500D	5500	.95 MA	11.35	10.78	10.22	9.08	7.95
24F923	SV/1C/10000D	10000	.7 MA	12.20	11.59	10.98	9.76	8.54
24F926	SV/1C/14000D	14000	.6 MA	13.10	12.45	11.79	10.48	9.18

TYPE 530 SOLENOID CONTACTORS

3PNO double break-rated. 30 amps continuous, 180 amps inrush at 250 volts. 15 amps continuous and 90 amps inrush at 600 VAC. Laminated magnet and armature, resilient mounting. Screw terminals. Enclosed contacts. 50/60 cy. coil. 14.5 Volt Amps. continuous with 50 Volt Amps. inrush. Overall size: 3⅞"x2⅜"x2½".

Stk. No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-999
60F2864	S30-902	115V.	11.55	10.40	9.24	8.09	6.00

INDUSTRIAL AC CONTACTORS

Double break contact action. Replaceable contacts and coil. Silver alloy contacts. Design permits common base coil, and magnet for contactor ratings from 10-50 amperes. Epoxy sealed molded magnet coil housing. 50/60 Hz magnet coil. Hi-dielectric arc resistance molded block and carrier. Resilient mounting.

C10/4PNO

Pressure type power terminals: #10 wire max; 10 amps @ 600 max. resistive load (per pole); Contacts convert to N.C.

Stk. No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2831	C10-902	110	12.60	11.34	10.48	8.82	8.68
60F2832	C10-903	220	12.60	11.34	10.48	8.82	8.68

C15/4PNO

Rated for 15 amps, @ 600 Volts. Contacts convert to N.C.

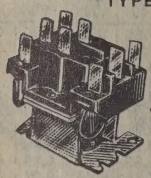
60F2854	C15-902	110	18.72	16.85	14.98	13.11	12.90
60F2855	C15-903	220	18.72	16.85	14.98	13.11	12.90

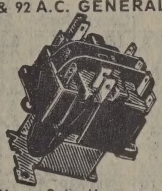
C30/3PNO

30 Amps @ 600V Terminals take #6 solid wire max.

60F2834	C30-902	110	19.95	17.96	15.96	13.97	9.15
60F2835	C30-903	220	19.95	17.96	15.96	13.97	9.15

TYPE 92 & 92 A.C. GENERAL PURPOSE





Solenoid action. Quick connect terminals. Enclosed fine silver contacts. Contacts rated at 15 amps, 277 volts AC max., resistive; 12 amps, (60 amp inrush) 125 volts, volts AC-6 amps (35 amp inrush), 250 volts inductive. Selective mounting. Electrical life, 100,000 operations at rated load. **Type 91:** coil DPDT characteristics, 22 volt-amperes inrush; 10 volt-amperes sealed. Overall dimensions: 2⅛x1⅞x2⅜". Approx. wt. 5 oz. **Type 92:** 3 PDT; coil 24 volt-amperes inrush; 12 volt amperes sealed. Overall dimensions 2⅜x2⅜x2¾". Approx. wt. 6 oz.

TYPE 91 GENERAL PURPOSE

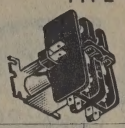
Stk. No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2716	91-901	24	5.87	5.29	4.70	4.11	2.66
60F2717	91-902	115/120	6.47	5.83	5.18	4.53	2.93
60F2718	91-903	208/240	6.33	5.70	5.07	4.44	2.87
60F2719	92-901	24	7.31	6.58	5.85	5.12	3.31
60F2720	92-902	115/120	7.22	6.50	5.78	5.06	3.27
60F2721	92-903	208/240	7.50	6.75	6.00	5.25	3.40

TYPE 70 D.C. POWER CONTACTORS

Double break copper to copper rotating disc moveable contact. Copper stud power and isolated coil terminals. Wiring hardware included. Continuous rating, 80 amps (inrush 300 amps at 6 volts—150 amps at 12 volts DC). 50 amps max. at 24 and 36 volts DC. Bracket mnt.—2.109" centers. Coil, 9 watts. Copper contacts except(*)which are silver. SPNO: 2½x3½x2½". SPDT. 3⅜x3 9/16x2½". Approx. wt. 1 lb.

Stk. No.	Type	DC Volts	Action	1-24	25-49	50-99	100-249	250-499
60F2725	70-901	6	SPNO					
60F2726	70-902	12	SPNO	4.00	3.60	3.20	2.80	1.70
60F2727	70-903	24	SPNO					
60F2728	70-904	36	SPNO					
60F2675	70-905*	6	SPNO					
60F2676	70-906*	12	SPNO	6.90	6.21	5.52	4.83	3.18
60F2677	70-907*	24	SPNO					
60F2678	70-908*	36	SPNO					
60F2679	70-909*	6	SPDT					
60F2680	70-910*	12	SPDT	10.50	9.45	8.40	7.35	5.18
60F2681	70-911*	24	SPDT					
60F2682	70-912*	36	SPDT					
60F2692	70-914	12	SPNO					
60F2693	70-915	24	SPNO	4.00	3.60	3.20	2.80	1.73
60F2694	70-918	12	SPNO					
60F2695	70-919	24	SPNO					

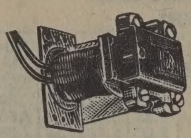
TYPE 143 AC POWER CONTACTOR



2PNO double break contacts. Rated for 18 amp., 250 volts continuous or 90 amp inrush. Straight through wiring. No 10 pressure screw power terminals with dual quick connect auxiliary terminals. Female quick-connect wiring, terminals included. Class "B" coils. Size 3¼x2⅜x2½"/Wt. 8 oz. U:L. and CSA listed.

Stk. No.	Type	AC Volts	1.24	25-49	50-99	100-249	250-499
60F2979	143-901	24					
60F2980	143-902	120	4.78	4.31	3.83	3.35	2.85
60F2981	143-903	208/230					

TYPE 75 AC POWER CONTRACTORS



Protected contacts Coil lead wires 2PNO action Silver alloy contacts rated at 25 amps, 240 volts AC (per pole resistive; 18 amps, 230 volts AC inductive. 1 Horse power per pole, 115/230 volts AC. 2 pole rating—2 horse power, 230 volts AC Electrical life, 100,000 operations at rated load. Coil characterisamperes sealed. Screw power terminals except(*) which are quick-connect. Over-all dimensions, 2½x2⅛x2¼". Approx. wt., 7 oz.

Stk. No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2722	75-901	24					
60F2723	75-902	115/120	4.59	4.14	3.68	3.22	2.74
60F2724	75-903	230/240					
60F2982	75-904	24					
60F2983	75-906	115/120					
60F2984	75-905	230/240					

AC REVERSING CONTACTORS

Two type C contactors mounted side by side on steel base. Hardened steel interlock prevents simultaneous closing of both contactors. Resilient mounting. No cross-phase wiring. 15 amps @ 600V. 4PNO. All contacts convert to N.C.

Stk. No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2836	CR15-901	110	40.73	36.66	32.59	28.52	28.05

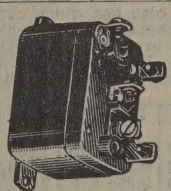
TYPE C REPLACEMENT PARTS

Magnetic Coils

Stk. No.	Type	Replaces	Voltage 50/60Hz	1-24	25-249
60F2991	MC-901	45225-5	24		
60F2992	MC-902	45225-1	110	4.68	2.64
60F2993	MC-903	45225-2	220		

Contact Assemblies

Stk. No.	Type	Replaces	Type	1-24	25-249
60F2994	CA-901	45997-3	C-10 C-15		
		45997-4	CR-15	5.76	3.24
60F2995	CA-902	45997-5	C-30, CR-30	7.80	4.40



TYPE 84 SCREW TERMINALS

Totally enclosed. Silver alloy contacts rated at 125/250 volts AC; SPNO, 16 amps resistive (continuous); 8 amps (25 amps inrush) inductive. SPDT, 8 amps resistive (18 amps inrush) inductive. 6-32 mounting holes/2.156" centers. Electrical life, 100,000 operations at rated load. Coil, 4 VA inrush; 3 VA sealed. Overall size, 2⅜x1⅝x1½". Approx. wt., 5 oz.

Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249	250-499
60F2700	84-901	6	SPNO	3.06	2.76	2.45	2.15	1.98
60F2701	84-902	24	SPNO	3.06	2.76	2.45	2.15	1.98
60F2702	84-903	120	SPNO	3.37	3.04	2.70	2.36	2.18
60F2704	84-905	6	SPDT	3.32	2.99	2.66	2.33	2.15
60F2705	84-906	24	SPDT	3.87	3.04	2.70	2.36	2.18
60F2706	84-907	120	SPDT	3.65	3.29	2.92	2.36	2.36

TYPE 84 QUICK CONNECT TERMINALS

Same as above except with female quick-connect wiring terminals.

Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249	250-499
60F2985	84-912	24	SPNO	3.03	2.73	2.43	2.13	1.96
60F2986	84-913	120	SPNO	3.29	2.97	2.64	2.31	2.13
60F2988	84-916	24	SPDT	3.29	2.97	2.64	2.31	2.13
60F2989	84-917	120	SPDT	3.60	3.24	2.88	2.52	2.33
60F2847	84-922	24	SPNO	2.98	2.69	2.39	2.39	1.93
60F2848	84-923	120	SPNO	2.98	2.69	2.39	2.39	1.93
60F2849	84-926	24	SPDT	2.32	2.99	2.66	2.66	2.15
60F2997	84-927	120	SPDT	3.60	3.24	2.88	2.52	2.33

RBM

TYPE 129 AC POWER RELAY

Stk.No.	Type	AC Volts	Act.	1-24	25-49	50-99	100-249	250-499
60F2709	129-902	24	SPNO	4.11	3.70	3.29	2.89	2.59
60F2710	129-903	120	SPNO	4.35	3.92	3.48	3.05	2.74
60F2011	129-904	208/230	SPNO	4.62	4.16	3.70	3.24	2.91
60F2713	129-906	24	SPDT*	5.11	4.60	4.09	3.58	3.22
60F2714	129-907	120	SPDT*	5.37	4.84	4.30	3.76	3.39
60F2715	129-908	208/230	SPDT*	5.71	5.14	4.57	4.00	3.60

*Isolated Terminals; all contact term. Wired same polarity.

Totally enclosed. Screw terminals. Silver alloy contacts rated at 18 amperes continuously at 250 volts AC, resistive or inductive. Horse power rating, 1 H.P. at 125 volts, 2 H.P. at 250 volts. Single screw mounting. Electrical life, 100,000 operations at rated load. Coil: 10 volt-amperes inrush—5 volt-amperes sealed. Size, 2⅜x1⅞x1⅞". Approx. wt. 7 oz.

TYPE 129AR AC POWER RELAY

Stk. No.	Mfr. Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2683	129AR-901†	24	6.13	5.52	4.91	4.30	3.86
60F2684	129AR-902†	120	6.40	5.76	5.12	4.48	4.03
60F2686	129AR-904*	24	7.17	6.46	5.74	5.02	4.53
60F2697	129AR-905*	120	7.46	6.72	5.97	5.23	4.71

Fits any ½" knockout. Contacts rated at 250VAC @ 18 amp. continuous. Pre-wired. Color coded 8" lead wires, U.L. approved. (†) single pole, normally open; (*) single pole, double throw. 2¾x2⁹⁄₁₆x3¹⁄₁₆".

TYPE MS64 MINIATURE SENSITIVE RELAY

PRINTED CIRCUIT

Stock No.	Type	DC Volts	Ohms @25°C	1-24	25-49	50-99	100-249
60F2971	MS64-901	6	400	2.21	1.99	1.77	1.55
60F2972	MS64-902	12	1600	2.27	2.05	1.82	1.59
60F2973	MS64-903	24	6500	2.50	2.25	2.00	1.75

BRACKET SOLDER TERMINALS

60F2975	MS64-911	6	400	2.27	2.05	1.82	1.59
60F2976	MS64-912	12	1600	2.34	2.11	1.88	1.64
60F2977	MS64-913	24	6500	2.56	2.31	2.05	1.80

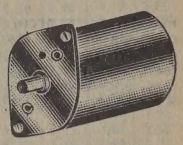
For application where minimum mounting space and maximum protection to moving parts are important. For printed circuit board mounting, or in mounting bracket version for "solder on" lead wire termination. Molded construction with Snap-on cover. Single pole double throw-enclosed type. Isolated contacts. Size: 1³⁄₁₆ x ¾ x 1⅛".

DALE

HYSTERESIS MOTORS

Stk.No.	Type	Drive	AC-Volts	1-9	10-24	25-49	50-99	100-249	250-499
60F3924	4425-101	Pinion	117	3.21	2.92	2.67	2.47	2.29	2.15
60F3925	4425-102	Shaft	117	3.21	2.92	2.67	2.47	2.29	2.15
60F3926	4425-103	Pinion	24	3.02	2.74	2.52	2.33	2.17	2.04
60F3927	4425-104	Shaft	24	3.02	2.74	2.52	2.33	2.17	2.04
60F3928	4425-105	Pinion	12	2.98	2.70	2.48	2.29	2.13	2.00
60F3929	4425-106	Shaft	12	2.98	2.70	2.48	2.29	2.13	2.00
60F3930	4425-107	Pinion	6	2.98	2.70	2.48	2.29	2.13	2.00

Reversible AC hysteresis synchronous motors for cassette drivers, timers, and scanning devices. Lifetime oil impregnated sintered bronze bearings. Output torque (stall): .10 in./oz. min. at rated voltage with recommended capacitor. Power input: 5.5 volt amps. Insulation: NEMA Class A (105°C) 75°C rise @ rated voltage and continuous duty, 1800 RPM. Pinion data: T 10, P.A. 20°, D.P. 64 P.D. .156; Net Wt. 3.4 oz. Ship. Wt. 4.5 oz.



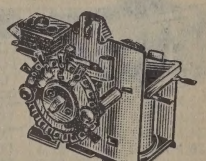
SP SERIES

AC & DC stepping relays, plate type switch, single pole uni-directional or bi-directional. Continuous rotation or selectable steps. Stepping rate: 10 steps per sec., 50 millisecond pulse. Contact resistance: .025 ohm max. Contact rating: 1 amp 24 VAC to .1 amp 117 VAC. Continuous duty for 500,000 steps no maintenance, increased 3 times by cleaning and lubricating at above interval. Nomenclature: third digit of man. type denotes mode of operation; SP1—uni-direct. DC, SP2—bi-direct. DC, SP3—uni-direct. AC, SP4—bi-direct. AC. Available in 4, 10, 12, and 13 steps denoted by fourth and fifth digits of man. type. Wt.: bi-direct. 6.5 oz.; uni-direct. 4 oz.

Stock No.	Man. Type	Volt	1-9	10-24	25-49	50-99	100-249	250-499
60F3908	SP1-04	24 DC	6.17	5.58	5.09	4.67	4.32	4.04
60F3909	SP2-04	24 DC	8.39	7.63	7.00	6.46	6.01	5.65
60F3910	SP3-04	117 AC	5.73	5.20	4.79	4.40	4.09	3.84
60F3911	SP4-04	117 AC	8.34	7.58	6.95	6.41	5.96	5.60
60F3912	SP1-10	24 DC	6.41	5.75	5.27	4.86	4.52	4.25
60F3913	SP2-10	24 DC	9.28	8.43	7.73	7.13	6.63	6.23
60F3914	SP3-10	117 AC	6.13	5.57	5.11	4.71	4.38	4.12
60F3915	SP4-10	117 AC	8.76	7.91	7.30	6.74	6.27	5.98
60F3916	SP1-12	24 DC	6.49	5.86	5.41	4.99	4.64	4.36
60F3917	SP2-12	24 DC	8.55	7.72	7.12	6.57	6.11	5.74
60F3918	SP3-12	117 AC	6.29	5.71	5.23	4.82	4.48	4.21
60F3919	SP4-12	117 AC	8.92	8.10	7.43	6.85	6.37	5.99
60F3920	SP1-13	24 DC	6.52	5.93	5.44	5.02	4.67	4.39
60F3921	SP2-13	24 DC	9.44	8.57	7.86	7.25	6.74	6.33
60F3922	SP3-13	117 AC	6.00	5.45	5.00	4.62	4.30	4.04
60F3923	SP4-13	117 AC	8.00	7.27	6.67	6.15	5.72	5.38

SW SERIES

AC & DC stepping relays, wafer type switch, single pole, uni-directional or bi-directional, continuous rotation. Vertical or horizontal mounting with one screw and two locating tabs. Stepping rate: 10 steps per second, 50 millisecond pulse. Contact resistance: .01 ohm maximum, dry circuit. Contact rating: 1 amp dry circuit 24 VAC to .5 amp 117 VAC. All models are continuous duty for 500,000 steps no maintenance, may be increased approximately 3 times by cleaning and lubricating at above interval. Operable to 10% above or below nominal voltage. Nomenclature: third digit of manufactures type denotes mode of operation; SW1—uni-directional DC, SW2—bi-directional DC, SW3—uni-directional AC, SW4—bi-directional AC. Available in either 4 or 12 electrical steps denoted by fourth and fifth digits of manufactures type. Weight: bi-directional, 6.5 oz.; uni-directional, 4 oz.



Stock No.	Man. Type	Volt	1-9	10 24	25-49	50-99	100-249	250-499
60F3900	SW1-04	24 DC	6.71	6.09	5.59	5.16	4.80	4.51
60F3901	SW2-04	24 DC	9.69	8.80	8.07	7.45	6.93	6.51
60F3902	SW3-04	117 AC	6.47	5.88	5.39	4.97	4.62	4.34
60F3903	SW4-04	117 AC	8.88	8.06	7.39	6.81	6.33	5.95
60F3904	SW1-12	24 DC	6.71	6.09	5.59	5.16	4.80	4.51
60F3905	SW2-12	24 DC	9.69	8.80	8.07	7.45	6.93	6.51
60F3906	SW3-12	117 AC	6.47	5.88	5.39	4.97	4.62	4.34
60F3907	SW4-12	117 AC	9.43	8.56	7.85	7.24	6.73	6.32

NEWARK OFFERS SPECIAL SERVICES TO HELP YOU

Special testing, marking, packaging available for resistors, capacitors, connectors, semiconductor. products and others. These services are normally available only from OEM sources. Newark can save you time and time is money.

AGASTAT Relays

Fig. A

Fig. B

Fig. C

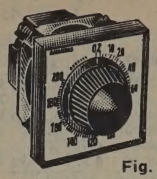


Fig. D

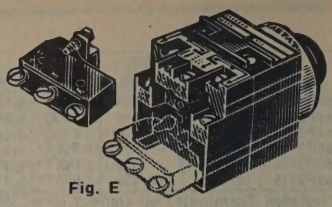


Fig. E

Model 7012

Time delay on pull-in. Timing cycle begins when coil is energized. Coil kept energized throughout delay period preceding DPDT contacts transfer. Coil de-energized: contacts retransfer immediately (25 m-sec). Coil de-energized during time cycle, contacts transferred & timing mech, resets to start position for full time cycle on nect energization of coil.

Model 7022

Time delay on drop-out. Coil energized: DPDT contacts transfer & stay in transfer position. De-energization coil: Time delay begins. Timing cycle contacts stay transferred. End time delay setting: contacts transfer back to de-energized position. Coil re-energized during time cycle; contacts remain transferred, produce full time delay upon next de-energization if coil remains de-energized through time setting.

Auxiliary Switch Kits

SPDT contacts rated 10A/120, 240, 480 VAC. Type "T" provides immediate transfer of contacts for 7022 and two step timing to 100 sec. for both 7012 and 7022 models. Type "L" provides immediate transfer of contacts for 7012 models.

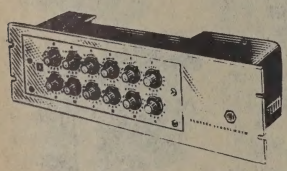
Stk. No.	Model New	Model Old	Fig.	Time Delay Range	AC Volts	NET
57F1550	7012AB	2412AB	A	0.2 to 5 sec.	120	47.00
57F1551	7012AD	2412AD	A	2.5 to 50 sec.	120	47.00
57F1552	7012AH	2412AH	A	3 to 30 min.	120	56.50
57F1553	7012BB	2412BB	A	0.2 to 5 sec.	240	47.00
57F1554	7012BD	2412BD	A	2.5 to 50 sec.	240	47.00
57F1555	7012BH	2412BH	A	3 to 30 min.	240	47.00
57F1556	7022AB	2422AB	A	0.2 to 5 sec.	240	56.50
57F1557	7022AD	2422AD	A	2.5 to 50 sec.	120	47.00
57F1558	7022AH	2422AH	A	3 to 30 min.	120	47.00
57F1559	7022BB	2422BB	A	0.2 to 5 sec.	120	56.00
56F1560	7022BD	2422BD	A	2.5 to 50 sec.	240	47.00
56F1561	7022BH	2422BH	A	3 to 30 min.	240	47.00
57F1581	7012AC	2412AC	A	.8 to 15 sec.	240	56.00
57F1582	7022AC	2422AC	A	.8 to 15 sec.	120	47.00
57F1583	7012AE	2412AE	A	20 to 200 sec.	120	47.00
57F1584	7022AE	2422AE	A	20 to 200 sec.	120	47.00
57F1585	7012AF	2412AF	A	.5 to 10 min.	120	47.00
57F1586	7022AF	2422AF	A	.5 to 10 min.	120	51.00
57F1566	.....	GZ	C	Relay enclosure w/bottom knockouts	120	6.50
57F1564	.....	T	E	Aux. switch kit (see text) 30 sec.	...	8.00
57F1565	.....	L	E	Aux. switch kit (see text) 30 sec.	...	7.00
57F1900	.....	X	D	Panel Mtg. Access. kit	...	4.00

VERSA-DIAL TIMER

Field converts from "on-delay" to "off-delay". "On-delay", application of volt. starts delay, end of delay NC contacts break and NO contacts make. "Off-delay", apply coil volt., NC contacts instantly break and NO contacts make. Volt. off delay begins, end of delay switch resets. Contacts: 10 amp. @ 120 VAC. Repeat acc. ±2%. Wt. 1 lb.

Stk. No.	Model	Fig.	Time Delay Range	Coil Volts	1-2	3-Up
57F1901	VEDOA	B	0.2 sec. to 60 sec.	24DC	32.00	28.00
57F1902	VEDOB	B	20 sec. to 200 sec.	24DC		
57F1903	VEDAA	B	0.2 sec. to 60 sec.	120AC		
57F1904	VEDAB	B	20 sec. to 200 sec.	120AC		

PROGRAMMER



- **Precise individual adjust. of step times, even during operation**
- **Enclosed snap-action load switches, pneumatic output valves or both.**
- **Plug-in drum pins**
- **Easy drum replacement**
- **High repeat ACC. thru precision solid state timeing.**
- **Direct drive AC Stepper**

This programmer as supplied requires only AC input for fully automatic cycling of 12 time control steps. 3 time ranges. 17 enclosed snap-action SPDT load switches. Enclosed direct-drive A-C stepper, plug-in drum pins. 1 piece chassis. Ball-bearing, program drum and step commutator. Time ranges .25-10 sec., 1-100 sec., .01-10 min., voltage 120 nom. 50/60 H. 15 amp load switches and 12 steps.

99F1500. EACH 430.00
Model 2918AD17A. Same as 2912AD17A except has 18 steps.
99F1501 EACH 530.00

STEPPING SWITCH

Controls twenty isolated loads thru 12 and 24 steps, from single or sequential multiple input signals. Program easily set up for changed using plug in pins in quickly removable drum. Features direct drive AC stepper, plug-in drive relay, ball bearing drum support and 15 amp SPDT load switches. 12 step, single input.

99F1502. 2962AA20B, EACH 145.00
Model 2968AA20B. Same as 2962AA20B, except has 18 steps.
99F1503. EACH 160.00
Model 2962AB20B. Same as 2962AA20B, but with multiple sequential input.
99F1504. EACH 160.00
Model 2968AB20B. Same as 2962AB20B, but with 18 steps.
99F1505. EACH 185.00
Model 2974AA20B. Same as 2962AA20B, but with 24 steps.
57F1905. EACH 180.00
Model 2974AB20B. Same as 2962AB20B, but with 24 steps.
57F1906. EACH 225.00

SERIES 3700 SOLID STATE TIMING RELAY

Provides accuracy and reliability of military grade solid state timers at industrial prices. Operating voltage: 120V/25-400 HZ. Operating temp. rante: 0°C to 70°C Accuracy: Repeat acc. 2% at fixed temp. and voltage. Life 20 million cycles. Adjust.: knob adjust internal potentiometer. Mtng.: polystyrene case with octal base.

DELAY ON ENERGIZATION

Stk. No.	Type	Time Range	1-4	5-Up
57F1300	3712B11B	.5 to 15 sec.	25.20	23.80
57F1301	3712B11D	2.0 to 60 sec.	25.20	23.80
57F1302	3712B11F	6.0 to 180 sec.	25.20	23.80
57F1303	3712B11G	10-1 to 300 sec.	25.20	23.80

DELAY ON DE-ENERGIZATION

Stk. No.	Type	Time Range	1-4	5-Up
57F1304	3722B12B	.5 to 15 sec.	28.80	27.20
57F1305	3722B12D	2.0 to 60 sec.	28.80	27.20
57F1306	3722B12F	6.0 to 180 sec.	28.80	27.20
57F1307	3722B12G	10.0 to 300 sec.	28.80	27.20

DELAY ON ENERGIZATION—SWITCH TRANSFER

Stk. No.	Type	Time Range	1-4	5-Up
57F1308	3732B11C	1.0 to 30 sec.	28.80	27.20
57F1309	3732B11E	4.0 to 120 sec.	28.80	27.20
57F1310	3732B11G	10.0 to 300 sec.	28.80	27.20

GP SERIES CONTROL RELAYS

Suitable for either light current and logic switching operations or heavier duty app. where small contactors would normally be used. Contacts: 4 single pole double throw. Insulation resis. 1000 meg ohms at 500V DC.

Stk. No.	Type	Volts	1-24	25-49	50-74	75-99
57F1311	GPA	12VDC	14.72	13.95	13.17	12.40
57F1312	GPB	24VDC	14.72	13.95	13.17	12.40
57F1313	GPI	110VAC	14.72	13.95	13.17	12.40

Stk. No.	Description	NET
57F1314	Socket, screw type front terms.	3.00

Allied Control-Enclosed Plug-In Relays

TU-154 DC RELAYS

For applications in industrial control and data processing systems. Available in 4PDT or 6PDT, both with dust cover. Made under the U/L recognized file #E20604. Operates at 25°C with rating of 3 amps resistive at 115VAC, 60 Hz. Temp. Scale for 4PDT is —55C to +71C, 6PDT ranges from —55 C to +65 C. Oper Time 15 ms. Shpg. Wt. 1.5 oz.

COIL RESISTANCE AND OPERATE DATA (AT 25°C)

Stock No.	Type	Contacts	Volts DC	Ohms	1-9	10-49	50-99	100-499
59F1264	TU154-4C	4PDT	6	35.5	4.00	3.60	3.00	2.80
59F1265	TU154-4C		12	138	4.00	3.60	3.00	2.80
59F1266	TU154-4C		24	700	4.00	3.60	3.00	2.80
59F1267	TU154-4C		48	2500	4.00	3.60	3.00	2.80
59F1268	TU154-4C		115	10000	4.90	4.41	3.68	3.43
59F1269	TU154-6C	6PDT	6	35.5	5.10	4.59	3.83	3.57
59F1270	TU154-6C		12	138	5.10	4.59	3.83	3.57
59F1271	TU154-6C		24	700	5.10	4.59	3.83	3.57
59F1272	TU154-6C		48	2500	5.10	4.59	3.83	3.57
59F1273	TU154-6C		115	10000	6.00	5.40	4.50	4.20

TF-154 DC RELAYS

Compact telephone relays. No external Wiring, contact arms extend, plug-in terminals 2 amp contacts, 700 mw except 6-C with 1.5W coil power. Shpg. Wt. 2 oz.

Stock No.	Type	Volt	Cont.	Ohms	1-9	10-49	50-99	100-499
59F459	T154-2C	6	DPDT	52	3.25	2.92	2.44	2.27
59F460	T154-2C	12	DPDT	185	3.25	2.92	2.44	2.27
59F461	T154-2C	24	DPDT	700	3.25	2.92	2.44	2.27
59F462	T154-2C	48	DPDT	2500	3.25	2.92	2.44	2.27
59F463	T154-2C	115	DPDT	15000	4.95	4.45	3.71	3.46
59F464	T154-4C	6	4PDT	52	3.63	3.27	2.72	2.54
59F465	T154-4C	12	4PDT	185	3.63	3.27	2.72	2.54
59F466	T154-4C	24	4PDT	700	3.63	3.27	2.72	2.54
59F467	T154-4C	48	4PDT	2500	3.63	3.27	2.72	2.54
59F468	T154-4C	115	4PDT	15000	5.33	4.80	3.99	3.73
59F469	T154-6C	6	6PDT	25	4.66	4.19	3.49	3.26
59F470	T154-6C	12	6PDT	90	4.66	4.19	3.49	3.26
59F471	T154-6C	24	6PDT	430	4.66	4.19	3.49	3.26
59F472	T154-6C	48	6PDT	1550	4.66	4.19	3.49	3.26
59F473	T154-6C	115	6PDT	9000	5.56	5.00	4.17	3.89

TF-154 DC RELAYS

5 amp contacts; with 700 mw except on the 6 PDT which is 1.5W. combination solder terminals and plug in style.

Stock No.	Type	Volt	Cont.	Ohms	1-9	10-49	50-99	100-499
59F484	TF154-2C	6	DPDT	52	3.37	3.03	2.53	2.36
59F485	TF154-2C	12	DPDT	185	3.37	3.03	2.53	2.36
59F486	TF154-2C	24	DPDT	700	3.37	3.03	2.53	2.36
59F487	TF154-2C	48	DPDT	2500	3.37	3.03	2.53	2.36
59F488	TF154-2C	115	DPDT	15000	5.07	4.56	3.80	3.55
59F489	TF154-4C	6	4PDT	52	3.87	3.48	2.90	2.71
59F490	TF154-4C	12	4PDT	185	3.87	3.48	2.90	2.71
59F491	TF154-4C	24	4PDT	700	3.87	3.48	2.90	2.71
59F492	TF154-4C	48	4PDT	2500	3.87	3.48	2.90	2.71
59F493	TF154-4C	115	4PDT	15000	5.57	5.01	4.17	3.90
59F494	TF154-6C	6	6PDT	25	5.02	4.52	3.76	3.51
59F495	TF154-6C	12	6PDT	90	5.02	4.52	3.76	3.51
59F496	TF154-6C	24	6PDT	430	5.02	4.52	3.76	3.51
59F497	TF154-6C	48	6PDT	1550	5.02	4.52	3.76	3.51
59F498	TF154-6C	115	6PDT	9000	5.92	5.33	4.44	4.14

TS-154 PLATE CIRCUIT RELAYS

1 amp contacts, DPDT-85mw, 4PDT. Shipping Weight 2 oz.

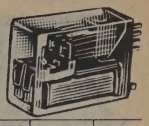
59F509	TS154-2C	5.8 ma	DPDT	2500	3.55	3.19	2.66	2.48
59F510	TS154-2C	4.1 ma	DPDT	5000	4.05	3.64	3.04	2.83
59F511	TS154-2C	3.1 ma	DPDT	10000	4.45	4.00	3.34	3.11
59F512	TS154-4C	8.4 ma	4PDT	2500	3.96	3.57	2.97	2.77
59F513	TS154-4C	6.2 ma	4PDT	5000	4.46	4.02	3.35	3.12
59F514	TS154-4C	4.5 ma	4PDT	10000	4.86	4.38	3.65	3.40

T-163 BIFURCATED DC RELAYS

Maximum contact arrangement of 6PDT. Ambient temperature ranges from —55°C to +71°C. Has Dielectric Strength of 1000 volts rms. at sea level, and 500 volts rms. across open contacts. Insulation Resistance (at +25°C) is 1000 megohms. Shpg. Wt. 2 oz. max.

59F526	T-163-2C	6	DPDT	52	3.65	3.28	2.74	2.55
59F527	T-163-2C	12	DPDT	185	3.65	3.28	2.74	2.55
59F528	T-163-2C	24	DPDT	700	3.65	3.28	2.74	2.55
59F529	T-163-2C	48	DPDT	2500	3.65	3.28	2.74	2.55
59F530	T-163-2C	115	DPDT	15000	5.35	4.81	4.01	3.74
59F531	T-163-4C	6	4PDT	52	4.16	3.74	3.12	2.91
59F532	T-163-4C	12	4PDT	185	4.16	3.74	3.12	2.91
59F533	T-163-4C	24	4PDT	700	4.16	3.74	3.12	2.91
59F534	T-163-4C	48	4PDT	2500	4.16	3.74	3.12	2.91
59F535	T-163-4C	115	4PDT	15000	5.86	5.27	4.39	4.10
59F536	T-163-6C	6	6PDT	52	5.34	4.81	4.01	3.74
59F537	T-163-6C	12	6PDT	185	5.34	4.81	4.01	3.74
59F538	T-163-6C	24	6PDT	700	5.34	4.81	4.01	3.74
59F539	T-163-6C	48	6PDT	2500	5.34	4.81	4.01	3.74
59F540	T-163-6C	115	6PDT	15000	6.24	5.62	4.69	4.37

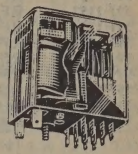
TF-255 AC RELAYS



AC version of the T154 relay with 5 amp contacts. Contact Arrangement available in 2PDT or 4PDT. Contacts: Low level to 5 amp resistive at 29VDC, 3 amp at 115VAC. Coil: 1.5VA nominal power except 2.5VA for 220 V and 4 PDT relays. Shpg. Wt. 2 oz.

Stock No.	Type RF255-	Volt	Cont.	Resis. Ohms	1-9	10-49	50-99	100-499
59F1280	2C	6	DPDT	6.4	4.40	3.96	3.30	3.08
59F1281	2C	12	DPDT	31.8	4.40	3.96	3.30	3.08
59F1202	2C	24	DPDT	112.5	4.40	3.96	3.30	3.08
59F1282	2C	48	DPDT	460	4.40	3.96	3.30	3.08
59F1203	2C	115	DPDT	1575	4.28	3.85	3.21	3.00
59F1283	4C	6	4PDT	6.4	5.12	4.61	3.84	3.58
59F1284	4C	12	4PDT	31.8	5.12	4.61	3.84	3.58
59F1207	4C	24	4PDT	112.5	5.12	4.61	3.84	3.58
59F1285	4C	48	4PDT	460	5.12	4.61	3.84	3.58
59F1208	4C	115	4PDT	1575	5.12	4.61	3.84	3.58

T-351 MAGNETIC LATCHING DC RELAYS



Actuated by a pulse of 10 milli-seconds duration, it is able to withstand a continuous coil input. Coil available with one or two windings. Coil dissipation: 1.2 W. Operate time: 10 ms max. (set or reset) Contact ratings: T-351, 1A at 29 VDC, non-ind. and 0.5A at 115 VAC, non ind.; TF-351, 5A at 24 VDC, non-ind, and 3A at 115VAC, non-ind. With up to 4 contact (2x) circuits, 6 normally opened or closed. Size: $^{47}/_{64}$x$^{11}/_{64}$x$^{13}/_{16}$.

Single Coil

Stock No.	Type	VDC	Ohms	Contact	1-9	10-49	50-99	100-499
59F1286	T351-2C	6	40	DPDT	5.00	4.50	3.75	3.50
59F1211	T351-2C	12	166	DPDT	5.00	4.50	3.75	3.50
59F1212	T351-2C	24	630	DPDT	5.00	4.50	3.75	3.50
59F1287	T351-2C	48	2640	DPDT	5.00	4.50	3.75	3.50
59F1214	T351-2C	115	13800	DPDT	6.40	5.76	4.80	4.48
59F1288	T351-4C	6	40	4PDT	5.50	4.95	4.12	3.85
59F1216	T351-4C	12	166	4PDT	5.50	4.95	4.12	3.85
59F1217	T351-4C	24	630	4PDT	5.50	4.95	4.12	3.85
59F1289	T351-4C	48	2640	4PDT	5.70	5.13	4.27	3.99
59F1219	T351-4C	115	13800	4PDT	6.90	6.21	5.17	4.83
59F1220	TF351-2C	6	40	DPDT	5.12	4.61	3.84	3.58
59F1221	TF351-2C	12	166	DPDT	5.12	4.61	3.84	3.58
59F1222	TF351-2C	24	630	DPDT	5.12	4.61	3.84	3.58
59F1223	TF351-2C	48	2020	DPDT	5.32	4.79	3.99	3.72
59F1224	TF351-2C	115	13800	DPDT	6.52	5.87	4.89	4.56

Double Coil

59F1225	T351-2C	2/6	31.5	DPDT	6.00	5.40	4.50	4.20
59F1226	T351-2C	2/12	134	DPDT	6.00	5.40	4.50	4.20
59F1227	T351-2C	2/24	485	DPDT	6.00	5.40	4.50	4.20
59F1228	T351-2C	2/48	1760	DPDT	6.40	5.76	4.80	4.48
59F1229	T351-2C	2/115	9600	DPDT	8.80	7.92	6.60	6.16
59F1230	T351-4C	2/6	31.5	4PDT	6.50	5.85	4.87	4.55
59F1231	T351-4C	2/12	134	4PDT	6.50	5.85	4.87	4.55
59F1232	T351-4C	2/24	485	4PDT	6.50	5.85	4.87	4.55
59F1233	T351-4C	2/48	1760	4PDT	6.90	6.21	5.17	4.83
59F1234	T351-4C	2/115	9600	4PDT	9.30	8.37	6.97	6.51
59F1235	TF351-2C	2/6	31.5	DPDT	6.12	5.51	4.59	4.28
59F1236	TF351-2C	2/12	134	DPDT	6.12	5.51	4.59	4.28
59F1237	TF351-2C	2/24	485	DPDT	6.12	5.51	4.59	4.28
59F1238	TF351-2C	2/48	1760	DPDT	6.52	5.87	4.89	4.56
59F1239	TF351-2C	2/115	9600	DPDT	8.92	8.03	6.69	6.24

SOCKETS FOR RELAYS ON THIS PAGE

Above chassis mounting sockets, Beryllium copper, silver plated contacts. Socket: mica filled phenolic. Hardware: retainer ring and ground wire. The 30055 comes with retainer ring and ground wire. The 30054 comes with ground wire only.

Stock No.	Type	For Relays	1-9	10-49	50-99	100-499
59F517	30055-1	2PDT-Solder	.60	.55	.45	.43
59F1252	30054-1	2PDT-Solder	.55	.50	.41	.39
59F541	30055-5	2PDT-Pr. Cir.	.60	.55	.45	.43
59F1256	30054-5	2PDT-Pr. Cir.	.55	.50	.41	.39
59F1261	30055-3	2PDT-Pr. Cir.	.72	.65	.55	.50
59F1254	30054-3	2PDT-Pr. Cir.	.67	.60	.50	.47
59F1263	30055-8	4PDT-Solder	.80	.73	.61	.56
59F1258	30054-8	4PDT-Solder	.75	.68	.56	.53
59F518	30055-2	4PDT-Solder	.77	.70	.59	.53
59F1253	30054-2	4PDT-Solder	.72	.65	.54	.50
59F542	30055-6	4PDT-Pr. Cir.	.80	.73	.61	.56
59F1257	30054-6	4PDT-Pr. Cir.	.75	.68	.56	.53
59F1262	30055-4	4PDT-Pr. Cir.	.88	.80	.67	.61
59F1255	30054-4	4PDT-Pr. Cir.	.95	.86	.72	.67
59F519	30055-20	6PDT-Solder	1.05	.95	.79	.74
59F1259	30054-20	6PDT-Solder	1.00	.90	.75	.70
59F543	30055-24	6PDT-Pr. Cir.	1.05	.95	.79	.74
59F1260	30054-24	6PDT-Pr. Cir.	1.00	.90	.75	.70

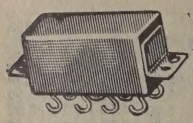
Allied Controls Relays

TRI-R ENCAPSULATED REED RELAY

Low profile dual in-line configuration makes TRI-R perfect for high density miniature PC circuits. Feature magnetic and electrostatic shielding. Life 2x10 operations at 10 W, 50 VDC or .5 amp. Temp.: 50 to 85°C. Wt., 3 oz. (*) Term. Spac. In.

Stock No.	Type	Cont.	VDC	*	1-9	10-49	50-99	100-499
59F1168	RF	1A	5	1.0x.1	2.45	2.23	1.86	1.74
59F1169	RF	1A	6	1.0x.1	2.45	2.23	1.86	1.74
59F1170	RF	1A	12	1.0x.1	2.45	2.23	1.86	1.74
59F1171	RF	2A	5	1.0x.1	3.04	2.74	2.29	2.14
59F1172	RF	2A	6	1.0x.1	3.04	2.74	2.29	2.14
59F1173	RF	2A	12	1.0x.1	3.04	2.74	2.29	2.14
59F1174	RF	1C	5	1.0x.1	4.73	4.26	3.55	3.31
59F1175	RF	1C	6	1.0x.1	4.73	4.26	3.55	3.31
59F1176	RF	1C	12	1.0x.1	4.73	4.26	3.55	3.31
59F1177	RD	1A	5	1.3x.1	3.16	2.84	2.37	2.21
59F1178	RD	1B	5	1.3x.1	4.17	3.78	3.20	3.02
59F1150	RD	1C	5	1.3x.1	5.16	5.06	4.21	3.94
59F1151	RF	1B	5	1.0x.1	3.49	3.17	2.70	2.54
59F1152	RF	1B	6	1.0x.1	3.49	3.17	2.70	2.54
59F1153	RF	1B	12	1.0x.1	3.49	3.17	2.70	2.54
59F1154	RF	4A	5	1.0x.1	4.76	4.29	3.58	3.33
59F1155	RF	4A	6	1.0x.1	4.76	4.29	3.58	3.33
59F1156	RF	4A	12	1.0x.1	4.76	4.29	3.58	3.33
59F1157	RU	1A	5	.3x.1	2.60	2.38	2.01	1.89
59F1158	RU	1C	5	.3x.1	5.62	5.06	4.22	3.93
59F1159	RW	1A	5	.3x.1	2.85	2.57	2.14	2.00

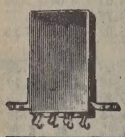
HALF CRYSTAL CAN RELAY



HALF CRYSTAL can relay in all welded construction with solder hook or plug in terminals. Bifurcated contacts - higher reliability, especially in dry circuit areas. Dielectric Strength; 1000 volts RMS at sea level, 500 volts RMS between open contacts: between coil terminals and case, 350 volts R.m.s at 80,000 feet.

Stk.No.	Type	Volts	Amps	Coil Res.	1-9	10-49	50-99	100-499
59F1246	S6A1	26.5V O-C	2	700	9.91	8.92	7.43	6.94
59F1247	S6H3	26.5V O-C	2	700	9.91	8.92	7.43	6.94
59F1248	SL6H1	26.5V O-C	2	700	9.91	8.92	7.43	6.94
59F1249	SL6H3	26.5V O-C	2	700	9.91	8.92	7.43	6.94

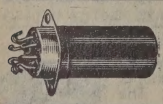
WJS-3D AND WJS-6D DC RELAYS



Welded construction, bifurcated contacts. Meets MIL-R-5757/13. Ambient temp.: —65°C to +125°C. Non-inductive—low level up to 3 amps @ 29 VDC or - amp @ 115 VAC case underground. Terminals: 0.2 in. grid spaced Shock: 50g operational. Insl. rest.: 1000 megohms min. Min. pull-in power; WJS-3D, 25 mw; WJS-6D, 40 nw. Hook solder term.

Stk. No.	Type	Curr. Ma	Ohms	Cont.	1-9	10-49	50-99	100-499
59F664	WJS-3D	3.2	2500	SPDT	11.57	10.41	8.68	8.10
59F665	WJS-3D	2.2	5000	SPDT	11.57	10.41	8.68	8.10
59F666	WJS-3D	1.6	10000	SPDT	13.50	12.15	10.13	9.45
59F667	WJS6D	4.0	2500	DPDT	11.83	10.65	8.87	8.28
59F668	WJS6D	2.8	5000	DPDT	11.83	10.65	8.87	8.28
59F669	WJS6D	2.00	10000	DPDT	13.83	12.45	10.37	9.68

MH SEALED RELAYS



26.5 VDC, 5 amp. solder hook terminals. Vibration 34-1000 Hz at 15G Temp. for MH. —55° to +85°C for MHB, —65°C to +125°C.Wt. 2 oz.

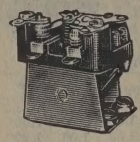
Stk. No.	Type	Ohm	Coil Pwr.	Cont.	1-9	10-49	50-99	100-499
59F439	MH-6D	400	1.75W	DPDT	14.25	11.40	10.69	9.98
59F442	MHB-6D	325	1.25W	DPDT	14.25	11.40	10.69	9.98
59F441	MH-18D	240	3.0W	4PDT	23.75	19.00	17.81	16.63
59F444	MHB-18D	200	3.5W	4PDT	23.75	19.00	17.81	16.63
59F440	MH-12D	300	2.5W	6PDT	20.90	16.72	15.68	14.63
59F443	MHB-12D	250	3.0W	6PDT	20.90	16.72	15.68	14.63

GENERAL PURPOSE RELAYS

DPDT enclosed in a transparent polycarbonate cover and rigidly secured to base. Enclosure: dust cover. Socket: Any standard RETMA or EIA octal. Contacts rated 5 amps. Shpg. weight: 2.5 ounces.

Stock No.	Type	Volt.	Ohms	1-9	10-49	50-99	100-499
59F1240	TEFDO-2C	6AC	6.4	4.92	4.43	3.69	3.44
59F1242	TEFDO-2C	24AC	112.5	4.92	4.43	3.69	3.44
59F1243	TEFDO-2C	115AC	2580.0	4.92	4.43	3.69	3.44
59F502	TFMDO-2C	6DC	52	6.02	5.42	4.51	4.21
59F503	TFMDO-2C	12DC	185	6.02	5.42	4.51	4.21
59F504	TFMDO-2C	24DC	700	6.02	5.42	4.51	4.21
59F505	TFMDO-2C	115DC	15000	7.72	6.95	5.78	5.40

BOT AC/DC RELAYS



AC-DC relay for 15 amp at 29 VDC and 115 VAC. .05 ohms max. resistance. Temp: —55 C to +71°C. The BOT is an unenclosed DPDT relay with standard mounting. Terminals solder lug. Wt. 5 oz.

Stock No.	Type	Voltage	Ohm	Coil Power	1-9	10-49	50-99	100-499
59F404	BOT6A	6AC	1.07	5VA	5.50	4.95	4.12	3.85
59F1245	BOT6A	12AC	4.10	5VA	5.50	4.95	4.12	3.85
59F405	BOT6A	24AC	17.	5VA	5.50	4.95	4.12	3.85
59F406	BOT6A	115AC	445	5VA	5.50	4.95	4.12	3.85
59F407	BOT6A	230AC	2675	5VA	5.62	5.06	4.21	3.93
59F408	BOT6D	6DC	14.2	2.5W	4.82	4.34	3.61	3.37
59F409	BOT6D	12DC	70	2.5W	4.82	4.34	3.61	3.37
59F410	BOT6D	26.5DC	230	2.5W	4.82	4.34	3.61	3.37
59F411	BOT6D	110DC	5000	2.5W	5.40	4.86	4.05	3.78

BOHR AC/AC RELAYS

Same as BOT except 10 amps, hermetically sealed mounting (3)—8-32 thd. studs. Solder hook term. Wt. 9.5 oz.

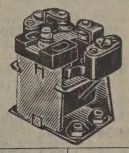
Stk.No.	Type	Voltage	Ohm	Coil Power	1-9	10-49	50-99	100-499
59F412	BOHR-6A	115AC	445	5VA	11.33	10.20	8.50	7.93
59F413	BOHR-6D	2615DC	230	2.5W	10.88	9.79	8.16	7.62

BOHRO AC/DC RELAYS

Same as above except plug-in style, socket RETMA or EIA. 9.5 oz.

Stk. No.	Type	Voltage	Ohm	Coil Power	1-9	10-49	50-99	100-499
59F414	BOHRO-6A	115AC	445	5VA	11.33	10.20	8.50	7.93
59F415	BOHRO-6D	26.5DC	230	2.5W	10.88	9.79	8.16	7.62

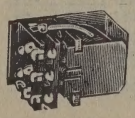
CNA 115 VAC AC RELAYS



SPST-NO; 145 ohm coil, 10.5 VA relays are heavy duty with compact double break contacts. Mounting (4)—6-32 elastic stop nuts. Wt.; 9.5 oz.

Stk. No.	Type	Cont.	1-9	10-49	50-99	100-499
59F417	CNA-13A	25A	8.60	7.74	6.45	6.02
59F418	CNAS-13A	50A	10.60	9.54	7.95	7.42

PO-9 AND PO-12 AC/DC RELAYS SERIES



Low cost compact. PO-9 3PDT, PO-12 4PDT, 15 ampere relays. Mounting (4)—6-32 tapped holes. Wt., 8.0 oz.

Stk. No.	Type	Volt.	Wattage	Ohm	1-9	10-49	50-99	100-499
59F449	PO-9A	24AC	10.5VA	8	7.03	6.33	5.27	4.92
59F450	PO-9A	115AC	10.5VA	145	7.03	6.33	5.27	4.92
59F451	PO-9D	13.2DC	2.5W	70	6.71	6.04	5.03	4.70
59F452	PO-9D	24DC	2.5W	230	6.71	6.04	5.03	4.70
59F453	PO-9D	110DC	2.5W	5000	7.38	6.64	5.53	5.17
59F454	PO-12A	115AC	10.5VA	145	7.90	7.11	5.92	5.53
59F455	PO-12D	13.2DC	2.5W	70	7.44	6.70	5.58	5.21
59F456	PO-12D	24DC	2.5W	230	7.44	6.70	5.58	5.21

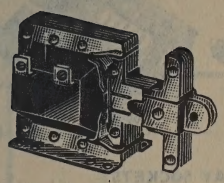
TD10 DPDT SOLID-STATE TIMERS

Small low cost timer features ±2% accuracy with 70 millisecond maximum reset time. Utilizes Hi-Mag relay with solid-state timing. Timing functions: delay and interval timing. Multiple time range: 0.05 to 300 seconds with internal or remote adjustment. Input voltage: 12, 24 or 48 VDC; 115 VAC. Contacts: 2 & 4 Form C, bifurcated to 5 amps. Temp.: 0 to 55°C. Shpg. wt., 3 oz.

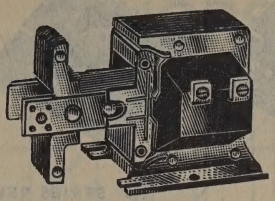
Stock No.	Type (Delay)	Input	Time Range (sec)	Adjustment	1-9	10-24	25-49
59F1160	TD10DA-2C24D-RB	24 VDC	0.1-10	remote	15.45	14.68	13.91
59F1161	TD10DA-2C24D-NB	24 VDC	0.1-10	internal	17.95	17.05	16.16
59F1162	TD10A-2C24D-RD	24 VDC	1.0-100	remote	16.95	16.10	15.26
59F1163	TD10A-2C24D-ND	24 VDC	1.0-100	internal	19.45	18.48	17.51
59F1164	TD10A-2C115A-RB	115 VAC	0.1-10	remote	18.95	18.00	17.06
59F1165	TD10A-2C115A-NB	115 VAC	0f.1-20	internal	21.45	20.38	19.31
59F1166	TD10A-2C115A-RD	115VAC	1.0-100	remote	20.45	19.43	18.41
59F1167	TD10A-2C115A-ND	115 VAC	1.0-100	internal	22.95	21.80	20.66

CONTROLS COMPANY OF AMERICA

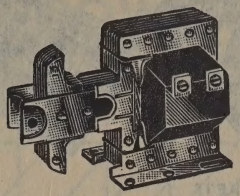
AC & DC SOLENOIDS



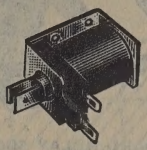
Series 801



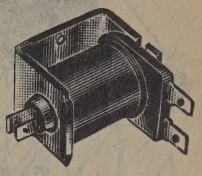
Series 812
Series 813



Series 821



Series
860-300



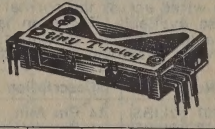
Series
860-200

AC and DC solenoids are available in both intermittent and continuous duty. Coil windings are imbedded in a heavy shock resistant layer of epoxy. Zinc dichromate finish made by the world's largest manufacturer of solenoids.

Stk. No.	Part Number	Volts	Current	Duty	Ohms	Amps.	Adj. Stroke (in.)	Max-Lift Minimum Stroke	Shpg. Wt.- Oz.	1-24	25-49	50-99	100-249	250-499	500-999
24F1600	801-101-2	115	AC	Con.	71	.30	1/8-5/8	53	8	3.90	3.40	3.20	3.05	2.65	2.35
24F1601	801-102-2	115	AC	Int.	48.8	.50	1/8-5/8	75	8	3.90	3.40	3.20	3.05	2.65	2.35
24F1602	801-103-2	230	AC	Con.	284	.15	1/8-5/8	53	8	3.90	3.40	3.20	3.05	2.65	2.35
24F1603	812-101-2	115	AC	Con.	17.7	.58	1/8-1 1/16	154	18	5.15	4.60	4.40	4.10	3.55	3.30
24F1604	812-102-2	115	AC	Int.	12.35	.97	1/8-1 1/16	192	18	5.15	4.60	4.40	4.10	3.55	3.30
24F1605	812-103-2	230	AC	Con.	70.8	.29	1/8-1 1/16	154	18	5.15	4.60	4.40	4.10	3.55	3.30
24F1606	813-101-2	115	AC	Con.	12.6	.60	1/8-1 1/16	196	22	6.00	5.20	4.85	4.55	3.80	3.50
24F1607	813-102-2	115	AC	Int.	8.04	1.41	1/8-1 1/16	292	22	6.00	5.20	4.85	4.55	3.80	3.50
24F1608	813-103-2	230	AC	Con.	50.4	.30	1/8-1 1/16	196	22	6.00	5.20	4.85	4.55	3.80	3.50
24F1609	821-101-2	115	AC	Con.	4.68	.97	1/8-1 3/8	300	40	7.65	6.80	6.20	5.80	4.85	4.50
24F1610	821-102-2	115	AC	Int.	3.17	1.77	1/8-1 3/8	460	40	7.65	6.80	6.20	5.80	4.85	4.50
24F1611	821-103-2	230	AC	Con.	18.7	.485	1/8-1 3/8	300	40	7.65	6.80	6.20	5.80	4.85	4.50
24F1620	860-301-3	115	AC	Con.	490	.08	1/32-1/2	16	3 1/4	3.00	2.75	2.55	2.40	2.10	1.90
24F1621	860-302-3	115	AC	Int.	315	.12	1/32-1/2	22	3 1/4	3.00	2.75	2.55	2.40	2.10	1.90

ELECTRIC CONTROLS INC.

A low-profile non-reed relay .360" off-the-board height P.C. terminals spaced on .100 x .100 grid. Contacts: gold plated over silver base metal. Series 401 is 4-pole, single-throw with contact rating of 3 amps at 24 VDC resistive load. Series 404 is double-pole, single-throw designed to control low level signals. "A" in part number indicates normally open; "B" indicates normally closed.



Stock No.	Part No. 401—	Coil Voltage DC	Ohms ±10%	1-24	25-49	50-99	100-249	250-499
59F680	4A-12	12	145	5.75	5.48	5.23	4.26	4.07
59F681	4A-24	24	576	5.75	5.48	5.23	4.26	4.07
59F682	4A-48	48	2300	5.75	5.48	5.23	4.26	4.07
59F683	4A-110	110	12100	6.82	6.50	6.19	5.04	4.80
59F1650	4B-12	12	96	6.50	6.20	5.81	4.81	4.59
59F1651	4B-24	24	380	6.50	6.20	5.81	4.81	4.59
59F1652	4B-48	48	1505	6.50	6.20	5.81	4.81	4.59
59F1653	4B-110	110	8000	7.72	7.36	7.01	5.69	5.42

Stock No.	Part No. 404	Coil Voltage DC	Ohms ±10%	1-24	25-49	50-99	100-249	250-499
59F1654	2A-12	12	145	5.75	5.48	5.23	4.26	4.07
59F1655	2A-24	24	576	5.75	5.48	5.23	4.26	4.07
59F1656	2A-48	48	2300	5.75	5.48	5.23	4.26	4.07
59F1657	2A-110	110	12100	6.82	6.50	6.19	5.04	4.80
59F1658	2B-12	12	96	6.50	6.20	5.81	4.81	4.59
59F1659	2B-24	24	380	6.50	6.20	5.81	4.81	4.59
59F1660	2B-48	48	1505	6.50	6.20	5.81	4.81	4.59
59F1661	2B-110	110	8000	7.72	7.36	7.01	5.69	5.42

BARBER COLMAN

TYPE AYLZ RELAYS

Ultra-sensitive, versatile, polarized DC industrial relay. With 0.0005 watt input can control 100 watts on contacts with proper arc suppression giving 200,000 to 1 amplification factor. Reliable selenium photo cell can drive directly, one millisecond operation. SPDT center off works in relation to the current direction. Resists 10g vibration with twice pull-in current. Comes with octal base–dimensions: 2 5/16 x 1 7/8". Shpg. wt., 8oz.

SINGLE COIL (1.3 Ampere-Turns)

Stock No.	Mfr. Type AYLZ	Coil Ohms	Pull-In Amps.	Pull-In Volts	uW Input	NET
24F387	7300-100	13	.00173	.023	39.1	
24F388	7301-100	54	.00087	.047	40.6	
24F390	7303-100	140	.00054	.076	41.1	
24F391	7304-100	215	.00046	.100	46.3	
24F392	7305-100	350	.00035	.123	43.2	
24F393	7306-100	560	.00028	.155	42.8	33.50
24F394	7307-100	900	.00022	.198	43.7	
24F395	7308-100	1400	.00017	.243	42.1	
24F396	7309-100	2300	.00014	.325	45.9	
24F397	7310-100	3550	.00011	.401	45.3	
24F398	7311-100	5650	.000093	.524	48.7	
24F426	7312-100	7950	.000076	.604	45.9	

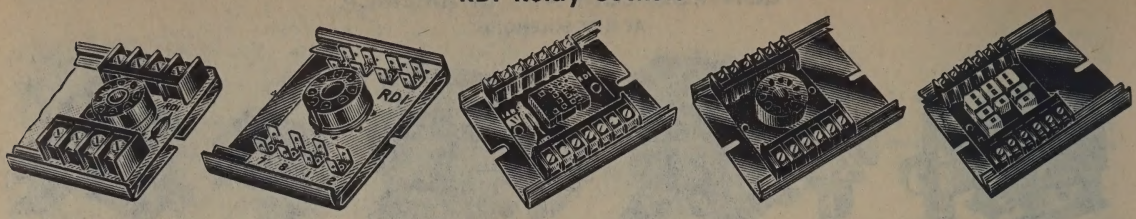
NEWARK - For Fast Service

SINGLE COIL (2 Ampere-Turns)

Stk. No.	Mfr. Type AYLZ-	Coil Ohms	Pull-in Amps.	Pull-in Volts	uW Input	NET
24F412	7337-100	7950	.00012	.930	108.8	
24F401	7325-100	13	.00267	.035	92.4	
24F405	7329-100	215	.00071	.154	109.6	28.50
24F407	7331-100	560	00043	.238	101.2	
24F444	7332-100	900	.0034	.304	102.8	
24F409	7334-100	2300	.00022	.499	108.3	
	DOUBLE COIL (1.3 Ampere-Turns)					
24F471	7358-100	940	.00034	.322	110.0	
24F473	7360-100	2300	.00022	.507	111.6	34.50
24F474	7361-100	3800	.00017	.650	111.1	
	DOUBLE COIL (2 Ampere-Turns)					
24F400	7383-100	940	.00053	.494	260.0	
24F424	7386-100	3800	.00026	1.000	263.0	29.50
24F445	7375-100	5	.00667	.033	222.2	
24F446	7379-100	95	.00154	.146	224.7	
24F447	7381-100	240	.00100	.240	240.0	

Relays And Sockets

RDI Relay Sockets



STANDARD RELAY SOCKETS

Save considerable installation labor with snap-in track-mounted relay sockets for 8 and 11 pin round or rectangular base plug-in relays. All sockets have 8-32 terminal screws with captive wire-clamping plates and break-resistant molded barriers except the 8QR and 11QR sockets which use ¼" quick connect terminals. Units, with a suffix "1", e.i. 8BR1, have an optional neon lamp wired across the normal coil terminals of the relay sockets. The neon lamp will indicate when power is available at the coil terminals and is helpful in trouble shooting. Sockets are rated for 10 Amps @ 300 Volts. 8 Term. 2" wide, 11 term. 3" wide, fits standard 3⅜2" width snap track.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
29F1200	8BR	8 Pin Round	2.10	1.89	1.68	1.47
29F1201	8BR1	8 Pin W/Lamp	3.10	2.79	2.48	2.17
29F1202	11BR	11 Pin Round	3.05	2.75	2.44	2.14
29F1203	11BR1	11 Pin W/Lamp	4.05	3.65	3.24	2.84
29F1204	8BS	DPDT KUP Type	2.75	2.48	2.20	1.93
29F1205	11BS	3PDT KUP Type	3.50	3.15	2.80	2.45
29F1206	11BS1	3 PDT W/Lamp	4.50	4.05	3.60	3.15
29F1209	8QR	8 Pin Round	2.00	1.80	1.60	1.40
29F1210	11QR	11 Pin Round	2.80	2.52	2.24	1.96

MINIATURE RELAY SOCKETS

Snap-in track-mounted relay sockets designed to accept 4PDT miniature relays such as Potter and Brumfield type KHP, Struthers-Dunn type 281XDX, Sigma series 67, Guardian series 1300, C.P. Clare type GP-1, and others. 4-40 pan head screws with captive wire clamping plates allow up to one No. 14 or two No. 18 wires under each side of the screw. An optional neon lamp wired across the normal coil terminals of the relay socket is also available. The neon lamp will indicate when power is available at the coil terminals. Rated for 10 Amps @ 150 Volts. 2½" wide, fits stand. 3⅜2" width snap track.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
29F1207	214BS	14 Pin Min.	4.90	4.41	3.92	3.43
29F1208	214BS1	14 Pin W/Lamp	5.90	5.31	4.72	4.13

"200" SERIES RELAY SOCKETS

Same as the standard relay sockets except for a lower voltage rating and smaller size. 211BR & 211BS are 2⅛" wide, saves 37½% space. 218BR is 1½" wide, saves 25% space. 208BR is 2" and accommodates full seating of large time delay relays by using lower profile #4/40 screw terminal boards. 10A/150 V. Fits standard 3⅜2 snap track.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
29F1272	218BR	8 Pin Round	2.40	2.16	1.92	1.68
29F1273	208BR	8 Pin Round	2.40	2.16	1.92	1.68
29F1274	211BR	11 Pin Round	3.50	3.15	2.80	2.45
29F1275	211BR1	11 Pin W/Lamp	4.50	4.05	3.60	3.15
29F1276	211BS	3PDT KUP Type	3.80	3.42	3.04	2.66
29F1277	211BS1	3PDT W/Lamp	4.80	4.32	3.84	3.36

SNAP TRACK

Mounting tracks are designed for maximum utility of both socket mounting and as a non-conductive. Rigid PVC chassis for custom circuits, or for breadboarding new circuits. Track accepts a 3" nominal width card. TK-2 holes 2" O.C. TK-3 holes 3" O.C.

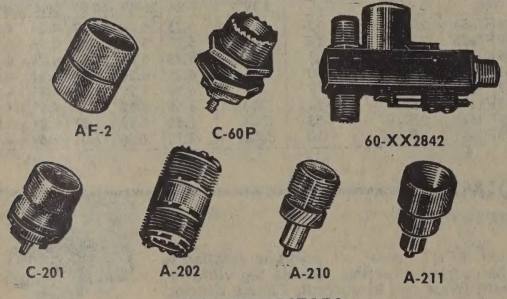
Stk. No.	Type	Length	NET
29F1211	TK2-2	2"	.10
29F1212	TK3-3	3"	.15
29F1213	TK2-6	6"	.30
29F1214	TK2-12	12"	.60
29F1215	TK2-24	24"	1.20
29F1216	TK2-48	48"	2.40

RELAY AND TIMER BAILS

Relay and timer bails are offered to prevent relays and timers from vibrating out of the sockets in applications where vibration is present.

Stk. No.	Description	NET
29F1217	Relay Bail, Pkg. of 5	2.50
29F1218	Timer Bail, Pkg. of 5	3.00

DOW KEY



UHF CONNECTORS

A complete line of connector styles suitable for every UHF application. Panel-mounting connectors require a ⅝" hole, no screws necessary. Connectors are made of precision machined brass which is then silver-plated. They lock firmly and provide a tight, firm connection. Female connectors designed for low-loss operation with moisture and humidity-proof construction. Approximate shipping weight for each connector, 1 oz.

COAXIAL RELAYS

SPDT R.F. switch with DPDT auxiliary contacts and special "isolated connector" in de-energize position. Low VSWR: less than 1.5:1 from 0-500 mc. Long life expectancy greater than 1,000,000 operations. Power rating: 1 kilowatt through straight connectors: to 10 watts through "isolated connector." Maximum operating temperature: 100°C. Pure silver contacts with UHF connectors. Size: 3¾" x 2¾" x 1⅛". Shpg. wt., 1 lb.

Stk. No.	Type	Coil Voltage	1-4	5-9	10-24	25-up
24F2000	60-212842	6 VDC	18.00	16.35	14.70	13.10
24F2001	60-282842	6 VAC	18.00	16.35	14.70	13.10
24F2002	60-222842	12 VDC	18.00	16.35	14.70	13.10
24F2003	60-262842	115 VAC	18.00	16.35	14.70	13.10

Stk. No.	Type	Description	1-4	5-9	10-24	
24F959	AF-2	Double Male	.79	.69	.62	.54
24F999	C 60P	Panel Mount Female	.69	.63	.57	.50
57F1700	C-201	Panel Mount Male	1.07	.97	.87	.78
57F1701	A-202	Double Female	.82	.75	.67	.60
57F1702	A-210	Female-Male Phono	1.24	1.12	1.01	.90
57F1703	A-211	Male-Male Phono	1.32	1.20	1.08	.96

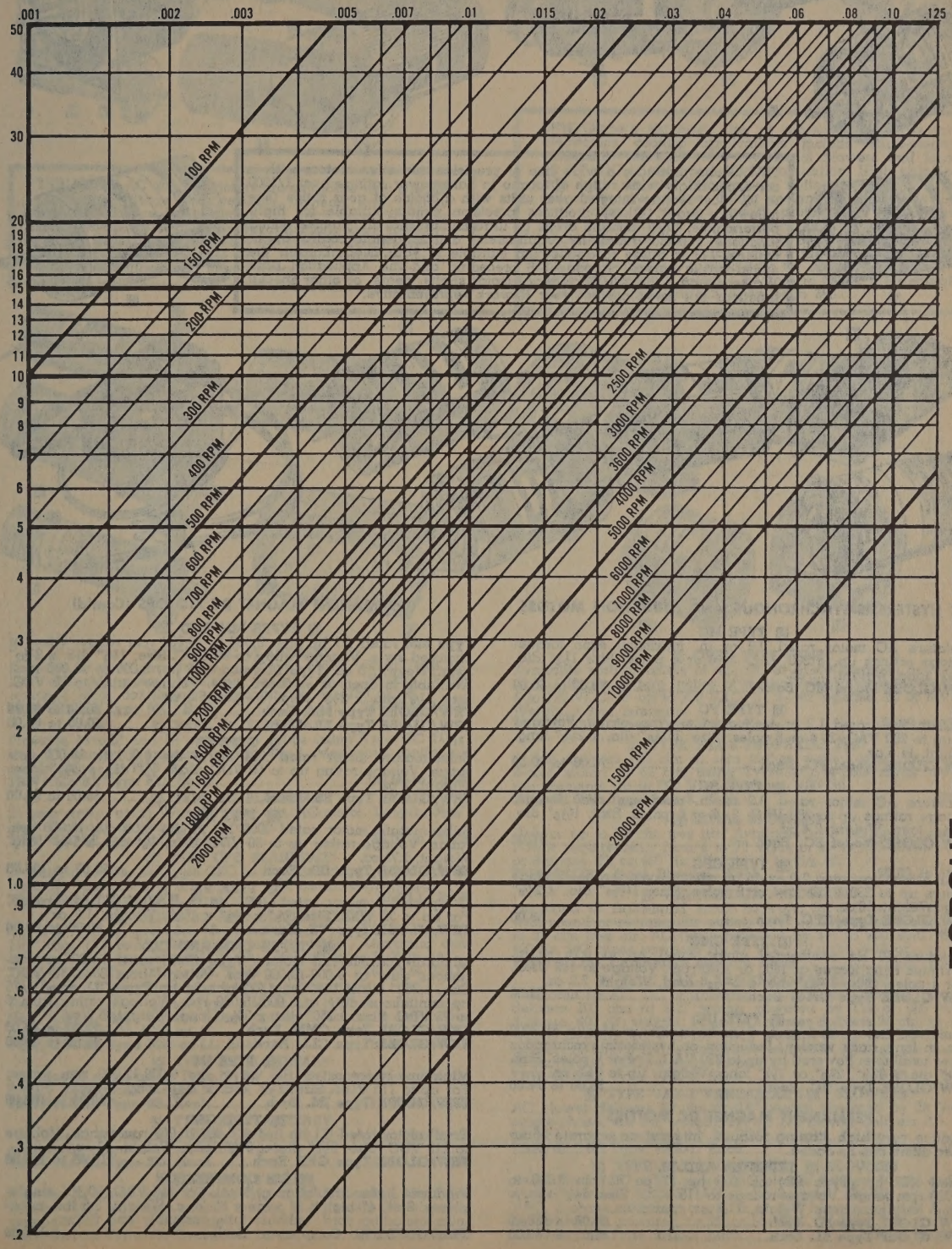
NEWARK STOCKS THE WORLD'S MOST COMPLETE INVENTORY OF INDUSTRIAL ELECTRONICS EQUIPMENT

- Phone, Write, Wire for Price Quotations
- OEM Prices
- Fast Shipment from On-the-shelf Stocks
- Complete Stocks of All Industrial & Military Types

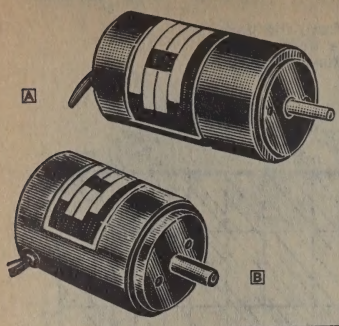
Globe Speed-Torque Curves TRW

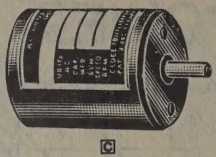
The graph below is an accurate rendering of performance capabilities from the various TRW/Globe Precision Motors stocked by Newark. It will furnish a dependable guide in choosing the proper TRW/Globe Precision Motor for your particular needs.

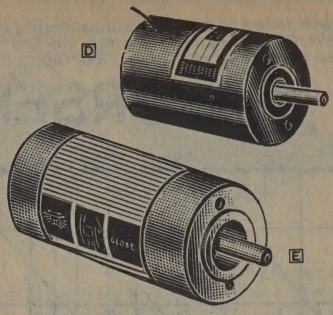
HORSEPOWER

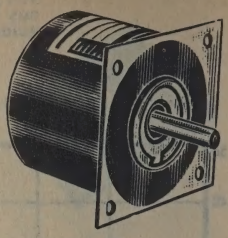


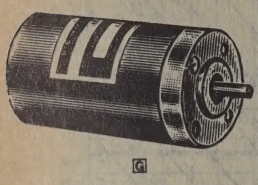
TRW Globe Motors and Air Compressor



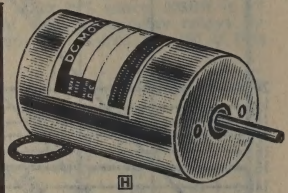


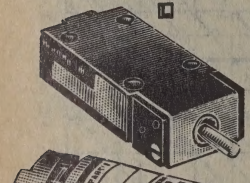


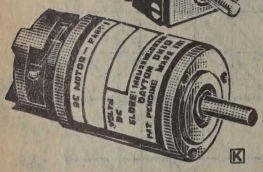


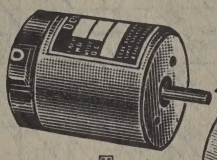


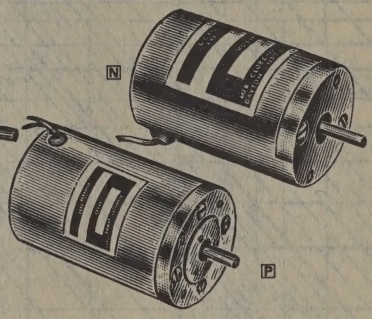
TRW/Globe produces a wide line of precision miniature motors with a correspondingly wide range of torque in horsepower ratings from 1/1000 to ¼. Most feature integral gear units with a choice of gear ratios (see following page). Globe produces precision motors suitable for high-performance, high demand areas as ultra-miniaturization, precise timing functions, superior reliability requirements and solid-state control applications. For a guide to application suitable to your needs consult the speed-torque curves on page 386 preceding and the Application Data Worksheet on page 383. For special motor shafts, gears, or other special functions not listed contact your Newark representative.

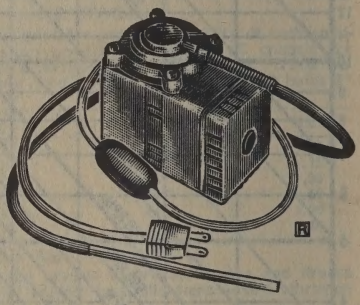












AC HYSTERESIS-SYNCHRONOUS AND INDUCTION MOTORS

A TYPE MC

Miniature AC motor rated 0.9 oz.-in. maximum sync torque. Voltage ratings up to 200 VAC; 2, 4 or 6 poles. Size 1¼" dia. x 2¼" long. Weight, 6.5 oz.
TRW/GLOBE Model MC. Each ..... **70.00 to 80.00**

B TYPE FC

Small in size, rated 1.2 oz.-in. maximum sync torque. Powered by up to 200 VAC; 2, 4 or 6 poles. Size, 1 11/16" dia. x 2¼" long. Weight, 11.5 oz.
TRW/GLOBE Model FC. Each ..... **70.00 to 80.00**

C TYPE SC

Miniature AC motor rated 0.2 oz.-in. maximum sync torque. Voltage ratings up to 200 VAC; 2, 4 or 6 poles. Size, 1 1/16" dia. x 1 5/16" long. Weight, 2.4 oz.
TRW/GLOBE Model SC. Each **70.00**

D TYPE CFC

Small size motor rated 2.0 oz.-in. maximum sync torque. Voltage ratings up to 230 VAC; 2, 4 or 6 poles. Size, 1 19/32" dia. x 2 7/8" long. Weight, 13 oz.
TRW/GLOBE Type CFC. Each **58.00**

E TYPE CMC

Miniature 60 Hz commercial motor rated up to 0.75 oz.-in. maximum sync torque at 1800 or 3600 rpm. Voltage to 115 VAC, 2 or 4 poles. Size, 1 43/64" dia. x 2 21/32" long. Weight, 7.2 oz.
TRW/GLOBE Type CMC. Each **52.00**

F TYPE UC

Small size motor rated up to 6 oz.-in. maximum torque at 3000 rpm in long stack version. Induction or hysteresis synchronous types available. Powered by up to 230 VAC; 2, 4 or 6 poles. Size, 2 7/16" dia. x 1 7/8", 2 3/8" or 3 1/8" long. Weight, up to 34.5 oz.
TRW/GLOBE Type UC. Each ..... **56.00 to 74.00**

PERMANENT MAGNET DC MOTORS

Produce very high starting torques. Integral or separate radio noise filters can be added.

G TYPES BD AND BL

Rated .022 hp (Type BD) or .033 hp (Type BL) in 6,000 to 12,000 rpm range. Voltage ratings to 115 VDC. Size, 1½" dia. x 2 15/16" long maximum. Weight, 11.3 oz. maximum.
TRW/GLOBE Type BD. Each ..... **80.00 to 130.00**
TRW/GLOBE Type BL. Each ..... **80.00 to 130.00**

PERMANENT MAGNET DC MOTORS (Cont'd)

H TYPES MM AND LL

Type MM rated .01 hp over 8,000 to 18,000 rpm range. Open or enclosed style. Voltage rating to 50 VDC. Size, 1¼" dia. x 2 1/32" long. Weight, 5 oz. **Type LL** rated .015 hp, 6,000 to 14,000 rpm. Available in open or enclosed style. Voltage rating to 75 VDC. Size, 1¼" dia. x 2⅜" long. Weight, 6.5 oz.
TRW/GLOBE Type MM. Each ..... **50.00 to 60.00**
TRW/GLOBE Type LL. Each ..... **50.00 to 60.00**

J TYPE SS

Subminiature motor rated .004 hp in the 8,000 to 18,000 rpm range. Voltage rating up to 50 VDC. Size, ⅞" dia. x 1⅜" long. Weight, 2 oz.
TRW/GLOBE Type SS. Each ..... **50.00 to 65.00**

K TYPE SD

Subminiature motor rated .003 hp in the 8,000 to 18,000 rpm range. Voltage rating up to 50 VDC. Size, ¾" dia. x 1⅜" long. Weight, 1.75 oz.
TRW/GLOBE Type SD. Each ..... **60.00 to 100.00**

L TYPE VS

Compact flat motor rated .0025 hp in 8,000-17,000 rpm range. For up to 50 VDC. Size, ⅞" x 7/16" x 1⅞". Weight, 1.7 oz.
TRW/GLOBE Type VS. Each ..... **60.00 to 68.00**

M TYPES CMM AND CLL

Miniature commercial motors. **Type CMM** rated 1/100 hp continuous duty at 8,000-18,000 rpm. Voltage from 6 to 50 VDC. Size, 1.260" dia. x 1¾" long. Weight, 3.5 oz. **Type CLL** rated 1/75 hp continuous duty at 6,000-15,000 rpm. Voltage rating from 6 to 75 VDC. Size, 1.250" dia. x 2 3/32" long. Weight, 5.2 oz.
TRW/GLOBE Type CMM. Each ..... **38.00 to 40.00**
TRW/GLOBE Type CLL. Each ..... **38.00 to 40.00**

N TYPE JM

Miniature motor rated .015 hp in the 6,000-12,000 rpm range. For up to 115 VDC. Size, 1¼" dia. x 2 1/32" long. Weight, 5 oz.
TRW/GLOBE Type JM. Each ..... **80.00 to 100.00**

P TYPE GRP

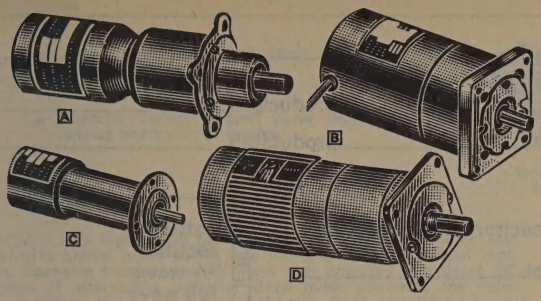
Small motor rated 0.1 hp in the 6,000-10,000 rpm range. Voltage to 115 VDC. Size, 2¼" dia. x 3¾" long. Weight, 40 oz.
TRW/GLOBE Type GRP. Each ..... **110.00 to 120.00**

R AIR COMPRESSOR

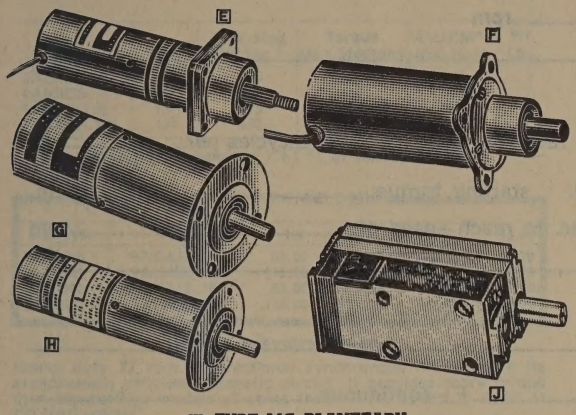
Produces 1 cfm circulation at 5 psi. For 115 VAC, 60 Hz, single-phase. Size, 4" high x 3" wide x 6" long. Weight, 3.5 lbs. maximum including cord, exhaust tube assembly and fitting.
TRW/GLOBE Air Compressor. Each **175.00**

TRW/Globe Motors and Blowers

AC AND DC MOTORS WITH INTEGRAL GEARS



TRW/Globe AC and DC motors are available with a wide range of voltage requirements, speeds and ratings within the price limits shown for each type. Write or call Newark for complete specifications and quantity pricing on motors to meet your specific requirements. Most types are available with integral gearing in a variety of voltage and speed ratings.



A TYPE MC PLANETARY
Provides 83 even gear ratios, or 20 odd ratios, using Type MC 1¼" dia. AC motor. Maximum length, 4 3/16". Square flange optional. Max. continuous output torque, to 1250 oz.-in.
TRW/GLOBE Type MC. Each.....114.00 to 166.00

B TYPE FC PLANETARY
Provides 18 odd and 83 even gear ratios using Type FC 1 11/16" dia. AC motor. Maximum length, 4 3/32". Maximum continuous output torque, to 1250 oz.-in.
TRW/GLOBE Type FC. Each.....124.00 to 176.00

C TYPE SC PLANETARY
21 gear ratios, using Type SC 1 1/16" dia. AC motor. Length, 3 7/32". Max. cont. output torque, to 300 oz.-in.
TRW/GLOBE Type SC. Each.....134.00 to 178.00

D TYPE CFC PLANETARY
83 standard ratios for Type CFC motors. Standard geared speeds from 900 rpm down to 0.1 rpm; to 1250 oz.-in. cont. torque.
TRW/GLOBE Type CFC. Each.....91.00 to 99.00

E TYPES BD AND BL PLANETARY
Has 1 7/8" flange; provides 18 ratios using Type BD or Type BL 1½" dia. DC motor. Maximum length, 4 21/32". Maximum continuous output torque, to 550 lb.-in. Intermittent to 1100 lb.-in.
TRW/GLOBE Type BD or BL. Each.....220.00 to 322.00

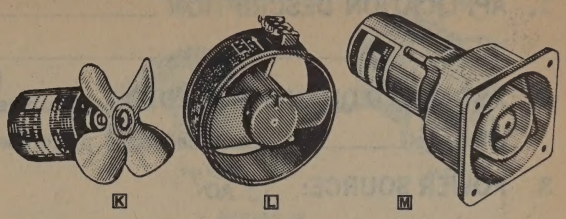
F TYPES MM AND LL PLANETARY
Provides 20 ratios using Type MM or LL 1¼" dia. DC motor. Max. length, 4 3/64". Square flange optional. Maximum continuous output torque, to 1250 oz.-in.
TRW/GLOBE Type MM or LL. Each.....94.00 to 145.00

G TYPE SS PLANETARY
Provides 21 ratios using Type SS 7/8" dia. DC motor. Max. length, 3 11/64". Continuous output torque, to 300 oz.-in.
TRW/GLOBE Type SS. Each.....114.00 to 160.00

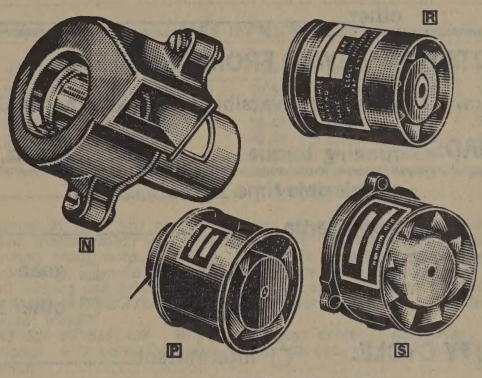
H TYPE SD PLANETARY
Provides 21 ratios using Type SD ¾" dia. DC motor. Maximum continuous output torque, to 300 oz.-in.
TRW/GLOBE Type SD. Each.....128.00 to 170.00

J TYPE VS SPUR
Provides 62 ratios using Type VS 7/16" x 7/8" DC motor. Maximum length, 3¾". Maximum output torque, to 35 oz.-in. Side-by-side version is 7/8" x 7/8" x 2¼" long.
TRW/GLOBE Type VS. Each.....220.00 to 350.00

AC AND DC BLOWERS AND FANS



TRW/Globe's extensive line of air-moving devices for electronics cooling applications include multi-stage, vaneaxial, tubeaxial and centrifugal blowers and fans for AC, DC or universal AC/DC operation. High altitude and high ambient temperature units are a specialty; MIL specs are routine. Globe designs and produces its own motors, so we can provide prototype or production units with optimum characteristics for your specific applications. Available with a variety of motors and ratings, within the range of prices shown for each type. Write for full information, further data for specialized applications and quantity pricing. Be sure to check the general information data worksheet on page 386.



K OPEN TYPE FANS
Available with a variety of AC, DC or AC/DC motors, delivering up to 195 cfm at zero inches of water. Power requirements from 4 to 120 VDC; or up to 200 VAC, 1-, 2-, or 3-phase, 60 or 400 Hz. Weight, 2.3 oz. minimum.
TRW/GLOBE Open Type Fans. Each.....57.00 to 97.00

L TYPE PAX-3 PROPAXIAL FAN
3" fan delivers 120 cfm at zero inches water, using Type MCS 2-pole motor; or 62 cfm using Type MCS 4-pole motor. Power requirements up to 200 VAC, 3-phase, 400 Hz.
TRW-GLOBE Type PAX-3. Each.....65.00

M AXIAL BLOWERS
Deliver up to 62 cfm free air. Available with AC or DC motors. Power requirements from 4 to 70 VDC; or 27 to 200 VAC, 1-, 2-, or 3-phase, 60 or 400 Hz. Weight, 5 to 9½ oz.
TRW/GLOBE Axial Blowers. Each.....70.00 to 95.00

N CENTRIFUGAL BLOWERS
Left-hand or right-hand scroll blowers, for AC or DC power, with round or rectangular outlet, in 1" to 2½" size. Produce up to 50 cfm free air. AC types powered by 115 to 200 VAC, 60 or 400 Hz. DC types powered by 27 VDC. Weight, 4-18 oz.
TRW/GLOBE Centrifugal Blowers. Each.....70.00 to 95.00

P TYPE VAX-3 3" VANEAXIAL BLOWER
Available for AC, DC or universal AC/DC operation. AC blower delivers 105 cfm at 3.3" water; powered by 115 or 200 VAC, 3-phase, 400 Hz; weight, 14 oz. DC blower delivers 70 cfm at 1.5" water; powered by 4 to 115 VDC; weight, 16 oz. AC/DC blower delivers 68 cfm at 1.5" water; powered by 115 VAC, single-phase, 60 Hz. or 115 VDC; weight, 16 oz.
TRW/GLOBE Type VAX-3. Each.....65.00 to 130.00

R TYPE VAX-1 VANEAXIAL 1⅛" BLOWERS
AC blower delivers 10 cfm at 0.6" water; powered by 26 VAC, single-phase, 400 Hz; weight, 1.5 oz. DC blower delivers 8.5 cfm at 0.5" water; powered by 26 VDC; weight, 1.4 oz.
TRW/GLOBE Type VAX-1. Each.....90.00 to 110.00

S TYPE VAX-2 VANEAXIAL 2" BLOWERS
Available for AC or DC power. AC blower delivers 50 cfm at 2.1" water; powered by 115 VAC, 1- or 3-phase, 400 Hz; or by 200 VAC, 3-phase, 400 Hz; weight, 5 oz. DC blower delivers 37 cfm at 1.5" water; powered by 26 or 50 VDC. Weight, 5 oz.
TRW/GLOBE Type VAX-2. Each.....50.00 to 100.00

REFER TO FOLLOWING PAGE FOR APPLICATION DATA WORKSHEET

TRW GLOBE APPLICATION DATA WORKSHEET

1. **APPLICATION DESCRIPTION** _____

_____

2. **ESTIMATED QUANTITY NEEDED:** prototype _____ production _____

price goal _____ delivery: prototype _____ production _____

3. **POWER SOURCE:** ☐ AC ☐ DC _____ v.d.c.

voltage: 1. phase _____ Capacitor will be specified ☐ battery ☐ rectifier ☐ ½ wave ☐ full wave ☐ filtered

2. phase: line _____ control _____

3. phase: line-to-line _____

power input: no load _____ watts _____ current _____ watts

full load _____ watts _____ current

4. **SPEED:** fixed _____ rpm **ALLOWABLE VARIATION** _____ %

variable _____ rpm to _____ rpm

other _____

5. **ROTATION VIEWED FROM SHAFT END:**

☐ cw ☐ ccw ☐ reversible ☐ instantaneous? reversing at _____ cycles per _____

6. **LOAD:** running torque _____ oz. in. starting torque _____ oz. in.

permissible time _____ sec. to reach speed of _____ rpm

load inertia _____

TYPE OF DRIVE: ☐ direct ☐ gear ☐ belt

☐ chain ☐ other _____

7. **DUTY CYCLE:** ☐ Intermittent _____ ☐ continuous _____

time on _____ how long _____

time off _____

8. **TEMPERATURE RANGE** _____ to _____

9. **APPLICABLE MIL SPECS** _____

10. **ENVIRONMENTAL SPECS** _____

11. **MOUNTING:** ☐ flange ☐ servo

☐ face ☐ other _____

12. **SIZE LIMITS** _____

13. **WEIGHT LIMITS** _____

14. **SHAFT** _____

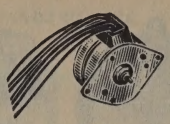
15. **LEADS** ☐ **TERMINALS** ☐ _____

16. **SPECIAL REQUIREMENTS** _____

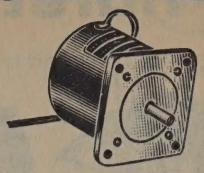
The sample datasheet above lists the data normally required in filling most TRW/Globe Precision Motor orders. It will provide a dependable guide in helping you instruct us with all the information needed to satisfactorily fill your order.

- Give more torque than other models of same frame size.
- Directly convert digital pulse inputs to anolog shaft output motion.

Series 9



Series 20



Series 18

SERIES 9

Series 9 is a high speed permanent magnetic static motor that converts digital input pulses into incremental shaft output motion. Operates from any drive input that provides successive DC pulses of alternating polarity. Each pulse advances the rotor shaft (15º or 18º), latches it magnetically in place with accuracy of ±15 min. angular, non-culmulative. Damper must be used for speeds over 50 steps/sec. Rated continuous at 24VDC nominal. *Bi-Directional—2 9F02 drivers needed. Ohms/winding-.18, amps/winding 6.2 for all. Minimum detent is ½ of min. hold. External resistor—Ohms 3 .7, W 150. Two sizes, Types 9AH4D2-18*, 9AL4D2-.18*, 2 7/16 x 1 13/16 x 2 5/16; Types 9AG4J2-.18, 9AK4J2-.18, 2 7/16 x 1 13/16 x 1 5/32.

24F3522 Type AT-214-1 Pneumatic damper ..... NET 45.00
24F3523 Type 9F02 Driver, 8-20V, 60 sec (min) ..... NET 78.00

Type	Deg.	Max.Step Per Sec.*	Torque Max.Stepping	AM/CM** Min.Hold	Wt. Lbs.
9AG4J2-.18	18º	450	360	750	1
9AH4D2-.18*	18º	375	345	720	2
9AK4J2-.18	15º	525	420	950	1
9AL4D2-.18*	15º	450	395	880	2

*With Pneumatic damper At 2.4-1 ** In ounces-inches

SERIES 9 PRICE CODE

Stk. No.	Type	1-9	10-24	25-49	50-99
24F3500	9AG4J2-.18	82.00	77.90	73.80	69.70
24F3501	9AH4D2-.18*	115.00	109.25	103.50	97.75
24F3502	9AK4J2-.18	82.00	77.90	73.80	69.70
24F3503	9AL4D2-.18*	115.00	109.25	103.50	97.75

SERIES 20 SYNCHRONOUS

Heavy duty 72 rpm. bidirectional synchronous motor. With its exceptionally efficient magnetic circuit, it provides more torque than competitive models of same frame size. Speed 72 RMP at 120 VAC, 60 Hz.

Type Series-20	Torque (oz./in.)	Current (Amps)	Dia. xLt. Inches
2223S72-A120	44	.105	2.2x2.3
3424S72-A120	90	.165	3.4x2.4
3437S72-A120	210	.35	3.4x3.7
4256TS72-A120	350	.35	4.2x5.6
4275S72-A120	575	.6	4.2x7.5
4275TS-A120	820	1.3	4.2x7.5

SERIES 20 PRICE CODE

Stk. No.	Type Series-20	1-9	10-24	25-99	100-499
24F3504	2223S72-A120	55.00	49.50	46.75	41.25
24F3505	3424S72-A120	48.00	43.20	40.80	36.00
24F3506	3437S72-A120	80.00	72.00	68.00	60.00
24F3507	4256S72-A120	80.00	72.00	68.00	60.00
24F3508	4275S72-A120	125.00	112.50	106.25	93.75
24F3509	4275TS-A120	225.00	202.50	191.25	168.75

RESISTORS FOR SERIES 20 ABOVE

Stk.No.	Use With Type	Ohms	Watts	Each
13F729	20-2223S72-A120	100	5	.83
13F733	20-3424S72-A120	500	25	.83
13F767	20-3437S72-A120	200	25	1.30
13F765	20-4256TS72-A120	100	50	1.30
13F766	20-4275S72-A120	150	50	1.30
13F803	20-4275TS-A120	50	100	1.75

CAPACITORS FOR SERIES 20 ABOVE

Stk.No.	Use With Type	Mfd.	VAC	Each
15F2180	20-2223S72-A120	2	330	2.58
15F2180	20-3424S72-A120	2	330	2.58
15F2181	20-3437S72-A120	4	330	3.21
15F2182	20-4256TS72-A120	5	330	3.56
15F2183	20-4275S72-A120	8	330	4.47
15F2184	20-4275TS-A120	15	330	6.71

SERIES 18

Two phase bi-directional, permanent-magnet, inductor-type stepping motor that converts digital pulse inputs to analog shaft output motion. Can be operated at low step rates by manual switches; uses driver A202-2 or appropriate circuit for high speed operation.

Driver A202-2 trigger +4 to +8V, 1u sec, input 28VDC
24F3524 ..... 81.00

Type Series18-	Step	Max Step/Sec	Torque Gr./Cm Max. Step	Min. Hold	Min. Detent	Size Inches Dia.XL	Oz.
1408D32-F195	11.25º	800	0.51	11.1	.11	1.418x.787	3
1408D40-F195	9º	350	0.51	11.1	.11	1.418x.787	3
2013D32-F75	11.25º	600	2.3	.91	0.25	1.969x1.26	8
2520D16-F35	22.5º	200	3.46	8.34	1.03	2.520x2.520x1.969	16
2537D16-F20	22.50	280	6.4	18.1	3.2	2.520x2.520x3.741	32

SERIES 18 PRICE CODE

Stk.No.	Type Series18-	1-9	10-24	25-49	50-99
24F3511	1408D32-F195	19.50	18.53	17.55	16.58
24F3512	1408D40-F195	19.50	18.53	17.55	16.58
24F3513	2013D32-F75	28.00	26.60	25.20	23.80
24F3514	2520D16-F35	43.00	40.85	38.70	36.55
24F3515	2537D16-F20	58.00	55.10	52.20	49.30

SERIES 20-1.8º STEPPING MOTOR

Series 20 is a two or four phase, permanent magnet, inductor type motor which will directly convert digital pulses imputs to anolog shaft output motion. Steps are in 1.8º increments with ±3% non, cumulative accuracy. *With Bi-polar drive run step. All motors use driver, 29-2D30R7B, except use driver 29-256C10B.

24F3525 29-2D30R7B-Bi-Polar RL driver, input ± 30 Volts and pulse trigger 127.00
24F3526 29-2S65C10B - Bi-polar chopper drive (3 cards/set) input trigger + 2 volts DC peak min., 100 sec. min., 65 VDC @ 20 amps 420.00

Series20 Type	*Torque At 50Steps/Sec.	Current Per Phase	Size Dia.xLen.	Wt.(oz.)
2223D200-F6	53	1.3	2.2x2.3	24
3424D200-F1.8	110	2.4	3.4x2.4	50
3437D200-F0.75	265	5.7	3.4x3.7	82
4256TD200-F0.78	650	6.0	4.2x5.6	128
4275D200-F1.2+	1000	4.8	4.2x7.5	240
4275TD200-F0.6+	1500	7.5	4.2x7.5	240

SERIES 20 PRICE CODE

Stk.No.	Series20 Type	1-9	10-24	25-99	100-499
24F3516	2223D200-F6	90.00	81.00	76.50	67.50
24F3517	3424D200-F1.8	84.00	75.60	71.40	63.00
24F3518	3437D200-F0.75	106.00	95.40	90.10	79.50
24F3519	4256TD200-F0.78	116.00	104.40	98.60	87.00
24F3520	4275D200-F1.2+	175.00	157.50	148.75	131.25
24F3521	4275TD200-F0.6+	375.00	337.50	318.75	281.25

RESISTORS FOR SERIES 18 ABOVE

For use with Sigma A202-2 drive card (28VDC Pr. Sup.)

Stk.No.	Use With Type	Ohms	Watts	Price
13F511	18-1408D32-F195	314	1	1.30
13F511	18-1408D40-F195	314	1	1.30
13F509	18-2013D32-F75	105.6	3	1.30
13F558	18-2520D16-F35	52	6	1.45
13F508	18-2537D16-F20	29	10	1.30

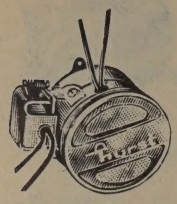
RESISTORS FOR SERIES 20 ABOVE

For use with Sigma 29-2D30RT-B drive card

Stk. No.	Use With Type	Ohms		NET
13F601	20-2223D200-F6	21.4	50	1.90
13F651	20-3424D200-F1.8	11.8	100	2.40
13F679	20-3437D200-F0.75	4.8	225	4.85
13F680	20-4256TD200-F1.6	4.6	225	4.85
13F550	20-4275D200-F1.2+	1	25	1.45
13F553	20-4275TD200-F0.6+	0.5	25	1.45

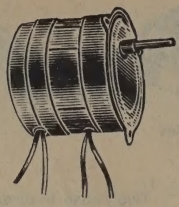
*Use with Series 29-2S65C10-B

Hurst Motors



PC-DA
AR-SM

DA -SM



CA

SERIES PC-DA

Continuous duty reversible synchronous motor with positive clutch and instantaneous brake stops the shaft rotation within .2 at 1 RPM and 12 at 60 RPM. Starting time for the shaft is within 20 msec. Capacitor included. Ship. Wt. 1 lb. 5 oz.

Stk. No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F1471	PC-DA-1	1					
24F1582	PC-DA-2	2					
24F1472	PC-DA-4	4					
24F1473	PC-DA-6	6	24.42	21.98	20.88	19.83	18.84
24F1474	PC-DA-10	10					
24F1583	PC-DA-12	12					
24F1475	PC-DA-30	30					
24F1476	PC-DA-60	60					

SERIES DA

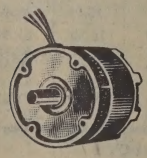
Continuous duty synchronous motor, 150 in. oz. at 1 RPM. Instantly reversible with SPDT switching. Accurate both clockwise and counterclockwise. For chart drives, potentiometers, and timer applications. Capacitor included. Dimensions: 2½" dia. x 1¾" depth. Shaft of stainless steel 3/16" dia. x 1" long flatted. 60 Hz. 95/130V, 5 watts. Ship. Wt. 14 oz.

Stk. No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F1456	DA-1	1					
24F1580	DA-2	2					
24F1457	DA-4	4					
24F1458	DA-6	6	17.67	15.90	15.10	14.36	13.64
24F1459	DA-10	10					
24F1581	DA-12	12					
24F1460	DA-30	30					
24F1461	DA-60	60					

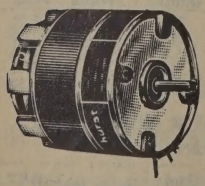
SERIES AR-DA

100 inch-ounce, reversible, high accuracy both clockwise and counter-clockwise. Operates as an automatic reset motor when a return spring is attached to the output shaft. When clutch is de-energized, the shaft is free for manual or automatic reset. Accurate within 1/5 second at 1 rpm. Maximum error in seconds. .15625 divided by the rpm. Case: 2½x2 1/16" dia. Clutch actuator, ⅞" height x 1 3/16" width. Shpg. wt., 1½ lbs.

Stk. No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F3550	AR-DA 1	1					
24F3551	AR-DA 4	4					
24F3552	AR-DA 6	6	28.80	26.02	24.63	23.39	22.22
24F3553	AR-DA 10	10					
24F3554	AR-DA 30	30					
24F3555	AR-DA 60	60					



•New Mini-Bee
Series MB 4/100 hp



Honey-Bee
Series HB 1/30 hp

SERIES HB & MB

Precision 1800 rpm hysteresis-synchronous motors for accurate speed. Inverted rotor design for greatly reduced flutter characteristics. Sealed ball bearings, lifetime lubrication. Temperature rise of only 40° C even under full load conditions. Fully reversible — capacitor included. Starting torque: Model MB, 6 inch-ounces; Model HB, 12 inch-ounces. Sync torque: Model MB, 5¼ inch-ounces; Model HB, 11 inch-ounces. Dimensions: Model MB, 2 13/32" diameter x 2⅝" length; Model HB, 3¾" diameter x 3⅝" length. Mountings: Model MB, (4) #8-32 UNC 2 B tapped mounting holes, equally spaced on 2.000" diameter B.C. 5/16" max. thread engagement; Model HB, (4) #10-32-2B UNF tapped mounting holes equally spaced on 2.625" diameter B.C. 5/16" max. thread engagement. Both models have 5/16x1" stainless steel shaft. For 120 volts, 60 Hz AC. Shpg. wts. MB: 2 lbs. HB: 4 lbs.

Stk.No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
24F3579	MB	50.00	48.00	47.50	42.89	39.45	37.37
24F3580	HB	65.00	62.00	57.50	48.84	45.39	43.24

SERIES CA

Instantly reversible with SPDT switching. 100 inch-ounce torque rating at 1RPM. Completely accurate both clockwise and counter-clockwise. Case dimensions, 2½" dia. x 2⅛". Shaft, 3/16" dia. x 1" long flattened. Ship. Wt. 1 lb. 2 oz.

Stk.No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F1584	CA-½	½					
24F1494	CA-1	1					
24F1585	CA-2	2					
24F1495	CA-4	4					
24F1496	CA-6	6	15.14	13.67	12.95	12.31	11.70
24F1497	CA-10	10					
24F1586	CA-15	15					
24F1498	CA-30	30					
24F1499	CA-60	60					

SERIES SM

40 in. oz. torque at 1 RPM. Dim.: 2½"x1¾". 12. oz. Shaft size: 3/16" dia flatted. Shaft length: 1". Mounting: 3 no. 6 holes spaced 120°. Power: 60 hz. AC, 95/130V., 5 watts. Rotation: Clockwise facing shaft. Max. temp rise 40°C above ambient. Shock resistance: 100g without motor damage. Shpg. wt., 1 lb.

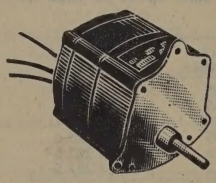
Stock No.	Mfg. Type	RPM	1-9	10-24	25-49	50-99	100-249
24F1450	SM-1	1					
24F1451	SM-4	4					
24F1452	SM-6	6	14.86	13.38	12.71	12.08	11.47
24F1453	SM-10	10					
24F1454	SM-30	30					
24F1455	SM-60	60					

SERIES AR-SM

Unidirectional 40 in. oz. of torque at 1 RPM synchronous motor. When a return spring is attached to the output shaft it will function as an automatic reset motor. The shaft is free for manual or automatic reset when clutch is de-energized. Clutch mechanism is lubricated and completely enclosed; accurate within .2 sec. at 1 RPM, more accurate at higher speeds. Max. error in seconds. .15625 divided by RPM.

Stk.No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F3556	AR-SM 1	1					
24F3557	AR-SM 4	4					
24F3558	AR-SM 6	6					
24F3559	AR-SM 10	10	26.02	23.42	22.24	21.13	20.08
24F3560	AR-SM 30	30					
24F3561	AR-SM 60	60					

SERIES GA



Capacitor phased hysteresis-synchronous reversible motors. Utilize full output torque without gearing damage. Lifetime lubrication. High-impact glass-reinforced Lexan housing. Stainless steel output shaft. ¼x1" (flatted) except 3600 rpm. ⅛" dia. 1.0μF capacitor (±5%) included. Case: 2¾x2⅜x3". Adapter plate (below) permits output shaft and stud locations to match many motors, 115 V, 60 Hz AC. Shpg. wt. 2¾ lbs. Specify speed.

Stk. No.	RPM	Torque (Oz.-in.)	1-9	10-24	25-49	50-74	75-99	100-249
24F3562	3600	6	24.68	23.45	22.22	20.98	19.75	17.28
24F3563	300	2.0						
24F3564	225	2.7						
24F3565	180	3.3						
24F3566	150	4.0	32.01	30.40	28.81	27.21	25.62	22.41
24F3567	120	5.0						
24F3568	100	6.0						
24F3569	60	10.0						
24F3570	30	20.0	34.67	32.93	31.21	29.48	27.74	24.29
24F3571	18	33.0	34.67	32.93	31.21	29.48	27.74	24.29
24F3572	10	60.0						
24F3573	6	100.0						
24F3578								
24F3574	6	120.0	36.91	35.07	33.23	31.38	29.55	25.86
24F3575	4	150.0						
24F3576	3	200.0						
24F3577	2	300.0						
24F3581	1	600.0						

Adapter Plate. Wt., 4 oz. ..... Each .83

NEWARK—YOUR DEPENDABLE SOURCE FOR ALL YOUR ELECTRONIC NEEDS
One Purchase Order—To One Source for All Electronic Components.

Wood Electric Circuit Breakers

Wood Electric thermal and magnetic circuit breakers are precision calibrated and inspected to rigid quality control standards. All have unique trip free mechanism which prevents contacts from closing as long as overload persists. Meet requirements of Mil-E-527C for humidity and salt spray. Withstand vibration of 10 g's at 10-55 hz, shock of 35 g's.

THERMAL BREAKERS
SINGLE POLE THERMAL—PUSH/PULL TYPE

Designed to meet requirements of Mil-C-5809 and MS dwg. no. 25244. Maximum operating voltages are 250 volts AC and 32 volts DC. Calibrated to hold 115% of rated load idefinitely and trip within 138% at 25°C.

Stk. No.	Type No.	Amps	MS-25244	Stk. No.	Type 105	Amp	MS-25244
56F708	507-205-101	5	5	56F713	507-225-101	25	25
56F709	507-507-101	7.5	75	56F740	507-230-101	30	30
56F710	507-210-101	10	10	56F714	507-235-101	35	35
56F711	507-215-101	15	15	56F741	507-240-101	40	40
56F712	507-220-101	20	20	56F715	507-250-101	50	50

TYPE 109 SINGLE POLE THERMAL—PUSH/PULL TYPE

Designed for circuits requiring protection from 5 to 50 amps. Maximum operating voltages are 250 volts AC and 32 volts DC. Calibrated to hold 100% of rated load indefinitely and trip within 135% at 25°C.

Stk. No.	Type	Amp	Stk. No.	Type	Amp
56F716	109-205-101	5	56F721	109-225-101	25
56F717	109-207-101	7.5	56F722	109-230-101	30
56F718	109-210-101	10	56F723	109-235-101	35
56F719	109-215-101	15	56F724	109-250-101	50
56F720	109-220-101	20			

TYPE 111 SINGLE POLE THERMAL—PUSH/PULL TYPE

Designed for circuits requiring protection from 1 to 4 amps.

Stk. No.	Type	Amp	Stk. No.	Type	Amp
56F734	111-201-101	1	56F736	111-203-101	3
56F735	111-202-101	2	56F737	111-204-101	4

TYPE 112 SINGLE POLE THERMAL—TOGGLE TYPE

Designed for circuits requiring protection from 5 to 50 amps. Main contacts 250 VAC to 400 hz, 32 VDC. Aux. contacts rated 3A/115 VAC, 1A/50 VDC Calibrated to hold 100% of rated load indefinitely anc trip within 135% at 25°C.

Stk. No.	Type	Amp	Stk. No.	Type No.	Amp
56F725	112-205-101	5	56F730	112-225-101	25
56F726	112-507-101	7.5	56F731	112-230-101	30
56F727	112-210-101	10	56F732	112-235-101	35
56F728	112-215-101	15	56F742	112-240-101	40
56F729	112-220-101	20	56F733	112-250-101	50

SINGLE POLE THERMAL—PUSH TO RESET

Designed for circuits requiring protection from 1 to 4 amps. Max. oper. volts; 250V AC to 400 hz, 32V DC. Push to reset, only cannot be interrupted manually. Calibrated to hold 100% of rated load indefinitely and will trip within 145% at 25°C.

TYPE 374

Stk. No.	Type No.	Amp	Stk. No.	Type	Amp
56F870	374-201-101	1	56F872	374-203-101	3
56F871	374-202-101	2	56F873	374-204-101	4

TYPE 375

Stk. No.	Type No.	Amp	Stk. No.	Type	Amp
56F874	375-205-101	5	56F877	375-214-101	15
56F875	375-207-101	7	56F878	375-220-101	20
56F876	375-210-101	10			

PRICE CHART

Model No.	1-9	10-25	25-99	100-249
105	8.10	6.75	5.85	5.18
109	4.41	3.68	3.19	2.83
111	9.50	7.92	6.86	6.07
112	4.68	3.90	3.38	2.99
374	2.77	2.31	2.00	1.77
375	1.71	1.43	1.24	1.09

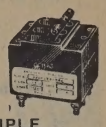
Depend on NEWARK For

—Fast Service and the Latest in Electronics

STANDARD TYPE —MAGNETIC BREAKERS

SINGLE

DOUBLE



TRIPLE

Models 122, 190, and 220. Designed for use on circuits requiring protection up to 50 amps on voltages up to 250 volts AC 60 Hz. Calibrated to carry 100% of rated load and to trip between 101% and 125%. Trip times at 200% of rated load are 3-10 seconds. Poles are internally interlocked to insure simultaneous tripping in event of overload.

SERIES 122—SINGLE POLE

Stk. No.	AC Type	Amp	Stk. No.	Type	Amp
56F762	122-201-101	1	56F769	122-215-101	15
65F763	122-202-101	2	56F770	122-220-101	20
56F764	122-203-101	3	56F771	122-225-101	25
56F765	122-204-101	4	56F772	122-230-101	30
56F766	122-205-101	5	56F773	122-235-101	35
56F767	122-207-101	7	56F774	122-240-101	40
56F768	122-210-101	10	56F775	122-250-101	50

56F790	190-201-101	1	56F797	190-215-101	15
56F791	190-202-101	2	56F798	190-220-101	20
56F792	190-203-101	3	56F799	190-225-101	25
56F793	190-204-101	4	56F810	190-230-101	30
56F794	190-205-101	5	56F811	190-235-101	35
56F795	190-207-101	7	56F812	190-240-101	40
56F796	190-210-101	10	56F813	190-250-101	50

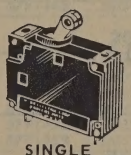
SERIES 220—TRIPLE POLE

56F828	220-201-101	1	56F835	220-215-101	15
56F829	220-202-101	2	56F836	220-220-101	20
56F830	220-203-101	3	56F837	220-225-101	25
56F831	220-204-101	4	56F838	220-230-101	30
56F832	220-205-101	5	56F839	220-235-101	35
56F833	220-207-101	7	56F840	220-240-101	40
56F834	220-210-101	10	56F841	220-250-101	50

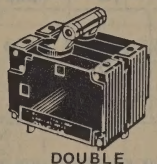
PRICE CODE

Model No.	1-9	10-25	26-99	100-249
122	7.20	6.00	5.20	4.60
190	18.63	15.53	13.46	11.90
220	28.71	23.93	20.74	18.34

MINI MAG CIRCUIT BREAKER



SINGLE



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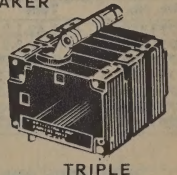


TRIPLE

Series 511, 518, 525. Designed for use on circuit requiring protection up to 30 amps on voltages up to 250 volts AC 60 Hz. Calibrated to carry 100% of rated load.

Stk. No.	Type	Amp	Stk. No.	Type	Amp
56F804	511-050-101	½	56F879	511-209-101	7
56F805	511-201-101	1	56F880	511-210-101	10
56F806	511-202-101	2	56F881	511-215-101	15
56F807	511-203-101	3	56F882	511-220-101	20
56F808	511-204-101	4	56F883	511-225-101	25
56F809	511-205-101	5	56F884	511-230-101	30

SERIES—518—DOUBLE POLE

56F885	518-050-101	½	56F891	518-207-101	7
56F886	518-201-101	1	56F892	518-210-101	10
56F887	518-202-101	2	56F893	518-215-101	15
56F888	518-203-101	3	56F894	518-220-101	20
56F889	518-209-101	4	56F895	518-225-101	25
56F890	518-205-101	5	56F896	518-230-101	30

SERIES 525—TRIPLE POLE

56F994	525-050-101	½	56F988	525-207-101	7
56F995	525-201-101	1	56F989	525-210-101	10
56F996	525-202-101	2	56F990	525-215-101	15
56F997	525-203-101	3	56F991	525-220-101	20
56F998	525-204-101	4	56F992	525-225-101	25
56F999	525-205-101	5	56F993	525-230-101	30

PRICE CODE

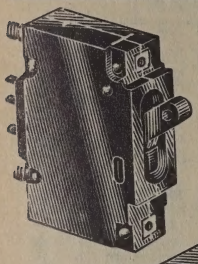
Model No.	1-9	10-25	26-99	100-249
511	5.38	4.49	3.89	3.44
518	14.02	11.09	10.13	8.96
525	22.09	18.41	15.95	14.11

HEINEMANN Circuit Breakers

Because they employ hydraulic-magnetic actuation, Heinemann breakers always carry 100% of rated load and always trip at rated points. There is no need to derate them to prevent heat-induced nuisance tripping.

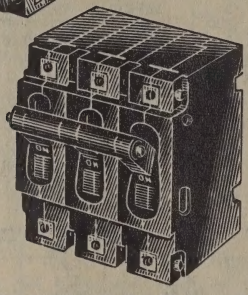
ORDERING INFORMATION REQUIRED

1. *Number of poles*
2. *Auxiliary switch (Yes or No)*
3. *Amperage rating*
4. *Operating voltage and cycles per second if AC*
5. *Time-Delay characteristics Slow, Medium, Fast or Instantaneous*
6. *Internal circuit series trip, calibrating tap, shunt trip, relay trip*
7. *UL Approval (Yes or No)*



AM1

AM2



AM3

• NEW SERIES AM HYDRAULIC-MAGNETIC CIRCUIT BREAKERS

Modestly priced precision-built circuit breakers meet Mil-C-55629 requirements and incorporate latest circuit-breaker technology. Guaranteed to hold rated load indefinitely, and to trip at 125% of rated load. Temperature-stable. Available in ratings to 50 amp, 250VAC, 60 or 400 Hz; 65VDC. Employs hydraulic-magnetic actuation with common-trip construction. Inherent fungus and moisture-resistance. Because of shock and vibration-resistant construction, used widely in mobile and portable equipment. Extremely versatile and reliable overload sensing device. Typical time delay at 200% rated load is 2-20 seconds. UL-CSA approved.

SPECIFICATIONS

AM1: Single pole AM2: Two-pole AM3: Three-pole
Standard max voltages: 250 V, 60 or 400Hz; 65 VDC
UL-Recognized max voltage: 240V, 60 or 400Hz; 65VDC
Current-Range (UL Recognized): 50 AMP at stated voltages
Interrupting Capacities: 1000 AMP at all stated Voltages
Time-Delay Characteristics: Curve 2 (Slow), Curve 3 (Fast)
Internal Circuits Available: Series-Trip (with or without auxiliary SPDT switch) Standard as listed in table. Calibrating-Tap, Relay-Trip, and Shunt-Trip (Special).

250V 60Hz with Auxiliary switch Single pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1350	AM1-A2-1-2				
57F1351	AM1-A2-3-2				
57F1352	AM1-A2-5-2				
57F1353	AM1-A2-10-2	7.91	5.12	4.65	4.19
57F1354	AM1-A2-20-2				
57F1355	AM1-A2-30-2				
57F1356	AM1-A2-50-2				

50 VDC with Auxiliary switch single pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1357	AM1-B2-1-2				
57F1358	AM1-B2-3-2				
57F1359	AM1-B2-5-2				
57F1360	AM1-B2-10-2	7.91	5.12	4.65	4.19
57F1361	AM1-B2-20-2				
57F1362	AM1-B2-30-2				
57F1363	AM1-B2-50-2				

250V 60Hz without Auxiliary switch Single pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1364	AM1-A3-1-2				
57F1365	AM1-A3-3-2				
57F1366	AM1-A3-5-2				
57F1367	AM1-A3-10-2	7.91	5.12	4.65	4.19
57F1368	AM1-A3-20-2				
57F1369	AM1-A3-30-2				
57F1370	AM1-A3-50-2				

50 VDC without Auxiliary switch single pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1371	AM1-B3-1-2				
57F1372	AM1-B3-3-2				
57F1373	AM1-B3-5-2				
57F1374	AM1-B3-10-2	7.91	5.12	4.65	4.19
57F1375	AM1-B3-20-2				
57F1376	AM1-B3-30-2				
57F1377	AM1-B3-50-2				

250V 60Hz without Auxiliary switch 2 Pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1378	AM2-A3-1-2				
57F1379	AM2-A3-3-2				
57F1380	AM2-A3-5-2				
57F1381	AM2-A3-10-2	21.08	13.64	12.40	11.16
57F1382	AM2-A3-20-2				
57F1383	AM2-A3-30-2				
57F1384	AM2-A3-50-2				

50 VDC without Auxiliary switch 2 Pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1385	AM2-B3-1-2				
57F1386	AM2-B3-3-2				
57F1387	AM2-B3-5-2				
57F1388	AM2-B3-10-2	32.98	21.34	19.40	17.46
57F1389	AM2-B3-20-2				
57F1390	AM2-B3-30-2				
57F1391	AM2-B3-50-2				

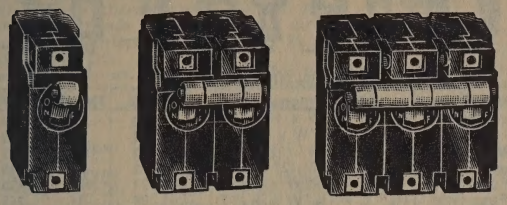
250V 60Hz without Auxiliary switch 3 Pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1392	AM3-A3-1-2				
57F1393	AM3-A3-3-2				
57F1394	AM3-A3-5-2				
57F1395	AM3-A3-10-2	32.98	21.34	19.40	17.46
57F1396	AM3-A3-20-2				
57F1397	AM3-A3-30-2				
57F1398	AM3-A3-50-2				

250 V 400 Hz without Auxiliary switch 3 Pole

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1399	AM3-C3-1-2				
57F1400	AM3-C3-3-2				
57F1401	AM3-C3-5-2				
57F1402	AM3-C3-10-2	32.98	21.34	19.40	17.46
57F1403	AM3-C3-20-2				
57F1404	AM3-C3-30-2				
57F1405	AM3-C3-50-2				

SERIES JA



JA1 JA2 JA3

Miniature, inexpensive, fully agnetic. Single pole weighs only 2.5 oz. Top-quality unit used where equipment size must be kept as small as possible. Temperature-stable—will always carry 100% rated load. Inherent fungus and moisture-resistance. Tested for shock and vibration per Mil-C-55629 requirements. Popular with boat manufacturers. Guaranteed to trip at 125% load. Typical time delay at 200% of rated load is 2-20 seconds. Available to 30 amp with voltage up to 250 V, 60 or 400 Hz; 50 DC. Terminals accept crimp-type, screw-type, or soldered connections. UL-CSA approved.

SPECIFICATIONS

Cat. # JA1: Single pole, JA2: Two-Pole, JA3: Three pole
Standard max. Voltage: 250 V, 60 or 400 Hz, 50 V DC
UL-Recognized max Voltage: 240 V AC, 50 V DC
Current: 0.02 to 30 AMP, AC or DC
Interrupting Capacities. 1000 AMP at all Stated Voltages
Time-Delay Characteristics: Curves 2 (slow) and 3 (fast)
Internal Circuits: Series-trip and SPDT AUX. switch standard.
Calibrating: Tap, shunt-trip, and relay-trip available.
Approximate Weights: JA1: 2.5 oz.; JA2: 5 oz.: JA3: 7.5 oz.

250 V 60 Hz without AUX. switch single pole curve 2

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1406	JA1-A3-1-2	7.01	4.54	4.13	3.71
57F1407	JA1-A3-3-2				
57F1408	JA1-A3-5-2				
57F1409	JA1-A3-10-2				
57F1410	JA1-A3-20-2				
57F1411	JA1-A3-30-2				

250 V 60 Hz without AUX. switch Two-pole Curve 2

57F1418	JA2-A3-1-2	18.23	11.79	10.73	9.65
57F1419	JA2-A3-3-2				
57F1420	JA2-A3-5-2				
57F1421	JA2-A3-10-2				
57F1422	JA2-A3-20-2				
57F1423	JA2-A3-30-2				

250 V 60 Hz without AUX. switch Three-pole Curve 2

57F1430	JA3-A3-1-2	28.73	18.59	16.90	15.21
57F1431	JA3-A3-3-2				
57F1432	JA3-A3-5-2				
57F1433	JA3-A3-10-2				
57F1434	JA3-A3-20-2				
57F1435	JA3-A3-30-2				

32, 50, or 65* VDC, without AUX. switch single pole Curve 2

57F1412	JA1-B3-1-2	7.01	4.54	4.13	3.71
57F1413	JA1-B3-3-2				
57F1414	JA1-B3-5-2				
57F1415	JA1-B3-10-2				
57F1416	JA1-B3-20-2				
57F1417	JA1-B3-30-2				

*Max. Current: 30 AMPS-32 VDC; 25 AMPS-50 VDC; 20 AMPS-65 VDC

32, 50, or 65* VDC, without AUX. switch Two-Pole Curve 2

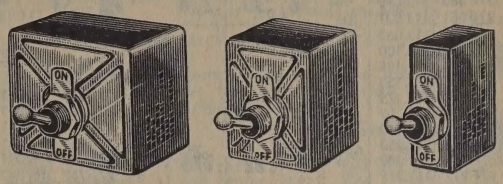
57F1424	JA2-B3-1-2	18.23	11.79	10.73	9.65
57F1425	JA2-B3-3-2				
57F1426	JA2-B3-5-2				
57F1427	JA2-B3-10-2				
57F1428	JA2-B3-20-2				
57F1429	JA2-B3-30-2				

*Max. Current: 30 AMPS-32 VDC; 25 AMPS-50 VDC; 20 AMPS-65 VDC

250 V 400 Hz, without Auxiliary switch Three-Pole Curve 2

57F1436	JA3-C3-1-2	28.73	18.59	16.90	15.21
57F1437	JA3-C3-3-2				
57F1438	JA3-C3-5-2				
57F1439	JA3-C3-10-2				
57F1440	JA3-C3-20-2				
57F1441	JA3-C3-30-2				

SERIES SM



SM3 SM33 SM333

Fully sealed, lightweight, subminiature. Engineered for severe environmental service. Designed to Mil-C-39019 and Mil-Std-242 requirements. Easy installation, single-hole mounting for single- or multi-pole models. Fully magnetic, guaranteed to hold rated load indefinitely at any temperature. Available to 20 amp with any voltage up to 250 V, 60 or 400 Hz AC; 50 VDC. Typical time delay at 125% is 5-40 seconds. Solder-type terminals. NASA-approved for aerospace applications.

SPECIFICATIONS

Sm 3: Single Pole; Sm 33 Two-Pole; Sm 333 Three-Pole
Standard Max Voltages: 250 V 60 or 400 Hz, 50 V AC
Interrupting Capacities: 300 AMP at 250 VAC, 500 AMP at 120 VAC, 750 AMP at 32 VDC 500 AMP at 50 VDC
Time Delay Characteristics: Curve 1 (slow), and Curve 2 (fast)
Internal Circuits: Series-trip Standard, Auxiliary switch. Calibrating-tap, shunt-trip, relay trip available.
Approximate Weights: Sm 3: 2.1 oz.; Sm 33: 3.4 oz.; Sm 333: 4.5 oz.

250 V 60 Hz AC single-pole Curve 1

Stk. No.	Type	1-9	10-49	50-99	100-249
57F1442	SM3-1-60-1	22.14	14.33	13.03	11.72
57F1443	SM3-3-60-1				
57F1444	SM3-5-60-1				
57F1445	SM3-10-60-1				
57F1446	SM3-15-60-1				

250 V 60 Hz AC Two-Pole Curve 1

57F1454	SM33-1-60-1	40.16	25.99	23.63	21.26
57F1455	SM33-3-60-1				
57F1456	SM33-5-60-1				
57F1457	SM33-10-60-1				
57F1458	SM33-15-60-1				
57F1459	SM33-20-60-1				

250 V 60 Hz Three-Pole Curve 1

57F1466	SM333-1-60-1	57.29	37.07	33.70	30.33
57F1467	SM333-3-60-1				
57F1468	SM333-5-60-1				
57F1469	SM333-10-60-1				

50 V DC Single-Pole Curve 1

57F1448	SM3-1-DC-1	22.14	14.33	13.03	11.72
57F1449	SM3-3-DC-1				
57F1450	SM3-5-DC-1				
57F1451	SM3-10-DC-1				
57F1452	SM3-15-DC-1				
57F1453	SM3-20-DC-1				

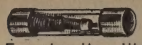
50 V DC Two-Pole Curve 1

57F1460	SM33-1-DC-1	40.16	25.99	23.63	21.26
57F1461	SM33-3-DC-1				
57F1462	SM33-5-DC-1				
57F1463	SM33-10-DC-1				
57F1464	SM33-15-DC-1				
57F1465	SM33-20-DC-1				

50 VDC Three-Pole Curve 1

57F1472	SM333-1-DC-1	57.29	37.07	33.70	30.33
57F1473	SM333-3-DC-1				
57F1474	SM333-5-DC-1				
57F1475	SM333-10-DC-1				
57F1476	SM333-15-DC-1				
57F1477	SM333-20-DC-1				

LITTELFUSE Fuses and Accessories



3AG SLO-BLO FUSES

For circuits with high inductive surge.

Stk. No.	Type	Amps	1-99	100-499	500-999
27F680	313.010	1/100	.36	.30	.236
27F681	313.031	1/32			
27F682	313.062	1/16			
27F683	313.100	1/10			
27F915	313.125	1/8			
27F684	313.150	15/100			
27F666	313.175	1/75			
27F916	313.187	3/16			
27F685	313.200	2/10			
27F686	313.250	1/4			
27F687	313.300	3/10	.27	.22	.176
27F917	313.375	3/8			
27F688	313.400	4/10			
27F689	313.500	1/2			
27F690	313.600	6/10			
27F699	313.700	7/10			
27F918	313.750	3/4			
27F691	313.800	8/10			
27F692	313001	1			
27F693	3131.25	1 1/4			
27F705	31301.5	1 1/2	.25	.20	.164
27F919	31301.6	1-6/10			
27F694	313002	2			
27F695	31302.5	2 1/2			
27F920	313003	3			
27F706	31303.2	3-2/10	.20	.16	.128
27F696	313004	4			
27F697	313005	5			

3AG LITTELFUSES—32 VOLT OR LESS

Straight type fuse element positioned to center of fuse. Wt., pkg. of 100 14 oz.

27F724	311005.	5			
27F725	311007.5	7 1/2			
27F726	311010.	10	.06	.05	.038
27F728	311015.	15			
27F730	311025.	25			
27F731	311030.	30			

3AG 32 VOLT SLO-BLO LITTELFUSES

Withstands 110% rated load indefinitely. 135% up to 1 hour. 200% for 5 to 60 sec.

27F700	3136.25	6 1/4			
27F701	313008.	8			
27F702	313010.	10	.20	.16	.128
27F703	313015.	15			
27F704	313020.	20			

3AG AND 3AB U.L. APPROVED

Type 3AG. For low time-lag use. Max. volt 250 volt except *125 volt. 1 1/4x1/4".

Stk. No.	Type	A	1-99	100-499	500-999
27F650	312.062	1/16			
27F651	312.125	1/8			
27F663	312.175	.175	.19	.16	.124
27F664	312.187	3/16			
27F652	312.250	1/4			
27F667	312.300	.3			
27F653	312.375	3/8	.12	.10	.080
27F654	312.500	1/2			
27F655	312.750	3/4			
27F656	312001.	1			
27F657	31201.5	1 1/2	.09	.07	.056
27F658	312002.	2			
27F659	312003.	3			
27F660	312004.	4			
27F661	312005.	5	.11	.09	.068
27F662	312006.	6			
27F665	312008.	8*	.15	.13	.10

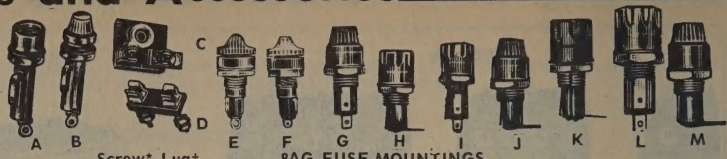
Type 3AB. Medium time lag.

27F670	314008.	8	.15	.12	.096
27F671	314010	10			
27F672	314012.	12			
27F673	314015.	15	.17	.14	.108
27F674	314020.	20			

SFE 1/4" AUTOMOBILE FUSES

1/4" D. Wt.: pkg. of 100, 14 oz.

Stk. No.	Type 307-	A	Lgth. inch	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F710	004	4	5/8			
27F711	006	6	3/4			
27F716	07.5	7.5	7/8			
27F712	009	9	7/8	.06	.05	.04
27F713	014	14	1 1/16			
27F714	020	20	1 1/4			
27F715	030	30	1 7/16			



Screw* Lug† 8AG FUSE MOUNTINGS

Stk. No.	Type	Fig	Description	Base Dimensions	1-99	100-499	500-999
27F759	383002	C	Meter-back mtg.	1 1/8" L x 1" W x 1 1/16" T	.40	.33	.264
27F761	383001	D	Panel mtg.	1 1/8" L x 1/2" W x 3/16" T	.59	.49	.392
27F751	371001	A	Pnl. Mtg*	27/32" L x .709/.722 Max. Dia.	.62	.52	.412
27F781	372001	B	Finger-K no. 6	27/32" L x .709/.722 Max. Dia.	.62	.52	.412
27F755	387001	D	Sgl. Fuse‡	1/2" L x 15/8" W x 3/16" T	.21	.17	.136
27F757	387002	...	Dbl. Fuse Mtg.	1 1/8" L x 1 5/8" W x 3/16" T	.38	.31	.248

STANDARD FUSE POST FOR 3AG

27F720	342012	G	miniature	23/32" L x .690/.680" Max. Dia.	.44	.36	.288
27F780	342005	H	dustproof	1 45/64" L x .690/.680" Max. Dia.	.62	.52	.412
27F779	342004	H	miniature	1 45/64" L x .690/.680" Max. Dia.	.52	.43	.344
27F668	342014	I	miniature	2 1/64" L x .690/.680" Max. Dia.	.44	.36	.288
27F669	342022	J	miniature	1 15/32" L x .690/.680" Max. Dia.	.52	.43	.344
28F150	342028	K	Quick-connect	1 45/64" L x .690/.680" Max. Dia.	.51	.42	.336
28F151	342038	L	Quick-connect	1 31/32" L x .690/.680" Max. Dia.	.51	.42	.336
28F152	342048	M	Quick-connect	15/32" L x .690/.680" Max. Dia.	.51	.42	.336
28F153	342058	...	Quick-connect	2 3/64" L x .690/.680" Max. Dia.	.51	.42	.336

MIL-F-19207A FUSE POST

Stk. No.	Type	MIL. #	Description	1-99	100-499	500-999
27F643	FHN-20G	342025	3AG Min.	1.36	1.14	.908
27F644	FHN-20G	340256A	3AG Min. RF Shield	5.05	4.21	3.37
27F645	FHN-26G-2	342024	3AG Min.	1.32	1.10	.88
27F646	FHN-31G-2	372003	8AG Min.	2.65	2.21	1.77
27F647	FHN-19W	442008	4AG Waterproof	3.20	2.67	2.13
27F648	FHN-26W	342021	3AG Waterproof	3.20	2.67	2.13

INDICATING FUSE POST FOR 3AG

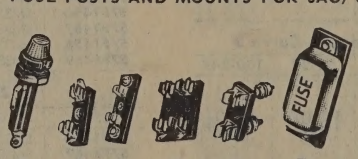
Indication Fuse Posts. Lgt., 2 3/16" Front of panel: 13/16" Mtg. hole D. Wt., 3 oz.

Stk. No.	Type	Fig.	Voltage Range	Knob Color	Design Lamp Current	1-99 Each	100-499 Each	500-999 Each
27F790	344006A	E	2.5-7V	Amber	.20 Amp	2.97	2.47	1.98
27F791	344012A	E	7-16V	Amber	.08 Amp	2.97	2.47	1.98
27F783	344024A	E	16-32V	Amber	.04 Amp	2.97	2.47	1.98
27F784	344125A	F	100-125V	Clear	.002 Amp	1.91	1.51	1.27
27F785	344250A	F	200-250V	Clear	.002 Amp	1.91	1.51	1.27

MIL VERSION OF SERIES 344 (Mil-F-19207A)

Stk. No.	Type	MIL. #	Voltage Range	Knob Color	1-99	100-499	500-999
28F154	FHL-17G-02	349250	90-300V	Clear	2.22	1.85	1.48
28F155	FHL-18G-1-02	349012	12-22V	Amber	3.33	2.77	2.22
28F156	FHL-18G-2-02	349023	23-33V	Amber	3.33	2.77	2.22
28F157	FHL-18G-3-02	349034	34-45V	Amber	3.33	2.77	2.22
28F158	FHL-18G-10-2	349046	46-60V	Amber	3.33	2.77	2.22
28F159	FHL-18G-5-02	349061	61-80V	Amber	3.33	2.77	2.22
28F160	FHL-18G-6-02	349081	81-90V	Amber	3.33	2.77	2.22

FUSE POSTS AND MOUNTS FOR 3AG, 3AB



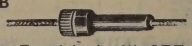
(*) Screw Slot (†) Lug terminal (**) Covered

Stk. No.	Type	Fig.	Descrip.	1-99	100-499	500-999
27F760	353001	E	Pnl. mtg.	.60	.50	.40
27F765	351009	F	2 Pole**	1.76	1.46	1.172
27F750	341001	...	Pnl. mtg.*	.62	.52	.412
27F752	342001	A	Fngr. knob	.62	.52	.412
27F754	357001	B	Pnl. mtg.†	.21	.17	.144
27F756	356001	C	Sngl. fuse*	.40	.33	.264
27F758	357002	D	Dbl. mtg.	.38	.31	.248
27F769	356002	...	Fuse mt.	.77	.64	.512

LITTELFUSE CLIPS

Fits SFE, 3AG, 8AG and 3AB fuses. Phosphor bronze except (*) Beryllium copper. Shpg. wt., per 100, 5 lbs.

Stock No.	Type	Fig.	For	1-99	100-499	500-999
27F772	101001	A	3AG	.03	.025	.02
27F773	101002	B	3AG	.04	.028	.023
27F774	105002	B	5AG	.05	.042	.033
27F775	123002*	B	4AG	.10	.09	.068
27F776	127002	B	9/16"	.37	.31	.248



IN-LINE FUSE RETAINER

Furnished with SFE 9, 14, or 20 amp fuses. Also for 3AG or 3AB fuses.

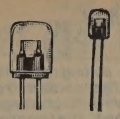
Stk. No.	Type	1-99 Ea.	100-499 per 100	500-999 per 100
27F792	155009A	.44	.36	.288
27F793	155014A			
27F766	155020A			

3AG PIGTAIL LITTLE FUSE

1 1/2" pigtails, No. 20 tinned copper wire.

Stk. No.	Type	Amps	1-99	100-499	500-999
125 VOLTS SLO-BLO					
27F828	315.100	1/10			
27F734	315.250	1/4			
27F735	315.300	.3			
27F737	315.500	.5	.32	.27	.212
27F930	315.600	.6			
27F932	315001	1.0			
27F934	31501.5	1.5			
27F935	31501.6	1.6	.30	.25	.20
27F936	315002	2.0			
27F937	315003	3.0			
27F940	315004	4.0	.27	.22	.176
27F941	315005	5.0			
250 VOLTS					
27F739	318.125	.125	.25	.21	.164
27F943	318001	1.0			
27F945	318002	2.0			
27F946	318003	3.0	.15	.13	.104
27F948	318005	5.0			
27F740	318.250	.25			
27F741	318.375	.375			
27F742	318.500	.500	.19	.16	.124
27F743	318.750	.750			

SUBMINIATURE MICROFUSES

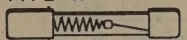


Only .250" dia. x .348" long exclusive of leads. Ideal for printed circuits. Features low resistance and high reliability in ultra-fast blowing characteristics. Series 279000 has 1 inch leads for wiring into circuit. Short circuit interrupting capacity 125 volts 10,000 amps DC.

Series 273000 has .170 inch leads for plugging into subminiature fuse holder (illustrated below). Blowing specifications: 110% life; 200% 0-10 seconds. Transparent glass cap. Rated at 125 V.

273000 Plug-in-Type		279000 Pigtail Type			1-99	100-499	500-999
Stk. No.	Type	Stk. No.	Type	Amps.	Ea.	Ea	Ea.
28F060	273.002	28F083	279.002	1/500			
28F061	273.005	28F084	279.005	1/200			
28F062	273.010	28F085	279.010	1/100	1.03	.86	.684
28F063	273.015	28F086	279.015	1/64			
28F064	273.031	28F087	279.031	1/32			
28F065	273.050	28F088	279.050	1/20			
28F066	273.062	28F089	279.062	1/16			
28F067	273.100	28F090	279.100	1/10			
28F068	273.125	28F091	279.125	1/8			
28F069	273.200	28F092	279.200	2/10			
28F070	273.250	28F093	279.250	1/4			
28F071	273.300	28F094	279.300	3/10			
28F072	273.400	28F095	279.400	4/10			
28F073	273.500	28F096	279.500	1/2	.86	.72	.572
28F074	273.600	28F097	279.600	6/10			
28F075	273.700	28F098	279.700	7/10			
28F125	273.750	28F126	279.750	3/4			
28F076	273.800	28F099	279.800	8/10			
28F077	273.001	28F100	279001	1			
28F078	27301.5	28F101	27901.5	1½			
28F079	273002	28F102	279002	2			
28F080	273003	28F103	279003	3			
28F081	273004	28F104	279004	4			
28F082	273005	28F105	279005	5			

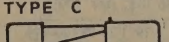
LC SLO BLO (125V.) TYPE N



Blow Time: 110%, 4-hour min.; 135% 1 hr. max.; 200%, 5-sec. max. @ .32 V.

Stock No.	Type No	Amp Rating	1-99 Ea.	100-499	500-Up Ea.
43F300	333.010	1/100	.36	.30	.236
43F301	333.031	1/32	.36	.30	.236
43F302	333.062	1/16			
43F303	333.100	1/10			
43F304	333.150	15/100			
43F305	333.200	2/10			
43F306	333.250	¼	.27	.22	.184
43F307	333.300	3/10			
34F308	333.400	4/10			
43F309	333.500	½			
43F310	333.600	6/10			
43F311	333.700	7/10			
43F312	333.750	¾			
43F313	333.800	8/10			
43F314	333001	1			
43F315	3331.25	1¼			
43F316	33301.6	1⅘			
43F317	3331.75	1¾			
43F318	333002	2			
43F319	33302.5	2½			
43F320	33302.8	2⅘	.27	.22	.176
43F321	33303.2	3⅕			
43F322	333003	3			
43F323	33303.5	3½			
43F324	333004	4			
43F325	333005	5			
43F326	3336.25	6¼*			
43F327	333007	7*			

LIMITED CURRENT (250V.) TYPE C



Blow Time: 110%, 4-hour min.; 135% except *125V—1 hour max.; 200%, 10-sec. max.

Stock No.	Type	Amp Rating	1-99 Ea.	100-499 Ea.	500-Up Ea.
43F328	332.062	1/16	.27	.22	.176
43F329	332.125	⅛	.20	.16	.128
43F330	332.250	¼			
43F331	332.300	3/10	.16	.13	.104
43F332	332.500	½			
43F333	332.750	¾			
43F334	332001	1			
43F335	33201.5	1½	.10	.08	.064
43F336	332002	2			
43F337	33202.5	2½			
43F338	332003	3			
43F339	33203.5	3½			
43F340	332004	4			
43F341	332005	5	.11	.09	.072
43F342	332006	6			
43F343	332007	7*			
43F344	332008	8*	.17	.14	.108

MICROFUSE HOLDER

Fig. A

Type 281002. Front panel mount microfuse holder. Molded from high strength, high dielectric material. Knurled cap for easy grip. Rugged 'eye' type plated brass terminal separated by molded barrier to provide complete insulation. With psositive 'O' ring seal.
28F111. NET EA. 1-99—.77 100-499—.64 500-999—.51

Fig. A

INDICATING MICROFUSE HOLDER

Fig. B

Type 284000. Indicator lamp glows when the fuse is blown. Knob molded from transparent material. Positive 'O' ring seal. High dielectric material.

Stk. No.	Type	Desc.	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F107	284004	6 volt range	2.21	1.84	1.47
28F108	284005	12 volt range	2.21	1.84	1.47
28F109	284006	24 volt range	2.21	1.84	1.47
28F110	284003	125 volt range	1.55	1.29	1.03

Fig. B

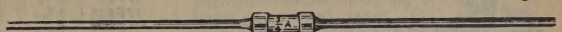
Fig. C

SUBMINIATURE MICROFUSE HOLDER

Type 281001. Subminiature holder ideal for use in printed circuit board mounting. Mounts in .090" hole; solid terminals; ⅜" behind panel. W. Spring nut. Avg. Shpg. wt., 3 oz.
28F106. NET EA. 1-99—.29 100-499—.24 500-999—.192

Fig. C

SUB-MINIATURE PICOFUSES



• Incredibly Small—Less than ¼" Long

Series 275. For circuits of 125 volts or less where short-circuit currents as high as 300 amperes occurs. A unique concept in fusing for computers, microelectronic and aero-space circuitry. High accuracy in blowing time at 300% or higher is ideal for sequential switching, or in circuits requiring redundancy. Blow time 4 hours min. at 100% of rating; 5 sec. max. at 200%. Ceramic body 7/32" x 5/64" dia.; tin-coated copper leads .025 dia. Picofuses can be encapsulated. 275 series has axial leads 1 9/16" long for diode clip or in-circuit mounting.

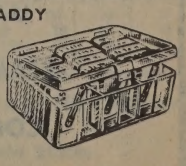
Stk. No.	Type	Amps.	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F128	275.125	⅛			
28F129	275.250	¼	.43	.36	.284
28F130	275.375	⅜			
28F131	275.500	½			
28F132	275.750	¾			
28F133	275001	1			
28F134	27501.5	1.5	.38	.31	.248
28F135	275002	2			
28F136	275003	3			
28F137	275004	4			
28F138	275005	5			

8AG INSTRUMENT LITTELFUSES

361000 Series. Protects delicate voltmeters, microammeters, milliammeters, etc. 1 x ¼". 100, 10 oz. Max. voltage 250. Except 125 V.

Stk. No	Type 361-	Amps	For O/V VM	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F614	.002	1/500	250	1.28	1.06	.848
27F600	.005	1/200	1000 Up	.55	.46	.364
27F601	.010	1/100	1000	.48	.40	.32
27F602	.031	1/32	500-1000	.42	35	.28
27F603	.062	1/16	100-500	.27	.22	.176
27F604	.125	1/8	20-100	.19	.16	.124
27F605	.250	1/4	10-20			
27F606	.375	3/8	5-10	.12	.10	.076
27F607	.500	1/2	3-5			
27F608	.750	3/4	.....			
27F609	1.00	1	.....			
27F610	1.50	1,1/2	.....			
27F611	2.00	2	.....	.09	.07	.056
27F612	3.00	3	.....			
27F615	4.00	4	.....			
27F613	5.00	5	.....			

INDUSTRIAL FUSE CADDY



Type 094037. Specifically designed and stocked for almost universal use. Has any number of industrial or laboratory applications. Contains 3AG, Reg., Slo Blow and 8AG Fuses and an emergency kit with assorted radio fuses. Has 14 boxes of fuses, 5 fuses per box. Case is clear plastic for quick and accurate fuse selection. Has three spare compartments. Size: 1⅞" x 3 x 4¼". Shpg. wt. 2 lbs.
27F677. NET **10.97**

BUSSMANN Fuses

FNM SLOW-BLOWING FUSES

Dual elements, fibre tube, slow blowing fuses avoid needless blows from starting currents or surges. Fuse link operates only on very high overloads, or short circuits. A thermal cutout functions on low overloads and cannot operate quickly at any load, hence long time lag is obtained. Yet, complete protection is provided against shorts. 1 13/32"x1½". Shpg. wt. 1.5 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F863	½	250			
27F864	1	250			
27F865	1 6/10	250			
27F866	2	250			
27F872	2½	250			
27F867	3 2/10	250			
27F868	4	250	.37	.32	.27
27F869	5	250			
27F873	6-¼	250			
27F874	8	250			
27F870	10	250			
27F875	12	125			
27F876	15	125			

FNA SIGNAL FUSES
DUAL-ELEMENT SLOW-BLOWING

Avoids needless blows from starting currents of surges. Has silver indicating pin which extends from fuse when fuse opens. Can be used in BUSS HPC-C indicating fuseholder or pin can be used to actuate a signal by using fuses in BUSS signal fuse block. Carry 110%, open at 135° in 1 hr. Size: 13/32x1½".

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F329	2/10	250			
28F330	3/10	250			
28F331	4/10	250			
28F332	½	250			
28F333	6/10	250			
28F334	8/10	250			
28F335	1	125			
28F336	1⅛	125			
28F338	1-4/10	125	.67	.56	.50
28F339	16/10	125			
28F340	1-8/10	125			
28F341	2	125			
28F344	2-8/10	125			
28F345	3	125			
28F346	3-2/10	125			
28F349	4½	125			
28F350	5	125			
28F356	10	125			

TYPE ABC CERAMIC BODY FUSES

Can take 25,000 amps. @ 125 v. without exploding. Carry 110%, open at 135% of rating. Size: ¼x1¼".

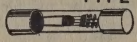
Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F952	2	250	.16	.14	.12
27F953	3	250			
27F954	5	250			
27F955	6	250	.14	.12	.10
27F956	8	250			
27F957	10	250			
27F958	12	250			
27F959	15	250	.16	.14	.12
27F960	20	250			
27F961	25	125	.20	.17	.14
27F962	30	125			

MDL FUSETRON
DUAL-ELEMENT FUSES

Fuses with a long time lag. Avoid needless blows from starting currents or surges. at 200% load the approximate blowing time is 25 seconds. Size: ¼x1¼. Wt., 1 lb. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F822	1/100	250	.35	.30	.25
27F823	1/32	250			
27F824	1/16	250			
27F825	1/10	250			
28F045	1/8	250			
27F826	15/100	250			
27F827	2/10	250			
28F046	1/4	250			
27F828	3/10	250	.26	.22	.19
27F829	4/10	250			
27F830	1/2	250			
27F831	6/10	250			
27F832	8/10	250			
27F833	1	250			
27F834	1¼	125			
27F835	1-5/10	125	.25	.21	.18
27F836	2	125			
27F837	2-½	125			
27F838	2-8/10	125			
27F839	3-2/10	125			
27F840	4	32			
27F841	5	32			
27F842	6-¼	32	.19	.16	.14
27F843	8	32			
27F844	10	32			
28F047	15	32			
27F845	20	32			
27F846	25	32			
27F847	30	32			

TYPE MDX FUSES



These fuses have the same specifications as Type MDL. The only main difference being that at a load of 200% the fuse blows in approximately 12 sec. .93 lbs./100. Size: ¼x1¼.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F890	1-¼	250			
27F891	1-½	250	.28	.24	.20
27F892	1-5/10	250			
27F893	2	250			
27F894	3	125			
27F895	3-2/10	125	.19	.16	.13
27F896	4	125			
27F897	5	125			
27F898	6-¼	125	.23	.19	.16
27F899	7	125			

TYPE GLD INDICATING FUSES

Fiber tube; silver plated indicating pin extends from end of fuse when fuse is blown. If desired, indicating pin can be used to activate a signal light by using fuses in an HKA fuseholder. Carry 110% of rated current, open at 135% in 1 hour. Size, ¼x1¼"; shpg. whgt., .86 lbs. per 100.

Stk. No.	Amps.	Volts	1-19 Ea.	20-99 Ea.	100-199 Ea.
27F964	¾	125	.50	.42	.36
27F965	1	125			
27F966	2	125	.40	.33	.28
27F967	3	125			
27F968	5	125			

MAKE NEWARK YOUR ONE STOP

SOURCE FOR ALL YOUR ELECTRONIC

COMPONENTS AND ACCESSORIES.

FAST DELIVERY FROM ON-THE-SHELF STOCKS.

BUSS GBA VISUAL—
INDICATING FUSES

Physically and electrically identical to type GLD fuses listed above, except indicating pin is red-tipped for direct visual indication of opened element. Use with BUSS HLD fuseholder. Size: ¼x1¼.

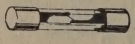
Stk. No.	Amp.	Voltage	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F309	¾	125	.55	.46	.39
28F310	1	125			
28F311	1½	125	.41	.35	.30
28F312	2	125			
28F313	3	125			
28F314	5	125			

TYPE AGX FAST-ACTING FUSES

Provides high speed action necessary to protect sensitive instruments or delicate apparatus. 1/500 to 2 ampere sizes have straight through element/U.L. approved. Size: ¼x1". Shpg. wt. .76 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F973	1/500	250	1.28	1.06	.91
27F974	1/200	250	.55	.46	.39
27F975	1/100	250	.47	.40	.34
27F976	1/32	250	.41	.35	.30
27F977	1/16	250	.26	.22	.19
27F978	1/10	250			
27F979	1/8	250	.19	.16	.13
27F980	3/16	250			
27F981	2/10	250			
27F982		250			
27F983	3/8	250			
27F984	4/10	250	.12	.10	.086
27F985	½	250			
27F986	3/4	125			
27F987	1	125			
27F988	1½	125	.084	.075	.06
27F989	2	125			
27F049	5	125			

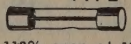
TYPE AGC FUSES



Formerly called 3AG. Test specifications - carry 110% open at 135% within 1 hour. Approved by Underwriter's Laboratories. Size ¼x1¼". Shpg. wt., .91 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F050	1/32	250	.41	.35	.30
28F051	1/16	250	.19	.16	.13
28F052	⅛	250	.19	.16	.13
28F053	¼	250			
28F054	3/8	250	.12	.10	.086
28F055	½	250			
28F056	¾	250			
28F057	1	250			
28F058	1½	250	.084	.075	.06
28F059	2	250			
27F880	3	250			
27F881	4	32			
27F882	5	32			
27F883	6	32			
27F884	7½	32	.065	.055	.043
27F886	10	32			
27F885	15	32			
27F048	20	32			
27F887	25	32			
27F888	30	32			

TYPE MTH FUSES



Formerly called 3AG. Test Specifactions carry 110% open at 135% within 1 hour. Listed as approved by Underwriters Laboratores. Size: 1¼"x¼". Shpg. wt., .91 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F877	4	250			
27F878	5	250	.10	.085	.073
27F879	6	250			

FUSETRON DUAL-ELEMENT FUSES

Type FRN. Long time lag prevents opening on starting currents or other harmless overloads. U/L listed for motor protection up to 250 volts.

Stk. No.	Amps.	Sizes	1-99	100-499	500-999
28F250	1	½x2"			
28F251	1¼	½x2"			
28F252	1-6/10	½x2"			
28F253	2	½x2"			
28F254	2½	½x2"			
28F255	3-2/10	½x2"			
28F256	4	½x2"			
28F257	5	½x2"			
28F258	6¼	½x2"	.48	.40	.36
28F259	8	½x2"			
28F260	10	½x2"			
28F262	15	½x2"			
28F263	17½	½x2"			
28F264	20	½x2"			
28F265	25	½x2"			
28F266	30	½x2"			
28F267	35	¾x3"			
28F268	40	¾x3"			
28F270	50	¾x3"	.85	.71	.64
28F271	60	¾x3"			
28F275	100	1x5⅞"	1.94	1.61	1.45

HIGH INTERRUPTING CAPACITY FUSES

Type KTK. 13/32" x 1½". Glass fiber melamine tube with sand filler surrounding silver fuse element. For use on circuits capable of delivering currents as high as 100,000 amps at voltages of 600 or less. Test spec.—carry 110%, open at 135% in 1 hour or less. U.L. listed.

Stk. No.	Amps	Voltage	1-99	100-499	500-999
28F190	1/10	600 or less			
28F193	¼	600 or less			
28F194	3/10	600 or less			
28F195	½	600 or less			
28F196	¾	500 or less			
28F197	1	600 or less			
28F198	1½	600 or less			
28F199	2	600 or less	1.12	.94	.84
28F200	3	600 or less			
28F201	4	600 or less			
28F202	5	600 or less			
28F203	6	600 or less			
28F204	8	600 or less			
28F205	10	600 or less			
28F206	15	600 or less			
28F207	20	600 or less			
28F208	25	600 or less			
28F209	30	600 or less			

LAMP INDICATING FUSEHOLDERS

Coilspring for contant pressure. Transparent knob permits indicating light to be seen. All are for ¼x1¼" fuses, except *HJL is ¼x1 in. Shpg. wt. 2 oz. +HKL recognized by UL for 15 amp, 250 volt rating.

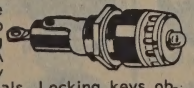
NEON LAMP-CLEAR KNOB

Stk. No.	Type	Volts	1-99	100-499
28F450	HJL	90-250		
27F813	HKL	90-250	1.81	1.51
27F814	HKL-X	90-250		

INCANDESCENT LAMP HKX, HKR & HKT-AMBER KNOB, HKU-RED KNOB

27F812	HKR	22-33		
28F451	HKT	13-22	2.96	2.47
28F452	HKU	4-6		
28F453	HKX	22-33		

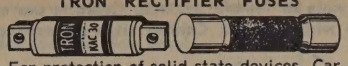
VISUAL INDICATING FUSEHOLDER



Has bayonet type transparent knob to permit indicating pin on open GBA fuse to be easily seen, Solder terminals. Locking keys obtainable without charge—1/16" long for panels up to ⅛" thick or ⅛" long for panels ⅛ to 5/16" thick. Body is molded phenolic. Takes all GBA fuses.

Stk. No.	Type	1-99 Each	100-499 Each	500-999 Each
28F293	HLD	.47	.40	.34

TRON RECTIFIER FUSES



For protection of solid state devices. Carry 100% rating 600V or less; open within 1 second of 250V rating. KAA & KAW—13/32x1½"; KAB—9/16x2; KAC—27/8x9/16".

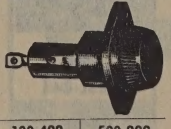
Stock No.	Symbol & Amps	Volts	1-99
28F210	KAA 1	130	
28F211	KAA 2	130	
28F213	KAA 4	130	
28F214	KAA 5	130	
28F217	KAA 8	130	
28F219	KAA 10	130	.87
28F221	KAA 15	130	
28F222	KAA 20	130	
28F223	KAA 25	130	
28F224	KAA 30	130	
28F225	KAB 1	250	
28F227	KAB 3	250	
28F229	KAB 5	250	
28F230	KAB 6	250	
28F231	KAB 7	250	
28F232	KAB 8	250	
28F234	KAB 10	250	.99
28F235	KAB 12	250	
28F236	KAB 15	250	
28F238	KAB 20	250	
28F239	KAB 25	250	
28F240	KAB 30	250	
28F244	KAW 5	130	
28F245	KAW 7	130	
28F246	KAW 10	130	
28F247	KAW 15	130	.87
28F248	KAW 20	130	
28F249	KAW 30	130	
28F424	KAC 1	600	
28F425	KAC 2	600	
28F426	KAC 3	600	
28F427	KAC4	600	
28F428	KAC 5	600	
28F429	KAC 6	600	
28F430	KAC 7	600	
28F431	KAC 8	600	
28F432	KAC 9	600	1.33
28F433	KAC 10	600	
28F434	KAC 12	600	
28F435	KAC 15	600	
28F436	KAC 17½	600	
28F437	KAC 20	600	
28F438	KAC 25	600	
28F439	KAC 30	600	

PANEL MOUNTED FUSEHOLDER

Holder 1-25/32" long, 1" behind front of panel. Flat part off useholder locks against rotation. Bayonet type knob. Requires ½" mtg. hole. HMM screwdriver knob.

Stk. No.	Type	For Fuses	1-99	100-499
28F291	HLF	¼"x1¼"		
28F454	HTA	¼"x1¼"	.43	.36
27F810	HMB	¼"x1¼"		
27F811	HMM	¼"x1¼"		

PANEL MOUNTED HOLDER



Type HPC. Screw type knob. For 13/32 x 1½" fuse. Mounts on panels with flange outside. U.L. listed for 30 amp. 600V.

Stock No.	1-99 Each	100-499 Each	500-999 Each
27F818	.68	.56	.46

PANEL MOUNTED HOLDERS

For panels up to 5/16" thick. Carrying cap.: HJM and HKP, 15 amps, HCM, 18 amps.

Stk. No.	Type	For Fuses	1-99 Each	100-499 Each	500-999 Each
27F819	HJM	¼x1"	.43	.36	.31
27F820	HKP	¼x1¼"	.43	.36	.31
27F821	HCM	9/32x1¼" ¼x1¼"	.62	.52	.44

Convert HKP holders to indicating type. 28F035. Type 5487 Trans. knob 25

SUBMINIATURE FUSE HOLDER

AF KNOB | GMW FUSE | HWA HOLDER

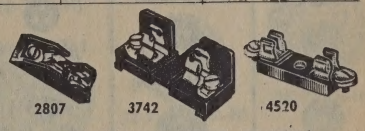
Can be mounted into PC boards. Fuse size .270x.250 inches. Carry 100%, open at 200% within 10 sec. or less. Interrupting rating — 300 amps. at 125 volts. AF knob for holder makes holder waterproof.

Stk. No.	GMW-Amp.	1-99 Each	100-499 Each	500-999 Each
28F362	1/100			
28F363	1/64	.79	.66	.56
28F364	1/32			
28F366	1/10			
28F368	1/4			
28F371	1/2			
28F373	3/4			
28F274	1	.60	.50	.43
28F375	1-1/2			
28F376	2			
28F377	3			
28F379	5			
28F381	HWA†	.78	.64	.48

BUSS GMT FUSES—HLT HOLDER

Permits multiple mounting of fuses in limited space. Colored indicator spring when released makes contact with alarm terminal which can activate signal circuit. Size: ¼x1 15/32".

Stk. No.	Amps	Color	1-99	100-499	500-999
28F315	18/100	Yellow			
28F316	¼	Violet			
28F317	½	Red			
28F318	65/100	Black			
28F319	¾	Brown			
28F320	1	Gray			
28F321	1½	White	.45	.38	.34
28F322	2	Orange			
28F323	3	Blue			
28F324	5	Green			
28F325	7½	Blk-White			
28F326	10	Red-White			
28F360	HLT holder Fits all GMT		.47	.39	.34



2807 | 3742 | 4520

INDUSTRIAL FUSE BLOCKS

Takes all 13/32x1½" fuses. Barriers prevent arc-over. Type 2807—55/64x3"; 2808—1 5/8x3"; 2809—2 3/8x3". For KTK Series.

Stk. No.	Type	No. Poles	1-99	100-Up	500-999
28F357	2807	1	.76	.64	.46
28F368	2808	2	1.26	1.05	.75
28F359	2809	3	1.71	1.43	1.02

ADD-ON-BLOCKS

Any number of single pole fuseblocks and separate end-barrier lock together into single unit. Will take any 13/32x1½" fuse.

Stk. No.	Type	Description	1-99	100-499	500-999
28F288	3742	End-Burner	.13	.11	.09
28F289	3743	One-pole Block	.90	.75	.65

FUSE BLOCKS

Molded Bakelite. One mounting hole. Countersunk for No. 6 flat head screws.

Stk. No.	Type	Fuse Size	1-99	100-499	500-999
28F040	4520	¼x1	.20	.17	.15
28F041	4405	¼x1¼	.20	.17	.15
28F042	4421	13/32x1½	.45	.38	.32

You Can Depend on NEWARK for

Complete Stocks

Fast Service

"MS" Connector Insert Contact Arrangements

Each insert is available with all male or female contacts. Contacts are non-rotating with all solder cups aligned for maximum wiring speed. Contact sizes correspond in number coding to wire sizes. Meet MIL-C-5015.

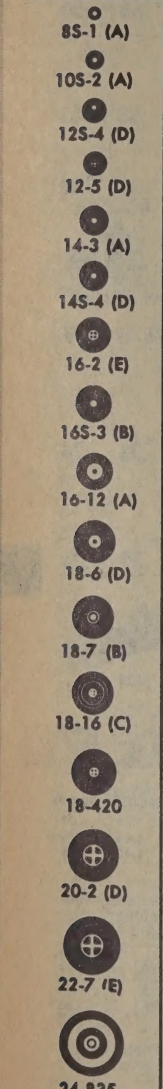
CURRENT RATING:

Contact Size	20	16	12	8	4	0
Amperes	10	23	41	73	135	245

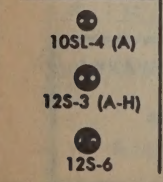
ALTERNATE INSERT POSITIONS—

(H) W, X, Y, or Z
(J) W, X, or Y
(K) W, Y, or Z
(L) X or Y
(M) X
(N) W or Z
(P) W or Y

1 Contact



2 Contacts



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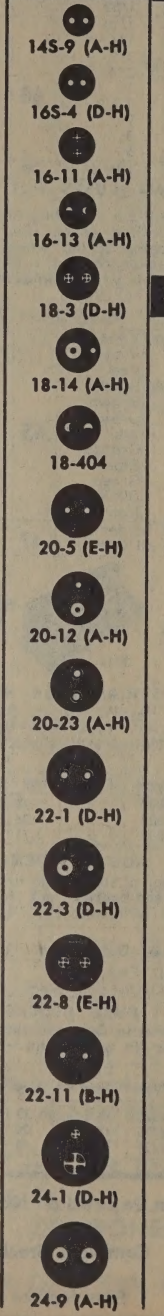

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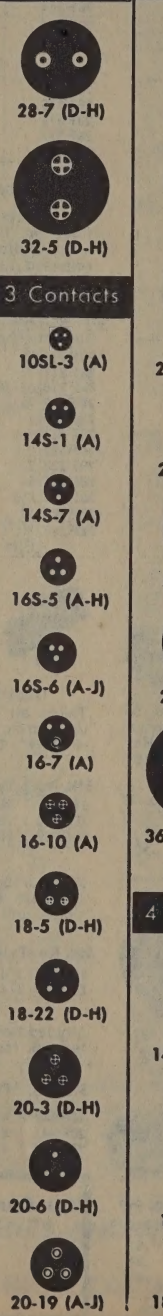
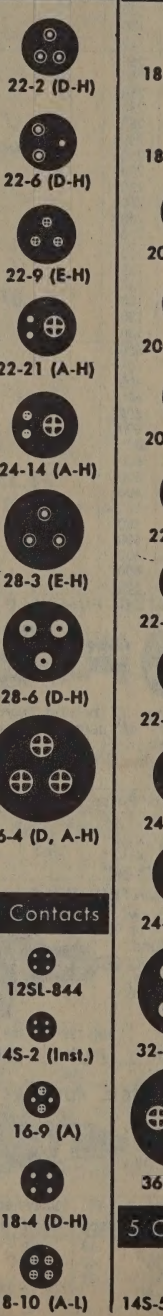


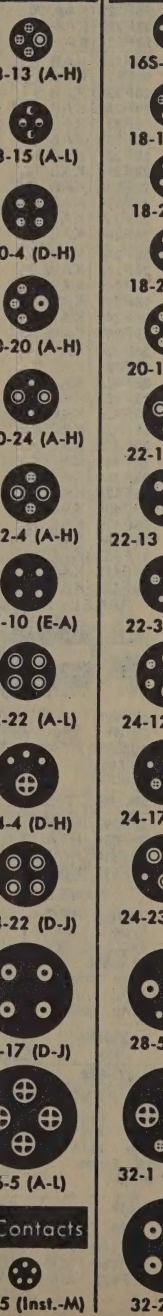
3 Contacts

3 Contacts (Con't.)



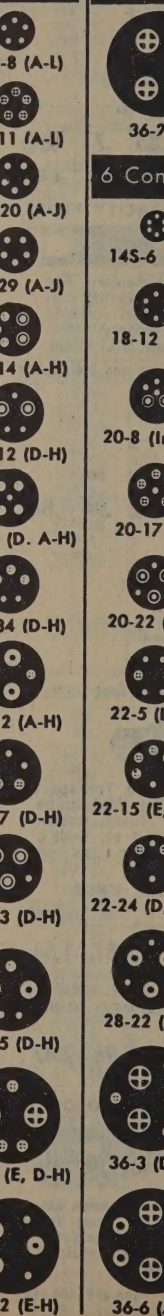
4 Contacts

4 Contacts (Con't.)



5 Contacts

5 Contacts (Con't.)



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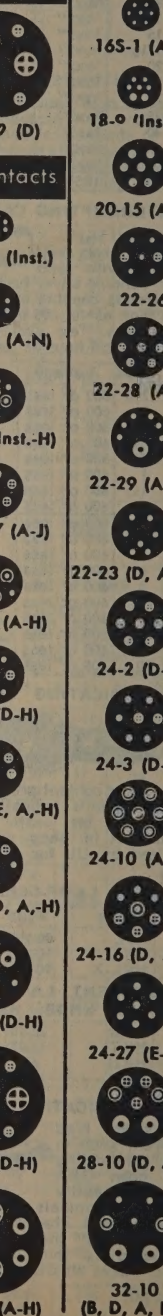
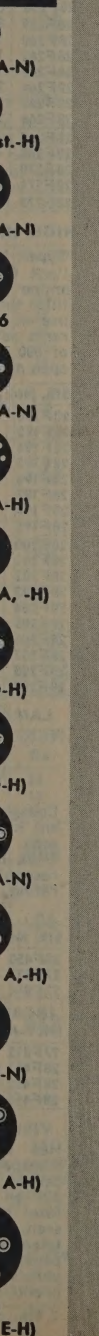


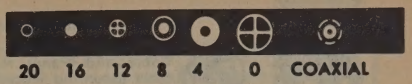
6 Contacts

7 Contacts



"MS" Connector Insert Contact Arrangements

Service—Limiting Operating Voltages @ Sea Level					
	Inst.	A	D	E	B	C
DC	250	700	1250	1750	2450	4200
AC (rms)	200	500	900	1250	1750	3000



CODE OF WIRE SIZES

8 Contacts

18-8 (A-N)

20-7 (D, A-H)

20-9 (D, A-H)

22-18 (A-H)

22-23 (D, A-P)

22-36 (D, A-P)

22-404

24-6 (D, A-H)

32-15 (D-H)

9 Contacts

20-16 (A-H)

20-18 (A-H)

22-16 (A-H)

22-21 (A-H)

22-17 (D, A-H)

9 Contacts (Con't.)

22-20 (A-H)

22-27 (D, A-K)

24-11 (A-H)

28-1 (D, A-H)

28-4 (D, E-H)

32-3 (D-H)

10 Contacts

18-1 (A, Inst.)

18-19 (A)

24-21 (D)

28-19 (A, B, D)

11 Contacts

20-33 (A)

24-20 (D-H)

11 Contacts (Con't.)

28-14 (D-H)

12 Contacts

24-19

28-8 (A, D, E-H)

28-9 (D-H)

28-18 (Inst., A, C, D-H)

32-101 (D-H)

13 Contacts

20-11 (Inst.)

14 Contacts

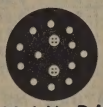
20-27 (Inst., A-H)

22-19 (A-H)

28-2 (D-H)

14 Contacts (Con't.)

28-20 (A-H)


32-4 (A, D-H)

32-9 (D-H)

32-102 (A, C, D-H)

15 Contacts

28-17 (A, B, D-H)

32-12 (A, D, -H)

36-405

36-407

40-5 (A-H)

16 Contacts

24-5 (A-H)

24-7 (A-H)

36-14 (D-J)

17 Contacts

20-29 (A-N)

36-13 (A, E-H)

19 Contacts

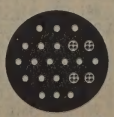
22-14 (A-H)

20 Contacts

28-16 (A-H)

22 Contacts

28-11 (A-H)


36-1 (D-H)

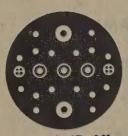
23 Contacts

32-6 (A-H)

32-13 (D-H)

40-2 (B, D-H)

40-3 (D-H)


40-4 (D-H)

24 Contacts

24-28 (Inst.-H)

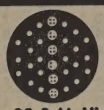
26 Contacts

28-12 (A-J)

29 Contacts

40-10 (A-H)

30 Contacts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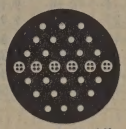
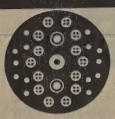
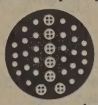

40-1 (D-H)

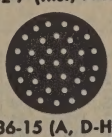
31 Contacts


36-9 (A-H)

35 Contacts

28-15 (A-H)


32-7 (Inst, A-H)

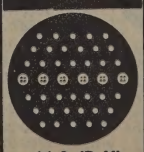

36-15 (A, D-H)

37 Contacts

28-21 (A-H)

36-406 (A)

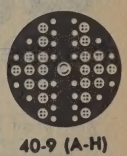
42 Contacts


44-1 (D-H)

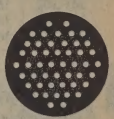
47 Contacts

36-7 (A-H)

36-8 (A-H)

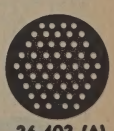

40-9 (A-H)

48 Contacts


36-10 (A-H)

52 Contacts

32-414 (A)


36-403 (A)

36-404 (A)

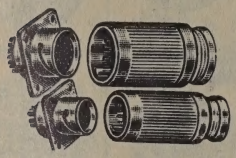
Amphenol "MS" & Miniature Connectors

AMPHENOL 67 SERIES MINNI "E" MINIATURE CONNECTORS

Cable and Panel Renceptacles and Single Hole Mounting Receptacles in four constructions, five shell sizes and 17 insert arrangements. Positive locking action. Type P construction for potting. Disposable polyethylene potting form. Type E has utilized grommet/clamp sealing conductor at back.

Shell Insert	67-01 E 1-24	67-01 E 25-99	67-01 E 100-199	67-01 P 1-24	67-01 P 25-99	67-01 P 100-199	67-02 E 1-24	67-02 E 25-99	67-02 E 100-199	67-03 E 1-24	67-03 E 25-99	67-03 E 100-199	67-06 E 1-24	67-06 E 25-99	67-06 E 100-199	67-06 P 1-24	67-06 P 25-99	67-06 P 100-199
12-60P	10.58	9.26	7.94	8.20	7.17	6.15	5.96	5.21	4.47	6.80	5.95	5.10	10.10	8.84	7.58	7.72	6.75	5.79
12-60S	11.48	10.04	8.61	9.10	7.96	6.83	6.94	6.07	5.21	14.55	12.74	10.92	11.02	9.64	8.67	8.62	7.54	6.47
14-5P	9.26	8.10	6.95	6.80	5.95	5.10	5.36	4.69	4.02	5.94	5.20	4.46	9.04	7.91	6.78	6.58	5.76	4.94
14-5S	10.24	8.96	7.68	7.74	6.77	5.81	6.28	5.49	4.71	6.88	6.02	5.16	9.98	8.73	7.49	7.52	6.58	5.64
14-9P	9.70	8.49	7.28	7.24	6.33	5.43	5.84	5.11	4.38	6.38	5.58	4.79	9.84	8.61	7.38	7.00	6.12	5.25
14-9S	11.02	9.64	8.27	8.54	7.47	6.41	7.12	6.73	5.34	7.70	6.74	5.78	11.16	9.76	8.37	8.32	7.28	6.24
14-12P	9.58	8.38	7.19	7.32	6.40	5.49	5.88	5.14	4.41	6.44	5.63	4.83	9.32	8.15	6.99	7.08	6.19	5.31
14-12S	11.16	9.76	8.37	8.92	7.80	6.69	7.86	6.88	5.90	8.42	7.37	6.32	10.92	9.55	8.19	8.66	7.58	6.50
14-63S	10.02	8.77	7.52	7.66	6.70	5.75	6.00	5.25	4.50	6.58	5.76	4.94	9.80	8.57	7.35	7.22	6.32	5.42
18-24P	11.42	9.99	8.57	8.20	7.17	6.15	7.26	6.35	5.54	7.88	6.89	5.91	11.42	9.99	8.57	8.20	7.17	6.15
18-24S	15.19	13.30	11.40	12.00	10.50	9.00	10.92	9.55	8.19	11.58	10.13	8.69	15.19	13.30	11.40	12.00	10.50	9.00
18-64P	12.16	10.64	9.12	9.32	8.15	6.99	7.78	6.81	5.84	8.42	7.37	6.32	12.16	10.64	9.16	9.32	8.15	6.99
18-64S	13.23	11.58	9.93	10.40	9.10	7.80	8.74	7.82	6.71	9.58	8.38	7.19	13.23	11.58	9.93	10.40	9.10	7.80
20-37P	15.13	13.25	11.36	12.40	10.85	9.30	12.18	10.66	9.14	13.01	11.39	9.77	15.17	13.28	11.39	12.48	10.92	9.39
20-37S	20.47	17.92	15.36	17.83	15.61	13.38	16.03	14.03	12.03	16.91	14.80	12.69	20.51	17.95	15.39	17.81	15.59	13.37
22-48P	15.13	13.25	11.36	13.79	12.07	10.35	12.99	11.37	9.75	14.67	12.84	11.01	14.81	12.97	11.12	13.47	11.79	10.11
22-48S	21.83	19.11	16.38	20.49	17.99	15.38	19.41	16.99	14.57	21.09	18.46	15.83	21.53	18.84	16.16	20.19	17.67	15.15

AMPHENOL 165 SERIES MINIATURE MS TYPE CONNECTORS



Size	Small	Large
Plug diameter	57/64"	1 9/64"
Recpt. mtg. ctrs.	25/32"	968"
Plug length	2 3/64"	2 3/64"
Cable opening	3/8"	21/32"
Recpt. flange	1 1/16"	1 3/16"
Mounting hole	1 3/16"	1 1/16"

165 Series. The 165 series are pressure-proof and completely waterproof mated or apart. Withstand government salt-spray tests by many hours in excess of standards. Extremely efficient in operation, the contacts are bronze, gold plated over silver. Features built-in cable clamp. Av. Shpg. wt., 3 oz.

No.	Type	Description	Contacts @ AWG	1-49	50-99
38F300	165-9	Sml. plug	12-#20 male	4.49	3.58
38F301	165-10	Sml. plug	12-#20 female	6.69	5.32
38F302	165-11	Sml. recpt.	12-#20 male	3.38	2.68
38F303	165-12	Sml. recpt.	12-#20 female	5.54	4.40
38F304	165-13	Sml. plug	9-#20 male	4.26	3.40

No.	Type	Description	Contacts @ AWG	1-49	50-99
38F305	165-14	Sml. plug	9-#20 - fem.	6.55	5.21
38F306	165-15	Sml. recpt.	9-#20 - male	3.16	2.51
38F307	165-16	Sml. recpt.	9-#20 - fem.	4.04	3.22
38F312	165-25	Lge. plug	24-#20 - male	7.69	6.12
38F313	165-26	Lge. plug	24-#20 - fem.	10.11	8.04
38F314	165-27	Lge. recpt.	24-#20 - male	5.30	4.24
38F315	165-28	Lge. recpt.	24-#20 - fem.	7.05	5.61
38F316	165-29	Lge. plug	14-#16 - male	6.64	5.28
38F317	165-30	Lge. plug	14-#16 - fem.	9.22	7.34
38F318	165-31	Lge. recpt.	14-#16 - male	4.27	3.41
38F319	165-32	Lge. recpt.	14-#16 - fem.	6.82	5.42
38F320	165-33	Sml. plub	5-#20 - male	4.10	3.23
38F321	165-34	Sml. plug	5-#20 - fem.	5.56	4.43
38F322	165-35	Sml. recpt.	5-#20 - fem	2.90	2.32
38F323	165-36	Sml. recpt.	5-#20 - fem.	3.52	2.79

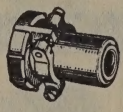
CABLE CLAMP

Regular

Series 3057. Supports at plug or receptacle. *Stepdown. 3½ oz.

MS Type 3057	Fits Shell	EACH 1-9	10-49	50-99	100-Up
3057-3	8S, 10S	.70	.57	.51	.46
3057-4	12, 12S	.64	.53	.47	.42
3057-6	14, 14S	.64	.53	.47	.42
3057-8	16, 16S	.68	.56	.50	.45
3057-10	18	.71	.57	.50	.47
97-3057-10-6*	18	1.24	1.08	.90	.71
3057-12	20, 22	.76	.70	.63	.50
97-3057-12-6*	20, 22	1.32	1.13	.95	.76
3057-16	24, 28	.94	.85	.76	.62
3057-20	32	1.31	1.13	.95	.86
3057-24	36	1.75	1.56	1.28	1.15
3057-28	40	2.25	1.99	1.75	1.60

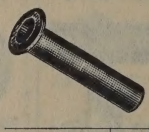
MS3057 A CABLE CLAMP AND BOOT



Both cable halves move, automatically entering cable. AN3420 boot provides support and weather proofing. Extra boots may be used for small cable O.D. Wt., 5 oz.

MS Type	Fits Shell	EACH 1-9	10-49	50-99	100-Up
3057-4A	10SL, 12, 12	.94	.84	.75	.61
3057-6A	12SL, 14, 14	.96	.85	.76	.62
3057-8A	16, 16S	.97	.86	.77	.63
3057-10A	18	1.01	.89	.80	.66
3057-12A	20, 22	1.12	.99	.89	.73
3057-16A	24, 28	1.41	1.24	1.11	.92
3057-20A	32	1.85	1.62	1.24	1.20
3057-24A	36	2.28	1.99	1.77	1.48

AN3420 TELESCOPING BOOTS



Boots telescope within each other for use with cable that is too small in relation to the MS connector used. Weatherproof ends. 1½ oz.

Type No.	Cable O.D.	EACH 1-9	10-49	50-99	100-Up
9779-513-3	0.130	.10	.09	.08	.07
9779-513-4	0.220	.10	.09	.08	.07
9779-513-6	0.312	.12	.10	.09	.08
9779-513-8	0.437	.12	.10	.09	.08
9779-513-10	0.562	.16	.13	.12	.11
9779-513-12	0.625	.16	.13	.12	.11
9779-513-16	0.750	.20	.16	.15	.13
9779-513-20	0.937	.29	.24	.21	.19
9779-513-24	1.250	.35	.28	.25	.23

9760 DUST CAPS FOR RECEPTACLES

Internal threads for use with Amphenol MS3100A, MS3101A, and MS3102A, receptacles. Includes beaded chains for mounting. Av. wt., 2 oz.

MS Type	Fits Shell	EACH 1-9	10-49	50-99	100-Up
9760-10	10S, 10SL	.64	.55	.45	.36
9760-12	12, 12S, 12SL	.70	.62	.51	.41
9760-14	14, 14S	.78	.66	.55	.44
9760-16	16, 16S	.84	.73	.61	.48
9760-18	18	1.00	.86	.72	.57
9760-20	20	1.10	.95	.78	.63
9760-22	22	1.26	1.08	.89	.72
9760-24	24	1.46	1.25	1.05	.84
9760-28	28	1.74	1.51	1.25	1.00
9760-32	32	2.02	1.75	1.45	1.17
9760-36	36	2.24	1.94	1.61	1.29

9760P DUST CAPS FOR PLUGS

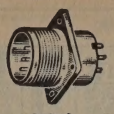
Male caps and chains for plugs MS3106 and MS3108 listed on facing page. Has external threads, provides tight dust-free cover. Av. wt., 2 oz.

MS Type	Fits Shell	EACH 1-9	10-49	50-99	100-Up
9760-10P	10S, 10SL	.96	.83	.69	.55
9760-12P	12, 12S,	1.06	.91	.76	.61
9760-14P	14, 14S	1.22	1.05	.87	.69
9760-16P	16, 16S	1.38	1.19	.99	.79
9760-18P	18	1.40	1.22	1.02	.81
9760-20P	20	1.46	1.25	1.05	.84
9760-22P	22	1.82	1.57	1.31	1.05
9760-24P	24	2.18	1.88	1.57	1.25
9760-28P	28	2.28	1.98	1.65	1.32
9760-32P	32	3.36	2.90	2.42	1.94
9760-36P	36	3.48	3.00	2.51	2.00

Amphenol "MS" Connectors

3100A

3101A


3102A

3106A

3106B

FOR RIGHT ANGLE PLUGS MS-3108A -3108B SEE END OF THIS LISTING

Shell Insert	MS/3100 A				MS/3101 A				MS/3102 A				MS/3106 A				MS/3106 B			
	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999
10S-2P	2.52	1.94	1.73	1.56	2.05	1.59	1.41	1.28	.94	.73	.65	.59	2.20	1.70	1.51	1.37	....	....	....	....
10S-2S	2.53	1.97	1.75	1.59	2.09	1.62	1.44	1.30	.98	.76	.67	.61	2.22	1.72	1.52	1.38	....	....	....	....
10SL-3P	1.59	1.23	1.09	.99	2.37	1.83	1.63	1.47	1.22	.94	.84	.76	....	....	....	....	....	....	....	....
10SL-3S	....	....	....	....	....	....	....	....	....	....	....	....	1.92	1.49	1.32	1.20	....	....	....	....
10SL-4P	1.57	1.22	1.08	.98	2.24	1.73	1.54	1.39	1.22	.94	.84	.76	....	....	....	....	....	....	....	....
10SL-4S	....	....	....	....	....	....	....	....	....	....	....	....	1.87	1.44	1.28	1.16	....	....	....	....
12S-3P	1.72	1.33	1.18	1.07	2.02	1.56	1.38	1.25	.93	.72	.64	.58	1.59	1.23	1.09	.99	....	....	....	....
12S-3S	1.76	1.36	1.21	1.09	2.05	1.59	1.41	1.28	.98	.76	.67	.61	1.67	1.29	1.14	1.04	....	....	....	....
12S-4P	1.78	1.37	1.22	1.10	2.09	1.62	1.44	1.30	1.00	.77	.69	.62	1.68	1.30	1.16	1.05	....	....	....	....
12S-4S	1.78	1.37	1.22	1.10	2.09	1.62	1.44	1.30	1.00	.77	.69	.62	1.68	1.30	1.16	1.05	....	....	....	....
12S-6P	5.48	4.23	3.76	3.40	5.79	4.48	3.98	3.60	4.68	3.62	3.21	2.91	5.37	4.15	3.68	3.34	....	....	....	....
12S-6S	5.83	4.50	4.00	3.62	6.11	4.72	4.19	3.80	5.01	3.88	3.44	3.12	5.74	4.43	3.94	3.57	....	....	....	....
12SL-844P	....	....	....	....	....	....	....	....	2.22	1.72	1.52	1.38	....	....	....	....	....	....	....	....
12SL-844S	....	....	....	....	....	....	....	....	....	....	....	....	4.13	3.19	2.83	2.56	....	....	....	....
12-5P	2.09	1.62	1.44	1.30	2.31	1.79	1.59	1.44	1.30	1.00	.89	.81	2.11	1.63	1.45	1.31	....	....	....	....
12-5S	2.24	1.73	1.54	1.39	2.50	1.93	1.71	1.55	1.48	1.14	1.02	.92	2.28	1.76	1.56	1.41	....	....	....	....
14S-1P	1.83	1.42	1.26	1.14	2.24	1.73	1.54	1.39	1.20	.93	.83	.75	1.83	1.42	1.26	1.14	2.22	1.72	1.52	1.38
14S-1S	1.87	1.44	1.28	1.16	2.28	1.76	1.56	1.41	1.22	.94	.84	.76	1.87	1.44	1.28	1.16	2.24	1.73	1.54	1.39
14S-2P	1.81	1.40	1.24	1.13	2.22	1.72	1.52	1.38	1.18	.92	.81	.74	1.81	1.40	1.24	1.13	2.20	1.70	1.51	1.37
14S-2S	1.96	1.52	1.35	1.22	2.33	1.80	1.60	1.45	1.30	1.00	.89	.81	1.96	1.52	1.35	1.22	2.31	1.79	1.59	1.44
14S-4P	1.74	1.34	1.19	1.08	2.13	1.64	1.46	1.32	1.09	.84	.75	.68	1.74	1.34	1.19	1.08	2.11	1.63	1.45	1.31
14S-4S	1.78	1.37	1.22	1.10	2.20	1.70	1.51	1.37	1.17	.90	.80	.72	1.78	1.37	1.22	1.10	2.18	1.69	1.50	1.36
14S-5P	2.02	1.56	1.38	1.25	2.42	1.87	1.66	1.51	1.37	1.06	.94	.85	2.02	1.56	1.38	1.25	2.37	1.83	1.63	1.47
14S-5S	2.09	1.62	1.44	1.30	2.50	1.93	1.71	1.55	1.46	1.13	1.00	.91	2.09	1.62	1.44	1.30	2.48	1.92	1.70	1.54
14S-6P	2.09	1.62	1.44	1.30	2.50	1.93	1.71	1.55	1.46	1.13	1.00	.91	2.09	1.62	1.44	1.30	2.48	1.92	1.70	1.54
14S-6S	2.13	1.64	1.46	1.32	2.55	1.97	1.75	1.59	1.50	1.16	1.03	.93	2.13	1.64	1.46	1.32	2.52	1.94	1.73	1.56
14S-7P	1.83	1.42	1.26	1.14	2.24	1.73	1.54	1.39	1.20	.93	.83	.75	1.83	1.42	1.26	1.14	2.22	1.72	1.52	1.38
14S-7S	1.87	1.44	1.28	1.16	2.28	1.76	1.56	1.41	1.22	.94	.84	.76	1.87	1.44	1.28	1.16	2.24	1.73	1.54	1.39
14S-9P	1.74	1.34	1.19	1.08	2.13	1.64	1.46	1.32	1.09	.84	.75	.68	1.74	1.34	1.19	1.08	2.11	1.63	1.45	1.31
14S-9S	1.76	1.36	1.21	1.09	2.18	1.69	1.50	1.36	1.11	.86	.76	.69	1.76	1.36	1.21	1.09	2.13	1.64	1.46	1.32
14S-10P	2.02	1.56	1.38	1.25	2.42	1.87	1.66	1.51	1.37	1.06	.94	.85	2.02	1.56	1.38	1.25	2.37	1.83	1.63	1.47
14S-10S	2.18	1.69	1.50	1.36	2.57	1.99	1.77	1.60	1.54	1.19	1.05	.95	2.18	1.69	1.50	1.36	2.55	1.97	1.75	1.59
16S-1P	2.31	1.79	1.59	1.44	2.52	1.94	1.73	1.56	1.48	1.14	1.02	.92	2.09	1.62	1.44	1.30	2.68	2.07	1.84	1.67
16S-1S	2.57	1.99	1.77	1.60	2.76	2.13	1.89	1.71	1.72	1.33	1.18	1.07	2.31	1.79	1.59	1.44	2.89	2.23	1.98	1.79
16S-4P	2.05	1.59	1.41	1.28	2.24	1.73	1.54	1.39	1.20	.93	.83	.75	1.81	1.40	124	1.13	2.42	1.87	1.66	1.51
16S-4S	2.13	1.64	1.46	1.32	2.13	1.79	1.59	1.44	1.28	.99	.88	.79	1.92	1.49	1.32	1.20	2.50	1.93	1.71	1.55
16S-5P	2.20	1.70	1.51	1.37	2.37	1.83	1.63	1.47	1.35	1.04	.93	.84	1.96	1.52	1.35	1.22	2.55	1.97	1.75	1.59
16S-5S	2.24	1.73	1.54	1.39	2.46	1.90	1.69	1.53	1.41	1.09	.97	.87	2.02	1.56	1.38	1.25	2.59	2.00	1.78	1.61
16S-8P	2.28	1.76	1.56	1.41	2.48	1.92	1.70	1.54	1.44	1.12	.99	.90	2.04	1.57	1.40	1.27	2.61	2.02	1.79	1.62
16S-8S	2.33	1.80	1.60	1.45	2.55	1.97	1.75	1.59	1.50	1.16	1.03	.93	2.11	1.63	1.45	1.31	2.70	2.09	1.85	1.68
16-9P	2.57	1.99	1.77	1.60	2.65	2.04	1.82	1.64	1.57	1.22	1.08	.98	2.46	1.90	1.69	1.53	....	....	....	....
16-9S	2.87	2.22	1.97	1.78	2.98	2.30	2.04	1.85	1.92	1.49	1.32	1.20	2.76	2.13	1.89	1.71	....	....	....	....
16-10P	2.50	1.93	1.71	1.55	2.57	1.99	1.77	1.60	1.50	1.16	1.03	.93	2.33	1.80	1.60	1.45	....	....	....	....
16-10S	2.78	2.15	1.91	1.73	2.85	2.20	1.96	1.77	1.78	1.37	1.22	1.10	2.65	2.04	1.82	1.64	....	....	....	....
16-11P	2.31	1.79	1.59	1.44	2.42	1.87	1.66	1.51	1.35	1.04	.93	.84	2.20	1.70	1.51	1.37	....	....	....	....
16-11S	2.61	2.02	1.79	1.62	2.70	2.09	1.85	1.68	1.63	1.26	1.12	1.01	2.50	1.93	1.71	1.55	....	....	....	....
16-13P	5.66	4.38	3.89	3.52	5.75	4.45	3.95	3.58	4.68	3.62	3.21	2.91	5.53	4.28	3.80	3.44	....	....	....	....
16-13S	6.55	5.06	4.50	4.07	6.62	5.12	4.55	4.12	5.55	4.29	3.81	3.45	6.40	4.95	4.39	3.98	....	....	....	....
18-1P	2.87	2.22	1.97	1.78	3.24	2.50	2.22	2.01	2.00	1.54	1.37	1.24	2.76	2.13	1.89	1.71	3.29	2.55	2.26	2.05
18-1S	3.13	2.42	2.15	1.94	3.50	2.70	2.40	2.17	2.22	1.72	1.52	1.38	3.02	2.33	2.07	1.87	3.53	2.73	2.43	2.20
18-3P	2.29	1.77	1.57	1.43	2.65	2.04	1.82	1.64	1.41	1.09	.97	.87	2.18	1.69	1.50	1.36	2.70	2.09	1.85	1.68
18-3S	2.83	2.19	1.94	1.76	3.20	2.47	2.20	1.99	1.94	1.50	1.33	1.21	2.70	2.09	1.85	1.68	3.24	2.50	2.22	2.01
18-4P	2.31	1.79	1.59	1.44	2.68	2.07	1.84	1.67	1.44	1.12	.99	.90	2.20	1.70	1.51	1.37	2.74	2.12	1.88	1.70
18-4S	2.52	1.94	1.73	1.56	2.85	2.20	1.96	1.77	1.59	1.23	1.09	.99	2.37	1.83	1.63	1.47	2.89	2.23	1.98	1.79
18-5P	2.22	1.72	1.52	1.38	2.57	1.99	1.77	1.60	1.30	1.00	.89	.81	2.09	1.62	1.44	1.30	2.61	2.02	1.79	1.62
18-5S	2.52	1.94	1.73	1.56	2.85	2.20	1.96	1.77	1.59	1.23	1.09	.99	2.37	1.83	1.63	1.47	2.89	2.23	1.98	1.79
18-8P	2.87	2.22	1.97	1.78	3.24	2.50	2.22	2.01	2.00	1.54	1.37	1.24	2.76	2.13	1.89	1.71	3.29	2.55	2.26	2.05
18-8S	3.07	2.37	2.11	1.91	3.40	2.63	2.34	2.12	2.18	1.69	1.50	1.36	2.96	2.29	2.03	1.84	3.50	2.70	2.40	2.17
18-9P	2.74	2.12	1.88	1.70	3.07	2.37	2.11	1.91	1.81	1.40	1.24	1.13	2.59	2.00	1.78	1.61	3.13	2.42	2.15	1.94
18-9S	2.96	2.29	2.03	1.84	3.29	2.55	2.26	2.05	2.04	1.57	1.40	1.27	2.79	2.16	1.92	1.74	3.33	2.57	2.29	2.07
18-10S	2.78	2.15	1.91	1.73	3.13	2.42	2.15	1.94	1.87	1.44	1.28	1.16	2.65	2.04	1.82	1.64	3.20	2.47	2.20	1.99
18-10P	3.07	2.37	2.11	1.91	3.40	2.63	2.34	2.12	2.18	1.69	1.50	1.36	2.96	2.29	2.03	1.84	3.50	2.70	2.40	2.17
18-11P	2.78	2.15	1.91	1.73	3.13	2.42	2.15	1.94	1.87	1.44	1.28	1.16	2.65	2.04	1.82	1.64	3.20	2.47	2.20	1.99
18-11S	2.87	2.22	1.97	1.78	3.24	2.50	2.22	2.01	2.00	1.54	1.37	1.24	2.76	2.13	1.89	1.71	3.29	2.55	2.26	2.05
18-12P	2.59	2.00	1.78	1.61	2.96	2.29	2.03	1.84	1.68	1.30	1.16	1.05	2.48	1.92	1.70	1.54	3.02	2.33	2.07	1.87
18-12S	2.78	2.15	1.91	1.73	3.13	2.42	2.15	1.94	1.87	1.44	1.28	1.16	2.65	2.04	1.82	1.64	3.20	2.47	2.20	1.99
18-13P	2.79	2.16	1.92	1.74	3.15	2.43	2.16	1.96	1.92	1.49	1.32	1.20	2.68	2.07	1.84	1.67	3.22	2.49	2.21	2.00
18-16P	2.52	1.94	1.73	1.56	2.85	2.20	1.96	1.77	1.59	1.23	1.09	.99	2.37	1.83	1.63	1.47	2.89	2.23	1.98	1.79
18-16S	2.96	2.29	2.03	1.84	3.29	2.55	2.26	2.05	2.04	1.57	1.40	1.27	2.79	2.16	1.92	1.74	3.33	2.57	2.29	2.07
18-18P	3.13	2.42	2.15	1.94	3.50	2.70	2.40	2.17	2.22	1.72	1.52	1.38	3.02	2.33	2.07	1.87	3.53	2.73	2.43	2.20
18-18S	3.15	2.43	2.16	1.96	3.52	2.72	2.41	2.19	2.24	1.73	1.54	1.39	3.03	2.35	2.08	1.89	3.57	2.76	2.45	2.22
18-19P	3.89	3.00	2.67	2.42	4.26	3.29	2.92	2.65	3.02	2.33	2.07	1.87	3.77	2.92	2.59	2.35	4.31	3.33	2.96	2.68
18-19S	3.20	2.47	2.20	1.99	3.53	2.73	2.43	2.20	2.28	1.76	1.56	1.41	3.05	2.36	2.10	1.90	3.59	2.77	2.46	2.23
18-20P	2.50	1.93	1.71	1.55	2.83	2.19	1.94	1.76	1.57	1.22	1.08	.98	2.33	1.80	1.60	1.45	2.87	2.22	1.97	1.78
18-20S	2.65	2.04	1.82	1.64	3.02	2.33	2.07	1.87	1.74	1.34	1.19	1.08	2.52	1.94	1.73	1.56	3.05	2.36	2.10	1.90
18-22P	2.29	1.77	1.57	1.43	2.65	2.04	1.82	1.64	1.41	1.09	.97	.87	2.18	1.69	1.50	1.36	2.70	2.09	1.85	1.68
18-22S	2.50	1.93	1.71	1.55	2.83	2.19	1.94	1.76	1.57	1.22	1.08	.98	2.33	1.80	1.60	1.45	2.87	2.22	1.97	1.78
18-29P	2.52	1.94	1.73	1.56	2.85	2.20	1.96	1.77	1.59	1.23	1.09	.99	2.37	1.83	1.63	1.47	2.89	2.23	1.98	1.79

Amphenol "MS" Connectors

Shell / Insert	MS/3100 A				MS/3101 A				MS/3102 A				MS/3106 A				MS/3106 B			
	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999
20-3P	2.76	2.13	1.89	1.71	2.96	2.29	2.03	1.84	1.68	1.30	1.16	1.05	3.05	2.36	2.10	1.90	3.44	2.66	2.36	2.14
20-3S	3.61	2.79	2.48	2.24	3.79	2.93	2.60	2.36	2.55	1.97	1.75	1.59	3.89	3.00	2.67	2.42	4.31	3.33	2.96	2.68
20-4P	2.89	2.23	1.98	1.79	3.11	2.40	2.13	1.93	1.83	1.42	1.26	1.14	3.22	2.49	2.21	2.06	3.61	2.79	2.48	2.24
20-4S	3.31	2.56	2.27	2.06	3.52	2.72	2.41	2.19	2.24	1.73	1.54	1.39	3.61	2.79	2.48	2.24	4.03	3.12	2.77	2.51
20-5P	2.85	2.20	1.96	1.77	3.05	2.36	2.10	1.90	1.78	1.37	1.22	1.10	3.15	2.43	2.16	1.96	3.57	2.77	2.45	2.22
20-5S	3.11	2.40	2.13	1.93	3.29	2.55	2.26	2.05	2.04	1.57	1.40	1.27	3.39	2.62	2.32	2.10	3.79	2.93	2.60	2.36
20-6P	2.61	2.02	1.79	1.62	2.78	2.15	1.91	1.73	1.54	1.19	1.05	.95	2.87	2.22	1.97	1.78	3.29	2.55	2.26	2.05
20-6S	2.65	2.04	1.82	1.64	2.83	2.19	1.94	1.76	1.57	1.22	1.08	.98	2.96	2.29	2.03	1.84	3.33	2.57	2.29	2.07
20-7P	2.89	2.23	1.98	1.79	3.11	2.40	2.13	1.93	1.83	1.42	1.26	1.14	3.22	2.49	2.21	2.00	3.61	2.79	2.48	2.24
20-7S	3.15	2.43	2.16	1.96	3.33	2.57	2.29	2.07	2.09	1.62	1.44	1.30	3.44	2.66	2.36	2.14	3.85	2.97	2.64	2.39
20-8P	3.31	2.56	2.27	2.06	3.52	2.72	2.41	2.19	2.24	1.73	1.54	1.39	3.61	2.79	2.48	2.24	4.03	3.12	2.77	2.51
20-8S	3.85	2.97	2.64	2.39	4.05	3.13	2.78	2.52	2.78	2.15	1.91	1.73	4.14	3.20	2.84	2.58	4.55	3.52	3.12	2.83
20-9P	3.13	2.42	2.15	1.94	3.31	2.56	2.27	2.06	2.05	1.59	1.41	1.28	3.40	2.63	2.34	2.12	3.81	2.95	2.62	2.37
20-9S	3.20	2.47	2.20	1.99	3.35	2.59	2.30	2.08	2.11	1.63	1.45	1.31	3.50	2.70	2.40	2.17	3.87	2.99	2.65	2.40
20-11P	3.70	2.86	2.54	2.30	2.87	2.99	2.65	2.40	2.61	2.02	1.79	1.62	3.98	3.07	2.73	2.47	4.37	3.37	3.00	2.71
20-11S	5.64	4.36	3.87	3.51	5.83	4.50	4.00	3.62	4.59	3.55	3.15	2.85	5.92	4.58	4.06	3.68	6.35	4.90	4.36	3.94
20-14P	3.50	2.70	2.40	2.17	3.66	2.83	2.51	2.28	2.42	1 87	1.66	1.51	3.77	2.92	2.59	2.35	4.16	3.22	2.86	2.59
20-14S	4.50	3.47	3.09	2.79	4.68	3.62	3.21	2.91	3.40	2.63	2.34	2.12	4.79	3.70	3.29	2.98	5.18	4.00	3.56	3.22
20-15P	3.22	2.49	2.21	2.00	3.39	2.62	2.32	2.10	2.13	1.64	1.46	1.32	3.52	2.72	2.41	2.19	3.89	3.00	2.67	2.42
20-15S	4.35	3.36	2.98	2.70	4.55	3.52	3.12	2.83	3.29	2.55	2.26	2.05	4.64	3.59	3.19	2.89	5.05	3.90	3.47	3.14
20-16P	3.24	2.50	2.22	2.01	3.40	2.63	2.34	2.12	2.18	1.69	1.50	1.36	3.53	2.73	2.43	2.20	3.90	3.02	2.68	2.43
20-16S	3.44	2.66	2.36	2.14	3.63	2.80	2.49	2.25	2.37	1.83	1.63	1.47	3.76	2.90	2.58	2.33	4.14	3.20	2.84	2.58
20-17P	3.20	2.47	2.20	1.99	3.35	2.59	2.30	2.08	2.11	1.63	1.45	1.31	3.50	2.70	2.40	2.17	3.87	2.99	2.65	2.40
20-17S	3.87	2.99	2.65	2.40	4.07	3.15	2.79	2.53	2.79	2.16	1.92	1.74	4.16	3.22	2.86	2.59	4.59	3.55	3.15	2.85
20-18P	3.35	2.59	2.30	2.08	3.57	2.76	2.45	2.22	2.29	1.77	1.57	1.43	3.66	2.83	2.51	2.28	4.07	3.15	2.79	2.53
20-18S	3.72	2.87	2.55	2.31	3.89	3.00	2.67	2.42	2.65	2.04	1.82	1.64	4.03	3.12	2.77	2.51	4.40	3.40	3.02	2.74
20-19P	3.57	2.76	2.45	2.22	3.77	2.92	2.59	2.35	2.50	1.93	1.71	1.55	3.85	2.97	2.64	2.39	4.26	3.29	2.92	2.65
20-19S	4.35	3.36	2.98	2.70	4.55	3.52	3.12	2.83	3.29	2.55	2.26	2.05	4.64	3.59	3.19	2.89	5.05	3.90	3.47	3.14
20-22P	3.70	2.86	2.54	2.30	3.87	2.99	2.65	2.40	2.61	2.02	1.79	1.62	3.96	3.06	2.72	2.46	4.37	3.37	3.00	2.71
20-22S	4.35	3.36	2.98	2.70	4.55	3.52	3.12	2.83	3.29	2.55	2.26	2.05	4.64	3.59	3.19	2.89	5.05	3.90	3.47	3.14
20-23P	3.11	2.40	2.13	1.93	3.29	2.55	2.26	2.05	2.04	1.57	1.40	1.27	3.39	2.62	2.32	2.10	3.79	2.93	2.60	2.36
20-23S	3.39	2.62	2.32	2.10	3.59	2.77	2.46	2.23	2.31	1.79	1.59	1.44	3.70	2.86	2.54	2.30	4.09	3.16	2.81	2.54
20-24P	3.20	2.47	2.20	1.99	3.35	2.59	2.30	2.08	2.11	1.63	1.45	1.31	3.50	2.70	2.40	2.17	3.87	2.99	2.65	2.40
20-24S	3.96	2.06	2.72	2.46	4.14	3.20	2.84	2.58	2.87	2.22	1.97	1.78	4.26	3.29	2.92	2.65	4.64	3.59	3.19	2.89
20-27P	3.31	2.56	2.27	2.06	3.52	2.72	2.41	2.19	2.24	1.73	1.54	1.39	3.61	2.79	2.48	2.24	4.03	3.12	2.77	2.51
20-27S	3.63	2.80	2.49	2.25	3.81	2.95	2.62	2.37	2.57	1.99	1.77	1.60	3.90	3.02	2.68	2.43	4.33	3.35	2.97	2.69
20-29P	3.59	2.77	2.46	2.23	3.77	2.92	2.59	2.35	2.52	1.94	1.73	1.56	3.87	2.99	2.65	2.40	4.27	3.30	2.93	2.66
20-29S	3.98	3.07	2.73	2.47	4.16	3.22	2.86	2.59	2.89	2.23	1.98	1.79	4.27	3.30	2.93	2.66	4.68	3.62	3.21	2.91
20-33P	3.57	2.76	2.45	2.22	3.76	2.90	2.58	2.33	2.50	1.93	1.71	1.55	3.85	2.97	2.64	2.39	4.26	3.29	2.92	2.65
20-33S	3.66	2.83	2.51	2.28	3.85	2.97	2.64	2.39	2.59	2.00	1.78	1.61	3.96	3.06	2.72	2.46	4.35	3.36	2.98	2.70
22-1P	3.29	2.55	2.26	2.05	3.44	2.66	2.36	2.14	2.00	1.54	1.37	1.24	3.29	2.55	2.26	2.05	3.76	2.90	2.58	2.33
22-1S	3.81	2.95	2.62	2.37	3.98	3.07	2.73	2.47	2.57	1.99	1.77	1.60	3.81	2.95	2.62	2.37	4.33	3.35	2.97	2.69
22-2P	3.52	2.72	2.41	2.19	3.66	2.83	2.51	2.28	2.24	1.73	1.54	1.39	3.52	2.72	2.41	2.19	4.03	3.12	2.77	2.51
22-2S	4.27	3.30	2.93	2.66	4.42	3.42	3.04	2.75	3.03	2.35	2.08	1.89	4.27	3.30	2.93	2.66	4.79	3.70	3.29	2.98
22-4P	3.63	2.80	2.49	2.25	3.79	2.93	2.60	2.36	2.37	1.83	1.63	1.47	3.63	2.80	2.49	2.25	4.14	3.20	2.84	2.58
22-4S	4.13	3.19	2.83	2.56	4.27	3.30	2.93	2.66	2.85	2.20	1.96	1.77	4.13	3.19	2.83	2.56	4.63	3.58	3.18	2.88
22-5P	3.39	2.62	2.32	2.10	3.57	2.76	2.45	2.22	2.13	1.64	1.46	1.32	3.39	2.62	2.32	2.10	3.89	3.00	2.67	2.42
22-5S	3.40	2.63	2.34	2.12	3.59	2.77	2.46	2.23	2.18	1.69	1.50	1.36	3.40	2.63	2.34	2.12	3.90	3.02	2.68	2.43
22-8P	2.85	2.20	1.96	1.77	3.03	2.35	2.08	1.89	1.59	1.23	1.09	.99	2.85	2.20	1.96	1.77	3.35	2.59	2.30	2.08
22-8S	3.61	2.79	2.48	2.24	3.77	2.92	2.59	2.35	2.33	1.80	1.60	1.45	3.61	2.79	2.48	2.24	4.13	3.19	2.83	2.56
22-9P	3.02	2.33	2.07	1.87	3.15	2.43	2.16	1.96	1.74	1.34	1.19	1.08	3.02	2.33	2.07	1.87	3.52	2.72	2.41	2.19
22-9S	3.81	2.95	2.62	2.37	3.98	3.07	2.73	2.47	2.57	1.99	1.77	1.60	3.81	2.95	2.62	2.37	4.33	3.35	2.97	2.69
22-11P	2.78	2.15	1.91	1.73	2.96	2.29	2.03	1.84	1.54	1.19	1.05	.95	2.78	2.15	1.91	1.73	3.29	2.55	2.26	2.05
22-11S	3.02	2.33	2.07	1.87	3.15	2.43	2.16	1.96	1.74	1.34	1.19	1.08	3.02	2.33	2.07	1.87	3.52	2.72	2.41	2.19
22-12P	3.63	2.80	2.49	2.25	3.79	2.93	2.60	2.36	2.37	1.83	1.63	1.47	3.63	2.80	2.49	2.25	4.14	3.20	2.84	2.58
22-12S	4.22	3.26	2.90	2.62	4.35	3.36	2.98	2.70	2.96	2.29	2.03	1.84	4.22	3.26	2.90	2.62	4.72	3.65	3.24	2.93
22-14P	4.03	3.12	2.77	2.51	4.16	3.22	2.86	2.59	2.76	2.13	1.89	1.71	4.03	3.12	2.77	2.51	4.51	3.49	3.10	2.81
22-14S	4.61	3.56	3.16	2.86	4.77	3.69	3.28	2.97	3.33	2.57	2.29	2.07	4.61	3.56	3.16	2.86	5.11	3.95	3.51	3.17
22-15P	3.59	2.77	2.46	2.23	3.76	2.90	2.58	2.33	2.31	1.79	1.59	1.44	3.59	2.77	2.46	2.23	4.09	3.16	2.81	2.54
22-15S	4.37	3.37	3.00	2.71	4.55	3.52	3.12	2.83	3.13	2.42	2.15	1.94	4.37	3.37	3.00	2.71	4.88	3.78	3.35	3.04
22-17P	3.59	2.77	2.46	2.23	3.76	2.90	2.58	2.33	2.31	1.79	1.59	1.44	3.59	2.77	2.46	2.23	4.09	3.16	2.81	2.54
22-17S	3.70	2.86	2.54	2.30	3.86	2.97	2.64	2.39	2.46	1.90	1.69	1.53	3.70	2.86	2.54	2.30	4.22	3.26	2.90	2.62
22-18P	3.33	2.57	2.29	2.07	3.52	2.72	2.41	2.19	2.09	1.62	1.44	1.30	3.33	2.57	2.29	2.07	3.85	2.97	2.64	2.39
22-18S	3.39	2.62	2.32	2.10	3.57	2.76	2.45	2.22	2.13	1.64	1.46	1.32	3.39	2.62	2.32	2.10	3.89	3.00	2.67	2.42
22-19P	3.96	3.06	2.72	2.46	4.13	3.19	2.83	2.56	2.70	2.09	1.85	1.68	3.96	3.06	2.72	2.46	4.46	3.45	3.06	2.77
22-19S	4.03	3.12	2.77	2.51	4.16	3.22	2.86	2.59	2.76	2.13	1.89	1.71	4.03	3.12	2.77	2.51	4.51	3.49	3.10	2.81
22-20P	3.44	2.66	2.36	2.14	3.61	2.79	2.48	2.24	2.20	1.70	1.51	1.37	3.44	2.66	2.36	2.14	3.96	3.06	2.72	2.46
22-20S	3.61	2.79	2.48	2.24	3.77	2.92	2.59	2.35	2.33	1.80	1.60	1.45	3.60	2.79	2.48	2.24	4.13	3.19	2.84	2.56
22-22P	4.05	3.13	2.78	2.52	4.22	3.26	2.90	2.62	2.78	2.15	1.91	1.73	4.05	3.13	2.78	2.52	4.55	3.52	3.12	2.83
22-22S	5.09	3.93	3.49	3.16	5.25	4.06	3.61	3.27	3.81	2.95	2.62	2.37	5.09	3.93	3.49	3.16	5.57	4.30	3.82	3.46
22-23P	3.87	2.99	2.65	2.40	4.05	3.13	2.78	2.52	2.61	2.02	1.79	1.62	3.87	2.99	2.65	2.40	4.37	3.37	3.00	2.71
22-23S	4.98	3.85	3.42	3.09	5.14	3.98	3.53	3.20	3.72	2.87	2.55	2.31	4.98	3.85	3.42	3.09	5.48	4.23	3.76	3.40
22-27P	3.81	2.95	2.62	2.37	3.98	3.07	2.73	2.47	2.57	1.99	1.77	1.60	3.81	2.95	2.62	2.37	4.33	3.35	2.97	2.69
22-27S	4.13	3.19	2.83	2.56	4.27	3.30	2.93	2.66	2.85	2.20	1.96	1.77	4.13	3.19	2.83	2.56	4.63	3.58	3.18	2.88
22-28P	3.66	2.83	2.51	2.28	3.81	2.95	2.62	2.37	2.42	1.87	1.66	1.51	3.66	2.83	2.51	2.28	4.16	3.22	2.86	2.59
22-28S	5.05	3.90	3.47	3.14	5.24	4.05	3.59	3.25	3.79	2.93	2.60	2.36	5.05	3.90	3.47	3.14	5.55	4.29	3.81	3.45
22-29P	3.98	3.07	2.73	2.47	4.14	3.20	2.84	2.58	2.74	2.12	1.88	1.70	3.98	3.07	2.73	2.47	4.50	3.47	3.09	2.79
22-29S	4.51	3.49	3.10	2.81	4.68	3.62	3.21	2.91	3.26	2.52	2.24	2.02	4.51	3.49	3.10	2.81	5.01	3.88	3.44	3.12
22-34P	3.35	2.59	2.30	2.08	3.53	2.73	2.43	2.20	2.11	1.63	1.45	1.31	3.35	2.59	2.30	2.08	3.87	2.99	2.65	2.40
22-34S	3.52	2.72	2.41	2.19	3.66	2.83	2.51	2.28	2.24	1.73	1.54	1.39	3.52	2.72	2.41	2.19	4.03	3.12	2.77	2.51
22-36P	17.50	13.53	12.01	10.88	17.65	13.64	12.12	10.97	16.24	12.56	11.15	10.10	17.50	13.53	12.01	10.88	18.02	13.93	12.37	11.20
22-36S	19.15	14.80	13.14	11.90	19.31	14.93	13.26	12.01	17.91	13.84	12.29	11.13	19.15	14.80	13.14	11.90	19.67	15.20	13.50	12.22

Amphenol "MS" Connectors

Shell Insert	MS/3100 A				MS/3101 A				MS/3106 A				MS/3102 A				MS/3102 B			
	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999	1-9	10-49	50-99	100-999
24-2P	4.07	3.15	2.79	2.53	4.09	3.16	2.81	2.54	2.59	2.00	1.78	1.61	4.14	3.20	2.84	2.58	5.05	3.90	3.47	3.14
24-2S	4.90	3.79	3.37	3.05	4.92	3.80	3.38	3.06	3.44	2.66	2.36	2.14	5.00	3.86	3.43	3.11	5.90	4.56	4.05	3.67
24-5P	4.51	3.49	3.10	2.81	4.55	3.52	3.12	2.83	3.05	2.36	2.10	1.90	4.61	3.56	3.16	2.86	5.51	4.26	3.78	3.43
24-5S	5.09	3.93	3.49	3.16	5.11	3.95	3.51	3.17	3.61	2.79	2.48	2.24	5.16	3.99	3.54	3.21	6.07	4.69	4.17	3.77
24-6P	4.24	3.27	2.91	2.63	4.26	3.29	2.92	2.65	2.76	2.13	1.89	1.71	4.31	3.33	2.96	2.68	5.24	4.05	3.59	3.25
24-6S	5.51	4.26	3.78	3.43	5.53	4.28	3.80	3.44	4.05	3.13	2.78	2.52	5.57	4.30	3.82	3.46	6.49	5.02	4.46	4.04
24-7P	4.72	3.65	3.24	2.93	4.74	3.66	3.25	2.94	3.24	2.50	2.22	2.01	4.79	3.70	3.29	2.98	5.70	4.40	3.91	3.54
24-7S	5.09	3.93	3.49	3.16	5.11	3.95	3.51	3.17	3.61	2.79	2.48	2.24	5.16	3.99	3.54	3.21	6.07	4.69	4.17	3.77
24-9P	4.03	3.12	2.77	2.51	4.05	3.13	2.78	2.52	2.55	1.97	1.75	1.59	4.09	3.16	2.81	2.54	5.00	3.86	3.43	3.11
24-9S	4.46	3.45	3.06	2.77	4.50	3.47	3.09	2.79	3.02	2.33	2.07	1.87	4.55	3.52	3.12	2.83	5.44	4.20	3.73	3.38
24-10P	5.88	4.55	4.04	3.66	5.90	4.56	4.05	3.67	4.40	3.40	3.02	2.74	5.94	4.59	4.08	3.69	6.86	5.31	4.71	4.27
24-10S	6.75	5.22	4.64	4.20	6.77	5.23	4.65	4.21	5.53	4.28	3.80	3.44	6.83	5.28	4.69	4.24	7.70	5.95	5.28	4.78
24-11P	5.01	3.88	3.44	3.12	5.05	3.90	3.47	3.14	3.57	2.76	2.45	2.22	5.11	3.95	3.51	3.17	6.01	4.65	4.13	3.74
24-11S	6.38	4.93	4.38	3.97	6.40	4.95	4.39	3.98	4.90	3.79	3.37	3.05	6.46	4.99	4.43	4.01	7.38	5.71	5.07	4.59
24-12P	5.25	4.06	3.61	3.27	5.27	4.08	3.62	3.28	3.77	2.92	2.59	2.35	5.33	4.12	3.66	3.31	6.25	4.83	4.29	3.89
24-12S	6.29	4.86	4.32	3.91	6.31	4.88	4.33	3.92	4.81	3.72	3.30	2.99	6.36	4.92	4.37	3.96	7.29	5.63	5.00	4.53
24-19P	4.51	3.49	3.10	2.81	4.55	3.52	3.12	2.83	3.05	2.36	2.10	1.90	4.61	3.56	3.16	2.86	5.51	4.26	3.78	3.43
24-19S	4.81	3.72	3.30	2.99	4.83	3.73	3.31	3.00	3.33	2.57	2.29	2.07	4.88	3.78	3.35	3.04	5.81	4.49	3.99	3.61
24-20P	4.22	3.26	2.90	2.62	4.24	3.27	2.91	2.63	2.74	2.12	1.88	1.70	4.27	3.30	2.93	2.66	5.18	4.00	3.56	3.22
24-20S	4.26	3.29	2.92	2.65	4.27	3.30	2.93	2.66	2.78	2.15	1.91	1.73	4.33	3.35	2.97	2.69	5.25	4.06	3.61	3.27
24-21S	4.51	3.49	3.10	2.81	4.55	3.52	3.12	2.83	3.05	2.36	2.10	1.90	4.61	3.56	3.16	2.86	5.51	4.26	3.78	3.43
24-22P	4.79	3.70	3.29	2.98	4.81	3.72	3.30	2.99	3.31	2.56	2.27	2.06	4.87	3.76	3.34	3.02	5.79	4.48	3.98	3.60
24-22S	5.92	4.58	4.06	3.68	5.94	4.59	4.08	3.69	4.46	3.45	3.06	2.77	6.01	4.65	4.13	3.74	6.92	5.35	4.75	4.30
24-27P	3.61	2.79	2.48	2.24	3.63	2.80	2.49	2.25	2.13	1.64	1.46	1.32	3.70	2.86	2.54	2.30	4.61	3.56	3.16	2.86
24-27S	3.72	2.87	2.53	2.31	3.76	2.90	2.58	2.33	2.24	1.73	1.54	1.39	3.79	2.93	2.60	2.36	4.72	3.65	3.24	2.93
24-28P	4.92	3.80	3.38	3.06	4.98	3.85	3.42	3.09	3.50	2.70	2.40	2.17	5.01	3.88	3.44	3.12	5.88	4.55	4.04	3.66
24-28S	5.57	4.30	3.82	3.46	5.62	4.35	3.86	3.50	4.13	3.19	2.83	2.56	5.66	4.38	3.89	3.52	6.57	5.08	4.51	4.08
24-835P	4.26	3.29	2.92	2.65	4.27	3.30	2.93	2.66	2.78	2.15	1.91	1.73	4.33	3.35	2.97	2.69	5.25	4.06	3.61	3.27
24-835S	5.25	4.06	3.61	3.27	5.27	4.08	3.62	3.28	3.77	2.92	2.59	2.35	5.33	4.12	3.66	3.31	6.25	4.83	4.29	3.89
28-1P	5.18	4.00	3.56	3.22	5.70	4.40	3.91	3.54	3.79	2.93	2.60	2.36	5.37	4.15	3.68	3.34	5.85	4.52	4.01	3.63
28-1S	6.62	5.12	4.55	4.12	7.12	5.51	4.89	4.43	5.25	4.06	3.66	3.27	6.83	5.28	4.69	4.24	7.31	5.65	5.02	4.54
28-2P	4.63	3.58	3.18	2.88	5.14	3.98	3.53	3.20	3.24	2.50	2.22	2.01	4.83	3.73	3.31	3.00	5.29	4.09	3.63	3.29
28-2S	4.92	3.80	3.38	3.06	5.44	4.20	3.73	3.38	3.57	2.76	2.45	2.22	5.14	3.98	3.53	3.20	5.62	4.35	3.86	3.50
28-6P	5.62	4.35	3.86	3.50	6.11	4.72	4.19	3.80	4.24	3.27	2.91	2.63	5.81	4.49	3.99	3.61	6.29	4.86	4.32	3.91
28-6S	6.29	4.86	4.32	3.91	6.81	5.26	4.67	4.23	4.88	3.78	3.35	3.04	6.46	4.99	4.43	4.01	6.94	5.36	4.76	4.31
28-8P	4.63	3.58	3.18	2.88	5.14	3.98	3.53	3.20	3.24	2.50	2.22	2.01	4.81	3.72	3.30	2.99	5.29	4.09	3.63	3.29
28-8S	4.79	3.70	3.29	2.98	5.29	4.09	3.63	3.29	3.39	2.62	2.32	2.10	4.98	3.85	3.42	3.09	5.44	4.20	3.73	3.38
28-9P	4.88	3.78	3.35	3.04	5.38	4.16	3.70	3.35	3.52	2.72	2.41	2.19	5.09	3.93	3.49	3.16	5.55	4.29	3.81	3.45
28-9S	5.35	4.13	3.67	3.32	5.85	4.52	4.01	3.63	3.96	3.06	2.72	2.46	5.53	4.28	3.80	3.44	6.01	4.65	4.13	3.74
28-10P	6.35	4.90	4.35	3.94	6.85	5.29	4.70	4.26	4.92	3.80	3.38	3.06	6.53	5.05	4.48	4.06	7.01	5.42	4.81	4.36
28-10S	7.97	6.16	5.47	4.96	8.49	6.56	5.83	5.28	6.59	5.09	4.52	4.09	8.16	6.31	5.60	5.07	8.66	6.69	5.94	5.38
28-11P	5.25	4.06	3.61	3.27	5.75	4.45	3.95	3.58	3.85	2.97	2.64	2.39	5.42	4.19	3.72	3.37	5.90	4.56	4.05	3.67
28-11S	6.36	4.92	4.37	3.96	6.86	5.31	4.71	4.27	3.85	2.97	2.64	2.39	6.55	5.06	4.50	4.07	7.03	5.43	4.83	4.37
28-12P	5.44	4.20	3.73	3.38	5.94	4.59	4.08	3.69	4.07	3.15	2.79	2.53	5.64	4.36	3.87	3.51	6.11	4.72	4.19	3.80
28-12S	6.36	4.92	4.37	3.96	6.86	5.31	4.71	4.27	4.98	3.85	3.42	3.09	6.55	5.06	4.50	4.07	7.03	5.43	4.83	4.37
28-15P	6.11	4.72	4.19	3.80	6.62	5.12	4.55	4.12	4.74	3.66	3.25	2.94	6.31	4.88	4.33	3.92	6.81	5.26	4.67	4.23
28-15S	7.03	5.45	4.84	4.38	7.57	5.85	5.19	4.70	5.66	4.38	3.89	3.52	7.27	5.62	4.99	4.52	7.70	5.95	5.28	4.78
28-16P	5.38	4.16	3.70	3.35	5.90	4.56	4.05	3.67	4.03	3.12	2.77	2.51	5.57	4.30	3.82	3.46	6.07	4.69	4.17	3.77
28-16S	5.44	4.20	3.73	3.38	5.94	4.59	4.08	3.69	4.07	3.15	2.79	2.53	5.64	4.36	3.87	3.51	6.11	4.72	4.19	3.80
28-17P	4.59	3.55	3.15	2.85	5.09	3.93	3.49	3.16	3.20	2.47	2.20	1.99	4.77	3.69	3.28	2.97	5.25	4.06	3.61	3.27
28-17S	4.88	3.78	3.35	3.04	5.38	4.16	3.70	3.35	3.52	2.72	2.41	2.19	5.09	3.93	3.49	3.16	5.55	4.29	3.81	3.45
28-18P	4.42	3.42	3.04	2.75	4.92	3.80	3.38	3.06	3.03	2.35	2.08	1.89	4.63	3.58	3.18	2.88	5.11	3.95	3.51	3.17
28-18S	4.83	3.73	3.31	3.00	5.35	4.13	3.67	3.32	3.44	2.66	2.36	2.14	5.01	3.88	3.44	3.12	5.51	4.26	3.78	3.43
28-19P	4.50	3.47	3.09	2.79	5.00	3.86	3.43	3.11	3.11	2.40	2.13	1.93	4.68	3.62	3.21	2.91	5.16	3.99	3.54	3.21
28-19S	5.44	4.20	3.73	3.38	5.94	4.59	4.08	3.69	4.07	3.15	2.79	2.53	5.64	4.36	3.87	3.51	6.11	4.72	4.19	3.80
28-20P	5.29	4.09	3.63	3.29	5.81	4.49	3.99	3.61	3.89	3.00	2.67	2.42	5.48	4.23	3.76	3.40	5.94	4.59	4.08	3.69
28-20S	5.88	4.55	4.04	3.66	6.38	4.93	4.38	3.97	4.50	3.47	3.09	2.79	6.07	4.69	4.17	3.77	6.55	5.06	4.50	4.07
28-21P	6.31	4.88	4.33	3.92	6.83	5.28	4.69	4.24	4.90	3.79	3.37	3.05	6.49	5.02	4.46	4.04	6.96	5.38	4.78	4.32
28-21S	7.14	5.52	4.90	4.44	7.66	5.92	5.26	4.76	5.79	4.48	3.98	3.60	7.36	5.69	5.05	4.58	7.84	6.06	5.38	4.88
32-5P	6.55	5.06	4.50	4.07	7.01	5.42	4.81	4.36	5.01	3.88	3.44	3.12	7.66	5.92	5.26	4.76	7.70	5.95	5.28	4.78
32-5S	7.27	5.62	4.99	4.52	7.68	5.93	5.27	4.77	5.74	4.43	3.94	3.57	8.38	6.48	5.75	5.21	8.42	6.51	5.78	5.23
32-6P	7.05	5.45	4.84	4.38	7.51	5.81	5.16	4.67	5.53	4.28	3.80	3.44	8.16	6.31	5.60	5.07	8.21	6.33	5.64	5.11
32-6S	10.01	7.74	6.87	6.22	10.45	8.09	7.19	6.51	8.49	6.56	5.83	5.28	11.16	8.62	7.66	6.93	11.19	8.65	7.68	6.96
32-7P	6.68	5.16	4.58	4.15	7.12	5.51	4.89	4.43	5.16	3.99	3.54	3.21	7.83	6.05	5.37	4.86	7.86	6.08	5.40	4.89
32-7S	8.49	6.56	5.83	5.28	8.95	6.92	6.15	5.57	6.96	5.38	4.78	4.32	9.62	7.44	6.60	5.98	9.68	7.48	6.64	6.01
32-8P	7.31	5.65	5.02	4.54	7.77	6.01	5.33	4.83	5.79	4.48	3.98	3.60	8.42	6.51	5.78	5.23	8.47	6.55	5.82	5.27
32-8S	7.40	5.72	5.08	4.60	7.86	6.08	5.40	4.89	5.88	4.55	4.04	3.66	8.53	6.59	5.85	5.30	8.58	6.64	5.89	5.34
32-9P	6.27	4.85	4.31	3.90	6.72	5.19	4.61	4.17	4.74	3.66	3.25	2.94	7.38	5.71	5.07	4.59	7.42	5.73	5.09	4.61
32-9S	7.12	5.51	4.89	4.43	7.59	5.86	5.21	4.72	5.62	4.35	3.86	3.50	8.23	6.36	5.65	5.12	8.33	6.44	5.72	5.18
32-13P	6.03	4.66	4.14	3.75	6.49	5.02	4.46	4.04	4.51	3.49	3.10	2.81	7.14	5.52	4.90	4.44	7.22	5.58	4.95	4.49
32-13S	6.90	5.33	4.74	4.29	7.36	5.69	5.05	4.58	5.37	4.15	3.68	3.34	8.03	6.21	5.51	4.99	8.07	6.23	5.54	5.01
32-15P	8.31	6.42	5.70	5.16	8.71	6.74	5.98	5.42	6.77	5.23	4.65	4.21	9.42	7.28	6.46	5.85	9.45	7.31	6.49	5.88
32-15S	9.12	7.05	6.26	5.67	9.58	7.41	6.58	5.96	7.59	5.86	5.21	4.72	10.23	7.91	7.02	6.36	10.27	7.94	7.05	6.38
32-101P	15.43	11.93	10.59	9.59	15.87	12.27	10.90	9.87	13.89	10.74	9.54	8.64	16.54	12.78	11.35	10.28	16.58	12.81	11.38	10.30
32-101S	14.43	11.15	9.91	8.97	14.89	11.51	10.22	9.26	12.91	9.98	8.86	8.03	15.54	12.01	10.67	9.66	15.60	12.03	10.71	9.69
32-102P	11.36	8.78	7.80	7.06	11.80	9.12	8.10	7.34	9.82	7.59	6.74	6.11	12.47	9.64	8.56	7.75	12.51	9.67	8.59	7.77
32-102S	13.21	10.21	9.07	8.21	13.67	10.57	9.39	8.50	11.67	9.02	8.01	7.26	14.32	11.07	9.83	8.90	14.39	11.13	9.88	8.95
32-414P	10.10	7.81	6.93	6.28	10.56	8.17	7.25	6.57	8.58	6.64	5.89	5.34	11.21	8.67	7.70	6.97	11.27	8.71	7.73	7.00
32-414S	13.49	10.42	9.26	8.38	13.95	10.78	9.58	8.67	11.95	9.24	8.20	7.43	14.60	11.28	10.02	9.07	14.67	11.34	10.07	9.12
36-7P	9.49	7.34	6.52	5.90	9.69	7.49	6.65	6.03	7.22	5.58	4.45	4.49	10.38	8.02	7.12	6.45	10.60	8.19	7.28	6.59
36-7S	10.47	8.09	7.19	6.51	10.69	8.27	7.34	6.65	8.20	6.33	5.63	5.09	11.38	8.79	7.81	7.07	11.58	8.95	7.95	7.20
36-8P	9.18	7.09	6.30	5.70	9.42	7.28	6.46	5.85	6.92	5.35	4.75	4.30	10.10	7.81	6.93	6.28	10.27	7.94	7.05	6.38
36-8S	9.82	7.59	6.74	6.11	10.06	7.78	6.91	6.26	7.57	5.85	5.19	4.70	10.73	8.29	7.37	6.67	10.92	8.44	7.49	6.79

Amphenol "MS" Connectors

Shell Insert	MS/3100 A 1-9	MS/3100 A 10-49	MS/3100 A 50-99	MS/3100 A 100-999	MS/3101 A 1-9	MS/3101 A 10-49	MS/3101 A 50-99	MS/3101 A 100-999	MS/3102 A 1-9	MS/3102 A 10-49	MS/3102 A 50-99	MS/3102 A 100-999	MS/3106 A 1-9	MS/3106 A 10-49	MS/3106 A 50-99	MS/3106 A 100-999	MS/3106 B 1-9	MS/3106 B 10-49	MS/3106 B 50-99	MS/3106 B 100-999
36-10P	9.07	7.01	6.22	5.64	9.25	7.15	6.35	5.75	6.81	5.26	4.67	4.23	9.95	7.69	6.83	6.19	10.16	7.85	6.97	6.31
36-10S	9.77	7.55	6.71	6.07	9.99	7.72	6.86	6.21	7.51	5.81	5.16	4.67	10.69	8.27	7.34	6.65	10.88	8.41	7.47	6.76
36-14P	2.10	9.35	8.31	7.52	12.28	9.50	8.43	7.64	9.81	7.58	6.73	6.10	12.97	10.02	8.90	8.06	13.19	10.20	9.06	8.20
36-14S	12.93	10.00	8.88	8.04	13.15	10.17	9.03	8.18	10.66	8.24	7.32	6.62	13.84	10.70	9.50	8.60	14.02	10.84	9.63	8.72
36-15P	7.68	5.93	5.27	4.77	7.92	6.12	5.44	4.92	5.42	4.19	3.72	3.37	8.60	6.65	5.91	5.35	8.79	6.79	6.03	5.46
36-15S	8.44	6.52	5.79	5.24	8.66	6.69	5.94	5.38	6.18	4.78	4.24	3.84	9.36	7.24	6.43	5.82	9.55	7.38	6.55	5.93
36-403P	10.92	8.44	7.49	6.79	11.16	8.62	7.66	6.93	8.66	6.69	5.94	5.38	11.84	9.15	8.13	7.36	12.03	9.30	8.26	7.48
36-403S	14.67	11.34	10.07	9.12	14.89	11.51	10.22	9.26	12.40	9.58	8.51	7.71	15.56	12.03	10.68	9.67	15.78	12.20	10.83	9.81
36-404P	12.69	9.81	8.71	7.89	12.96	9.98	8.86	8.03	10.43	8.07	7.16	6.49	13.58	10.50	9.32	8.44	13.78	10.65	9.46	8.57
36-404S	15.00	11.60	10.30	9.33	15.24	11.78	10.46	9.48	12.75	9.85	8.75	7.92	15.93	12.31	10.93	9.90	16.10	12.44	11.05	10.01
36-405P	14.99	11.58	10.29	9.32	15.19	11.74	10.43	9.44	12.73	9.84	8.74	7.91	15.91	12.30	10.92	9.89	16.08	12.43	11.04	9.99
36-405S	18.80	14.53	12.90	11.68	19.04	14.71	13.07	11.83	16.54	12.78	11.35	10.28	19.72	15.24	13.54	12.26	19.89	15.37	13.65	12.36

3108A

3108B

MS 3108

Shell Insert	A 1-9	A 10-49	A 50-99	A 100-999	B 1-9	B 10-49	B 50-99	B 100-999
10S-2P	3.44	2.66	2.36	2.14	.....	.....	.....	.....
10S-2S	3.50	2.70	2.40	2.17	.....	.....	.....	.....
10SL-3S	3.40	2.63	2.34	2.12	1.78	1.37	1.22	1.10
12S-3P	3.85	2.97	2.64	2.39	2.09	1.62	1.44	1.30
12S-3S	3.89	3.00	2.67	2.42	2.13	1.64	1.46	1.32
12S-4P	3.90	3.02	2.67	2.42	2.13	1.64	1.46	1.32
12S-4S	3.90	3.02	2.68	2.43	2.18	1.69	1.50	1.36
12S-6P	7.60	5.88	5.22	4.73	5.85	4.52	4.01	3.63
12S-6S	7.96	6.15	5.46	4.93	6.20	4.79	4.25	3.85
12-5P	3.81	2.95	2.62	2.37	2.24	1.73	1.54	1.39
12-5S	3.98	3.07	2.73	2.47	2.42	1.87	1.66	1.51
14S-1P	3.79	2.93	2.60	2.36	2.05	1.59	1.41	1.28
14S-1S	3.81	2.95	2.62	2.37	2.09	1.62	1.44	1.30
14S-2P	3.77	2.92	2.59	2.35	2.04	1.57	1.40	1.27
14S-2S	3.89	3.00	2.67	2.42	2.18	1.69	1.50	1.36
14S-4P	3.70	2.86	2.54	2.30	1.96	1.52	1.35	1.22
14S-4S	3.76	2.90	2.58	2.33	2.02	1.56	1.38	1.25
14S-5P	3.96	3.06	2.72	2.46	2.22	1.72	1.52	1.38
14S-5S	4.05	3.13	2.78	2.52	2.29	1.77	1.57	1.43
14S-6P	4.05	3.13	2.78	2.52	2.29	1.77	1.57	1.43
14S-6S	4.09	3.16	2.81	2.54	2.33	1.80	1.60	1.45
14S-7P	3.79	2.93	2.60	2.36	2.05	1.59	1.41	1.28
14S-7S	3.81	2.95	2.62	2.37	2.09	1.62	1.44	1.30
14S-9P	3.70	2.86	2.54	2.30	1.96	1.52	1.35	1.22
14S-9S	3.72	2.87	2.55	2.31	2.00	1.54	1.37	1.24
14S-10S	4.13	3.19	2.83	2.56	2.37	1.83	1.63	1.47
16S-1P	4.87	3.76	3.34	3.02	2.50	1.93	1.71	1.55
16S-1S	5.11	3.95	3.51	3.17	2.74	2.12	1.88	1.70
16S-4P	4.61	3.56	3.16	2.86	2.22	1.72	1.52	1.38
16S-4S	4.68	3.62	3.21	2.91	2.29	1.77	1.57	1.43
16S-5P	4.74	3.66	3.25	2.94	2.33	1.80	1.60	1.45
16S-5S	4.79	3.70	3.29	2.98	2.42	1.87	1.66	1.51
16S-8P	4.81	3.72	3.30	2.99	2.46	1.90	1.69	1.53
16S-8S	4.88	3.78	3.35	3.04	2.52	1.94	1.73	1.56
16-9P	4.72	3.65	3.24	2.93	3.03	2.35	2.08	1.89
16-9S	5.01	3.88	3.44	3.12	3.33	2.57	2.29	2.07
16-10P	4.63	3.58	3.18	2.88	2.96	2.29	2.03	1.84
16-10S	4.90	3.79	3.37	3.05	3.24	2.50	2.22	2.01
16-11P	4.46	3.45	3.06	2.77	2.78	2.15	1.91	1.73
16-11S	4.77	3.69	3.28	2.97	3.07	2.37	2.11	1.91
16-13P	7.83	6.05	5.37	4.86	6.11	4.72	4.19	3.80
16-13S	8.68	6.71	5.96	5.39	7.01	5.42	4.81	4.36
18-1P	5.57	4.30	3.82	3.46	3.40	2.63	2.34	2.12
18-1S	5.83	4.50	4.00	3.62	3.66	2.83	2.51	2.28
18-3P	5.00	3.86	3.43	3.11	2.83	2.19	1.94	1.76
18-3S	5.53	4.28	3.80	3.44	3.35	2.59	2.30	2.08
18-4P	5.01	3.88	3.44	3.12	2.85	2.20	1.96	1.77
18-4S	5.24	4.05	3.59	3.25	3.05	2.36	2.10	1.90
18-5P	4.90	3.79	3.37	3.05	2.76	2.13	1.89	1.71
18-5S	5.24	4.05	3.59	3.25	3.05	2.36	2.10	1.90
18-8P	5.57	4.30	3.82	3.46	3.40	2.63	2.34	2.12
18-8S	5.79	4.48	3.98	3.60	3.61	2.79	2.48	2.24
18-9P	5.42	4.19	3.72	3.37	3.26	2.52	2.24	2.02
18-9S	5.64	4.36	3.87	3.51	3.50	2.70	2.40	2.17
18-10P	5.48	4.23	3.76	3.40	3.31	2.56	2.27	2.06
18-10S	5.79	4.48	3.98	3.60	2.61	2.79	2.48	2.24
18-11P	5.48	4.23	3.76	3.40	3.31	2.56	2.27	2.06
18-11S	5.57	4.30	3.82	3.46	3.40	2.63	2.34	2.12

MS 3108

Shell Insert	A 1-9	A 10-49	A 50-99	A 100-999	B 1-9	B 10-49	B 50-99	B 100-999
18-12P	5.29	4.09	3.63	3.29	3.13	2.42	2.15	1.94
18-12S	3.13	2.42	2.15	1.94	3.31	2.56	2.27	2.06
18-16P	5.24	4.05	3.59	3.25	3.05	2.36	2.10	1.90
18-16S	5.64	4.36	3.87	3.51	3.50	2.70	2.40	2.17
18-19P	6.59	5.09	4.52	4.09	4.42	3.42	3.04	2.75
18-19S	5.88	4.55	4.04	3.66	3.72	2.87	2.55	2.31
18-20P	5.18	4.00	3.56	3.22	3.03	2.35	2.08	1.89
18-20S	5.35	4.13	3.67	3.32	3.20	2.47	2.20	1.99
18-22P	5.00	3.86	3.43	3.11	2.83	2.19	1.94	1.76
18-22S	5.18	4.00	3.56	3.22	3.03	2.35	2.08	1.89
18-29P	5.24	4.05	3.59	3.25	3.05	2.36	2.10	1.90
18-29S	5.24	4.05	3.59	3.25	3.05	2.36	2.10	1.90
20-4P	6.11	4.72	4.19	3.80	3.59	2.93	2.60	2.36
20-4S	6.53	5.05	4.48	4.06	4.22	3.26	2.90	2.62
20-5P	6.07	4.69	4.17	3.77	3.76	2.90	2.58	2.33
20-5S	6.31	4.88	4.33	3.92	3.98	3.07	2.73	2.47
20-6P	5.81	4.49	3.99	3.61	3.50	2.70	2.40	2.17
20-6S	5.85	4.52	4.01	3.63	3.53	2.73	2.43	2.20
20-7P	6.11	4.72	4.19	3.80	3.79	2.93	2.60	2.36
20-7S	6.36	4.92	4.37	3.96	4.05	3.13	2.78	2.52
20-9P	6.35	4.90	4.36	3.94	4.03	3.12	2.77	2.51
20-9S	6.38	4.93	4.38	3.97	4.07	3.15	2.79	2.53
20-11P	6.90	5.33	4.74	4.29	4.59	3.55	3.15	2.85
20-11S	8.86	6.85	6.08	5.51	6.53	5.05	4.48	4.06
20-14P	6.68	5.16	4.58	4.15	4.35	3.36	2.98	2.70
20-14S	7.68	5.93	5.27	4.77	5.37	4.15	3.68	3.34
20-15P	6.40	4.95	4.39	3.98	4.09	3.16	2.81	2.54
20-15S	7.57	5.85	5.19	4.70	5.25	4.06	3.61	3.27
20-16P	6.44	4.98	4.42	4.00	4.13	3.19	2.83	2.56
20-16S	6.64	5.13	4.56	4.13	4.33	3.35	2.97	2.69
20-18P	6.57	5.08	4.51	4.08	4.26	3.29	2.92	2.65
20-18S	6.92	5.35	4.75	4.30	4.55	3.52	3.12	2.83
20-21P	6.35	4.90	4.36	3.94	4.03	3.12	2.77	2.51
20-21S	6.49	5.02	4.46	4.04	4.16	3.22	2.86	2.59
20-22P	6.90	5.33	4.74	4.29	4.59	3.55	3.15	2.85
20-22S	7.57	5.85	5.19	4.70	5.25	4.06	3.61	3.27
20-24P	6.38	4.93	4.38	3.97	4.07	3.15	2.79	2.53
20-24S	7.14	5.52	4.90	4.44	4.83	3.73	3.31	3.00
20-27P	6.53	5.05	4.48	4.06	4.22	3.26	2.90	2.62
20-27S	6.85	5.29	4.70	4.26	4.51	3.49	3.10	2.81
20-29P	6.81	5.26	4.67	4.23	4.46	3.45	3.06	2.77
20-29S	7.18	5.55	4.93	4.46	4.87	3.76	3.34	3.02
20-33P	6.77	5.23	4.65	4.21	4.42	3.42	3.08	2.75
20-33S	6.86	5.31	4.71	4.27	4.55	3.52	3.12	2.83
22-2P	6.72	5.19	4.61	4.17	4.26	3.29	2.92	2.65
22-2S	7.47	5.78	5.13	4.65	5.01	3.88	3.44	3.12
22-4P	6.85	5.29	4.70	4.26	4.37	3.37	3.00	2.71
22-4S	7.33	5.66	5.03	4.55	4.87	3.76	3.34	3.02
22-5P	6.59	5.09	4.52	4.09	4.14	3.20	2.84	2.58
22-5S	6.62	5.12	4.55	4.12	4.16	3.22	2.86	2.59
22-6P	6.55	5.06	4.50	4.07	4.09	3.16	2.81	2.54
22-6S	7.12	5.51	4.89	4.43	4.68	3.62	3.21	2.91
22-8P	6.07	4.69	4.17	3.77	3.61	2.79	2.48	2.24
22-8S	6.83	5.28	4.69	4.24	4.35	3.36	2.98	2.70
22-9P	6.20	4.79	4.25	3.85	3.76	2.90	2.58	2.33
22-9S	7.03	5.43	4.83	4.37	4.59	3.55	3.15	2.85
22-10P	6.20	4.79	4.25	3.85	3.76	2.90	2.58	2.33
22-10S	6.35	4.90	4.36	3.94	3.87	2.99	2.65	2.40
22-14P	7.22	5.58	4.95	4.49	4.77	3.69	3.28	2.97
22-14S	7.83	6.05	5.37	4.86	5.35	4.13	3.67	3.32
22-17P	6.81	5.26	4.67	4.23	4.33	3.35	2.97	2.69
22-17S	6.90	5.33	4.74	4.29	4.42	3.42	3.04	2.75
22-18P	6.55	5.06	4.50	4.07	4.09	3.16	2.81	2.54
22-18S	6.59	5.09	4.52	4.09	4.14	3.20	2.84	2.58
22-19P	7.14	5.52	4.90	4.44	4.72	3.65	3.24	2.93
22-19S	7.22	5.58	4.95	4.49	4.77	3.69	3.28	2.97

Amphenol "MS" Connectors

Shell Insert	MS/3108 A 1-9	A 10-49	A 50-99	A 100-999	MS/3108 B 1-9	B 10-49	B 50-99	B 100-999
22-20P	6.64	5.13	4.56	4.13	4.22	3.26	2.90	2.62
22-20S	6.83	5.28	4.69	4.24	4.35	3.36	2.98	2.70
22-22P	7.27	5.62	4.99	4.52	4.79	3.70	3.29	2.98
22-22S	8.31	6.42	5.70	5.16	5.83	4.50	4.00	3.62
22-23P	7.09	5.48	4.86	4.40	4.63	3.58	3.18	2.88
22-23S	8.16	6.31	5.60	5.07	5.74	4.43	3.94	3.57
22-27P	7.03	5.43	4.83	4.37	4.59	3.55	3.15	2.85
22-27S	7.33	5.66	5.03	4.55	4.87	3.76	3.34	3.02
22-28P	6.86	5.31	4.71	4.27	4.40	3.40	3.02	2.74
22-28S	8.23	6.36	5.65	5.12	5.81	4.49	3.99	3.61
22-29P	7.18	5.55	4.93	4.46	4.74	3.66	3.25	2.94
22-29S	7.70	5.95	5.28	6.78	5.27	4.08	3.62	3.28
24-2P	7.59	5.86	5.21	4.72	4.61	3.56	3.16	2.86
24-2S	8.44	6.52	5.79	5.24	5.44	4.20	3.73	3.38
24-5P	8.05	6.22	5.52	5.00	5.05	3.90	3.47	3.14
24-5S	8.60	6.65	5.91	5.35	5.62	4.35	3.86	3.50
24-6P	7.77	6.01	5.33	4.83	4.77	3.69	3.28	2.97
24-6S	9.05	6.99	6.21	5.62	6.03	4.66	4.14	3.75
24-7P	8.21	6.35	5.64	5.11	5.25	4.06	3.61	3.27
24-7S	8.60	6.65	5.91	5.35	5.62	4.35	3.86	3.50
24-10P	9.42	7.28	6.46	5.85	6.40	4.95	4.39	3.98
24-10S	10.25	7.92	7.04	6.37	7.29	5.63	5.00	4.53
24-11P	8.57	6.62	5.88	5.32	5.55	4.29	3.81	3.45
24-11S	9.92	7.66	6.81	6.16	6.92	5.35	4.75	4.30
24-17P	7.12	5.51	4.89	4.43	4.14	3.20	2.84	2.58
24-17S	7.55	5.83	5.18	4.69	4.55	3.52	3.12	2.83
24-19P	8.05	6.22	5.52	5.00	5.05	3.90	3.47	3.14
24-19S	8.34	6.45	5.73	5.19	5.35	4.13	3.67	3.32
24-20P	7.70	5.95	5.28	4.78	4.74	3.66	3.25	2.94
24-20S	7.79	6.02	5.35	4.84	4.79	3.70	3.29	2.98
24-21S	8.05	6.22	5.52	5.00	5.05	3.90	3.47	3.14
24-22P	8.33	6.44	5.72	5.18	5.33	4.12	3.66	3.31
24-27P	7.12	5.51	4.89	4.43	4.14	3.20	2.84	2.58
24-27S	7.27	5.62	4.99	4.52	4.26	3.29	2.92	2.65
24-28P	8.47	6.55	5.82	5.27	5.48	4.23	3.76	3.40
24-28S	9.12	7.05	6.26	5.67	6.11	4.72	4.19	3.80
24-835P	7.79	6.02	5.35	4.84	4.79	3.70	3.29	2.98
24-836S	8.75	6.76	6.01	5.44	5.79	4.48	3.98	3.60
28-1P	8.79	6.79	6.03	5.46	5.90	4.56	4.05	3.67
28-1S	10.23	7.91	7.02	6.36	7.36	5.69	5.05	4.58
28-2P	8.21	6.35	5.64	5.11	5.35	4.13	3.67	3.32
28-2S	8.57	6.62	5.88	5.32	5.66	4.38	3.89	3.52
28-3P	8.40	6.49	5.77	5.22	5.51	4.26	3.78	3.43
28-3S	8.68	6.71	5.96	5.39	5.81	4.49	3.99	3.61
28-6P	9.21	7.12	6.32	5.73	6.35	4.90	4.36	3.94
28-6S	9.90	7.65	6.79	6.15	7.01	5.42	4.81	4.36
28-8P	8.21	6.35	5.64	5.11	5.35	4.13	3.67	3.32
28-8S	8.40	6.49	5.77	5.22	5.51	4.26	3.78	3.43
28-9P	8.49	6.56	5.83	5.28	5.62	4.35	3.86	3.50
28-9S	8.95	6.92	6.15	5.57	6.07	4.69	4.17	3.77
28-10P	9.95	7.69	6.83	6.19	7.05	5.45	4.84	4.38
28-10S	11.62	8.98	7.98	7.22	8.70	6.72	5.97	5.41
28-11P	8.86	6.85	6.08	5.51	5.94	4.69	4.08	3.69
28-11S	9.97	7.71	6.85	6.20	7.09	5.48	4.86	4.40
28-12P	9.07	7.01	6.22	5.64	6.18	4.78	4.24	3.84
28-12S	9.97	7.71	6.85	6.20	7.09	5.48	4.86	4.40
28-14P	8.84	6.84	6.07	5.50	5.92	4.58	4.06	3.68
28-14S	9.32	7.21	6.40	5.80	6.44	4.98	4.42	4.00

Shell Insert	MS/3108 A 1-9	A 10-49	A 50-99	A 100-999	MS/3108 B 1-9	B 10-49	B 50-99	B 100-999
28-15P	9.71	7.51	6.67	6.04	6.85	5.29	4.70	4.26
28-15S	10.66	8.24	7.32	6.62	7.79	6.02	5.35	4.84
28-16P	8.99	6.95	6.17	5.59	6.11	4.72	4.19	3.80
28-16S	9.07	7.01	6.22	5.64	6.18	4.78	4.24	3.84
28-17P	8.16	6.31	5.60	5.07	5.25	4.06	3.61	3.27
28-17S	8.49	6.56	5.83	5.28	5.62	4.35	3.86	3.50
28-18P	8.05	6.22	5.52	5.00	5.16	3.99	3.54	3.21
28-18S	8.44	6.52	5.79	5.24	5.50	4.29	3.81	3.45
28-19P	8.10	6.26	5.56	5.04	5.24	4.05	3.59	3.25
28-19S	9.07	7.01	6.22	5.64	6.18	4.78	4.24	3.84
28-20P	8.90	6.88	6.11	5.53	6.01	4.65	4.13	3.74
28-20S	9.49	7.34	6.52	5.90	6.59	5.09	4.52	4.09
28-21P	9.92	7.66	6.81	6.16	7.03	5.43	4.83	4.37
28-21S	10.75	8.31	7.38	6.68	7.88	6.09	5.41	4.90
28-22P	9.81	7.58	6.73	6.10	6.92	5.35	4.75	4.30
32-4S	11.12	8.59	7.63	6.91	7.57	5.85	5.19	4.70
32-5P	11.67	9.02	8.01	7.26	8.12	6.28	5.58	5.05
32-5S	12.38	9.57	8.50	7.69	8.84	6.84	6.07	5.50
32-6P	12.19	9.42	8.37	7.58	8.62	6.66	5.92	5.36
32-6S	15.15	11.71	10.40	9.42	11.62	8.98	7.98	7.22
32-7P	11.80	9.12	8.10	7.34	8.23	6.36	5.65	5.12
32-7S	13.65	10.55	9.37	8.49	10.08	7.79	6.92	6.27
32-8P	12.41	9.60	8.52	7.72	8.88	6.86	6.10	5.52
32-8S	12.51	9.67	8.59	7.77	8.97	6.94	6.16	5.58
32-9P	11.38	8.79	7.81	7.07	7.84	6.06	5.38	4.88
32-9S	12.27	9.48	8.42	7.62	8.70	6.72	5.97	5.41
32-12P	10.60	8.19	7.28	6.59	7.03	5.43	4.83	4.37
32-12S	11.91	9.21	8.18	7.41	8.38	6.48	5.75	5.21
32-13P	11.17	8.64	7.67	6.95	7.60	5.88	5.22	4.73
32-13S	12.03	9.30	8.26	7.48	8.47	6.55	5.82	5.27
32-15P	13.41	10.37	9.21	8.34	9.86	7.62	6.77	6.13
32-15S	14.25	11.01	9.78	8.86	10.69	8.27	7.34	6.65
32-17P	13.32	10.30	9.14	8.28	9.77	7.55	6.71	6.07
32-17S	14.08	10.88	9.66	8.75	10.56	8.17	7.25	6.57
32-414P	15.24	11.78	10.46	9.48	11.67	9.02	8.01	7.26
32-414S	18.61	14.39	12.78	11.57	15.06	11.64	10.34	9.36
36-1S	13.88	10.73	9.53	8.63	10.23	7.91	7.02	6.36
36-4P	15.06	11.64	10.34	9.36	11.43	8.84	7.85	7.11
36-4S	16.85	13.03	11.57	10.48	13.23	10.22	9.08	8.22
36-7P	14.73	11.38	10.11	9.15	11.10	8.58	7.62	6.90
36-7S	15.71	12.14	10.78	9.76	12.10	9.35	8.31	7.52
36-8P	14.43	11.15	9.91	8.97	10.79	8.34	7.40	6.70
36-8S	15.06	11.64	10.34	9.36	11.43	8.84	7.85	7.11
36-9P	16.17	12.50	11.10	10.05	12.51	9.67	8.59	7.77
36-9S	18.50	14.30	12.70	11.50	14.86	11.48	10.20	9.23
36-10P	14.30	11.05	9.82	8.89	10.66	8.24	7.32	6.62
36-10S	15.00	11.60	10.30	9.33	11.38	8.79	7.81	7.07
36-14P	17.30	13.37	11.87	10.75	13.69	10.58	9.40	8.51
36-14S	18.15	14.03	12.46	11.28	14.52	11.23	9.97	9.03
36-15P	12.93	10.00	8.88	8.04	9.31	7.19	6.39	5.78
36-15S	13.69	10.58	9.40	8.51	10.06	7.78	6.91	6.26
36-403P	16.17	12.50	11.10	10.05	12.51	9.67	8.59	7.77
36-403S	19.89	15.37	13.65	12.36	16.26	12.57	11.16	10.11
36-404P	71.95	13.87	12.32	11.16	14.30	11.05	9.82	8.89
36-404S	20.26	15.66	13.91	12.59	16.61	12.84	11.40	10.33
36-405P	20.24	15.64	13.89	12.58	16.58	12.81	11.38	10.30
36-405S	24.05	18.59	16.51	14.95	20.41	15.77	14.01	12.68

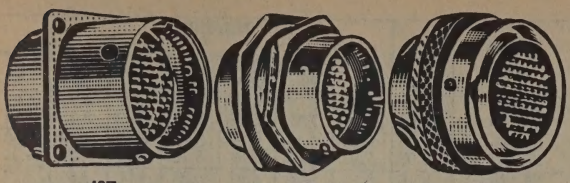
Amphenol MS Connectors Assembled to Your Order.

Fast delivery is assured. NEWARKS assembly dept. makes up and positions to your specifications any MS Amphenol connectors listed.

Type No's. stamped on part when specified.

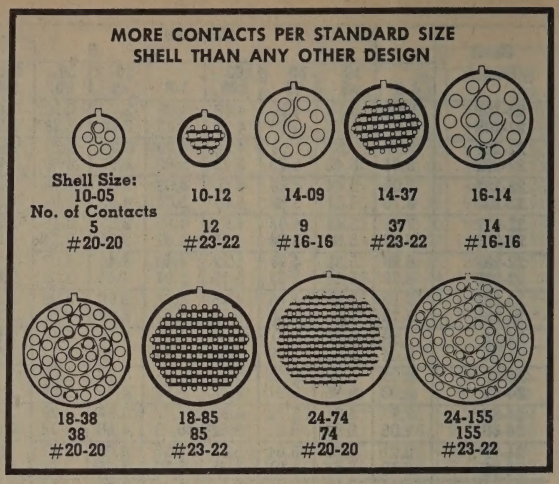
Saves you both Time and Money—Fast response to your needs.

Amphenol Astro/348 Connectors



40E SQUARE FLANGE | 43E "D" HOLE RECEPTACLE | 46E PLUG

A major improvement in removable crimped-contact connection systems. Meet MIL-C-81511 specs. Have .085" contact spacing. Superior design qualifies these connectors for use in all applications—even where size may not be of first decision importance. Provide full performance under extreme environment, vibration or shock. Removable crimp contacts, grounded shells and choice of standard or long construction. 'No-Scoop' design prevents pin damage. In two constructions: '50% No-Scoop' (standard) prevents scooping when pins are in receptacle shell (80% of all applications); '100% No-Scoop' (long) prevents scooping when pins are in either receptacle or plug—best used in blind mating. Types do not intermate. Crimp contacts are held in the molded one-piece retention disc by a rear nut; a twist of the nut releases them for wiring changes, a second twist locks them into place. Wiring changes are made by extracting or inserting contacts with the proper tool.



HOW TO ORDER ASTRO/348 CONNECTORS

348	–3	0	E	18	–85	S	1	(200)
A	B	C	D	E	F	G	H	J

A Series designation: 348.

B Construction. 3 is long style 100% No-Scoop design used for blind mating; can't damage contacts by wiping across a mating shell. Inadvertant pin-to-pin connection is prevented from damaging pin contacts. 4 is standard style 50% No-Scoop design suitable for most connection applications. No-Scoop protection is complete when pins are in receptable shell.

C Shell style. 0 is square flange receptacle. 1 is cable receptacle. 3 is single hole receptacle. 5 is solder flange (hermetically-sealed type) receptacle. 6 is straight plug.

D Class. E—environmental is standard. H—hermetic and P—potted are available on special order.

E Shell size. Sizes 08, 10, 14, 16 and 18 are standard. Size 24 is available by special order and only in long construction (100% No-Scoop).

F Insert arrangement. 03, 04, 05, 09, 12, 14, 27, 37, 38, 55 and 85 are standard. 07, 19, 21, 41, 74 and 155 available on special order only.

G Contact style. P—pin contact. S—socket contact.

H Indicates mating slot position. One only may be ordered.

J Deviations. (200)—with cable clamp. (201)—without contacts. Omit number if no clamp is desired.

Stock No.	Type No. 348—	Each 1-9	10-24	25-99
39F3226	30E10-05P1	20.41	18.62	16.83
39F3090	30E10-12P1	21.47	19.58	17.70
39F3227	30E14-09P1	20.97	19.13	17.29
39F3092	30E14-37P1	32.28	29.45	26.61
39F3093	30E14-37S1	37.13	33.87	30.61
39F3228	30E16-14P1	22.75	20.75	18.76
39F3094	30E16-27P1	25.34	31.11	20.89
39F3096	30E16-55P1	36.80	33.57	30.34
39F3097	30E16-55S1	44.26	40.37	46.49
39F3229	30E18-38P1	29.14	26.58	24.02
39F3098	30E18-85P1	39.16	35.73	32.29
39F3099	30E18-85S1	43.29	39.49	35.69
39F3230	30E24-74P1	45.09	41.13	37.18
39F3231	30E24-155P1	60.82	55.48	50.14
39F3232	30E24-155S1	83.63	76.29	68.95
39F3233	36E10-05P1	21.92	20.00	18.07
39F3234	36E10-05S1	21.66	19.76	17.86
39F3100	36E10-12P1	22.74	20.75	18.75
39F3101	36E10-12S1	21.30	19.43	17.56
39F3235	36E14-09P1	22.49	20.52	18.54
39F3246	36E14-09S1	24.90	22.72	20.53
39F3102	36E14-37P1	34.47	31.45	28.42
39F3103	36E14-37S1	39.65	36.21	32.72
39F3236	36E16-14P1	25.73	23.47	21.22
39F3237	36E16-14S1	28.27	25.79	23.30
39F3104	36E16-27P1	28.32	25.83	23.35
39F3105	36E16-27S1	32.61	29.74	26.88
39F3106	36E16-55P1	39.70	36.21	32.73
39F3107	36E16-55S1	47.18	43.04	38.90
39F3238	36E18-38P1	32.09	29.27	26.46
39F3239	36E18-38S1	38.65	35.25	31.86
39F3108	36E18-85P1	42.35	38.63	34.91
39F3109	36E18-85S1	51.83	50.93	46.03
39F3240	36E24-74S1	91.33	83.31	75.29
39F3241	36E24-155P1	71.65	65.36	59.07
39F3242	36E24-155S1	91.33	83.31	75.29
39F3243	40E10-05P1	21.76	19.85	17.94
39F3244	40E10-05S1	21.66	19.76	17.86
39F3245	40E10-12P1	22.96	20.95	18.93
39F3200	40E10-12S1	23.16	21.13	19.10
39F3201	40E14-09P1	22.14	20.20	18.25
39F3202	40E14-09S1	22.78	20.78	18.78
39F3203	40E14-37P1	33.15	30.24	27.33
39F3204	40E14-37S1	36.21	33.03	29.85
39F3205	40E16-14P1	24.09	21.97	19.86
39F3206	40E16-14S1	25.57	23.32	21.08
39F3207	40E16-27P1	26.72	24.38	21.31
39F3208	40E16-27S1	30.31	27.65	24.98
39F3209	40E16-55P1	37.78	34.47	31.15
39F3210	40E16-55S1	42.64	38.89	35.15
39F3211	40E18-38P1	30.15	27.50	24.86
39F3212	40E18-38S1	35.11	32.03	28.95
39F3213	40E18-85P1	40.14	36.16	33.09
39F3214	40E18-85S1	48.70	44.43	40.15
39F3112	43E14-37P1	27.15	24.76	22.38
39F3113	43E14-37S1	37.16	33.90	30.64
39F3116	43E16-55P1	39.36	35.91	32.45
39F3117	43E16-55S1	44.22	40.33	36.45
39F3118	43E18-85P1	41.05	37.44	33.84
39F3119	43E18-85S1	49.64	45.28	40.93
39F3215	46E10-05P1	20.47	18.67	16.87
39F3216	46E10-05S1	20.09	18.32	16.56
39F3120	46E10-12P1	21.44	19.56	17.68
39F3121	46E10-12S1	21.64	19.74	17.84
39F3217	46E14-09P1	21.79	19.87	17.96
39F3218	46E14-09S1	22.32	20.36	18.40
39F3122	46E14-37P1	33.00	30.10	27.21
39F2123	46E14-37S1	36.02	32.86	29.70
39F3219	46E16-14P1	24.01	21.90	19.80
39F3220	46E16-14S1	25.66	23.41	21.16
39F3124	46E16-27P1	26.54	24.21	21.88
39F3125	46E16-27S1	30.18	27.53	24.88
39F3126	46E16-55P1	37.82	34.50	31.18
39F3127	46E16-55S1	42.67	38.92	35.18
39F3221	46E18-38P1	27.77	25.33	22.89
39F3222	46E18-38S1	35.79	32.65	29.51
39F3128	46E18-85P1	40.99	37.39	33.79
39F3129	46E18-85S1	48.88	44.59	40.29

STRAIGHT CABLE CLAMPS

For long and standard styles. Provides strain relief for cable.

Stock No.	Type No. 348—	Shell Size	Each 1-9	10-24	25-99
42F802	260-10001	10	4.76	4.34	3.92
42F803	260-14001	14	4.93	4.50	4.06
42F804	260-16001	16	5.24	4.77	4.31
42F805	260-18001	18	5.27	4.81	4.34
42F806	260-24001	24	22.17	20.21	18.26

INSERTION CONTACT TOOLS

Stock No.	Contact Size	Amphenol Number	MIL MS No.	Each
39F3028	23-22	294-278	MS3323-22	12.31
39F3029	20-20	294-27	MS3320-20	12.94
39F3030	16-16	294-30	MS3320-16	14.06

PIN CONTACT REMOVAL TOOLS

Stock No.	Contact Size	Amphenol Number	MIL MS No.	Net Each
39F3031	23-22	294-286	MS3342-23	8.53
39F3032	20-20	294-28	MS3342-20	7.86
39F3033	16-16	294-31	MS3342-16	8.43

SOCKET CONTACT REMOVAL TOOLS

39F3034	23-22	294-287	MS3344-23	20.29
39F3035	20-20	294-29	MS3344-20	20.25
39F3036	16-16	294-32	MS3344-16	21.78

Ask about retaining caps, dummy receptacles plug and receptacle caps and sealing plugs available from stock. Specifications and prices available on request.

CRIMPING TOOLS

Amphenol No. 294-263 MIL No. MS3198 Contact Crimping Tool—4 notched indentors.
42F800. Net Each.....116.32

Amphenol No. 294-1551 Contact Locator—For use with above crimping tool.
42F801. Net Each.....15.70

Amphenol No. 294-1462, MIL No. MS3191-4 Daniels Crimping Pliers—For -16 or -20 contacts.
39F3233. Net Each.....121.46

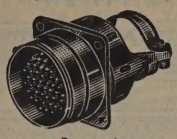
Amphenol No. 294-1722-01 Contact Locator—For use with Daniels crimping tool above.
39F3224. Net Each.....55.00

Amphenol No. 294-1718, MIL No. MS3191-4 Buchanan Crimping Pliers—For -16 or -20 contacts.
39F3225. Net Each.....121.46

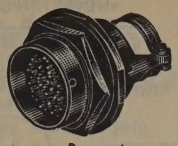
Amphenol 48 Series Miniature Connectors

SHELL TYPES

Bayonet Plug
48-16RXX-XXX
MS24266RXXBXXX



Bayonet
Square Flange Receptacle
4810RXXBXXX



Bayonet
Single Hole
Mounting Receptacle
48-13RXX-XXX
MS-24265RXXBXXX

FEATURES POKE HOME® CONTACTS

MIL-C-26500 connectors assure high altitude reliability, wide temp. range (200°C environmental resistance). Corrosion, ozone, moisture resistant. Min. insulation resistance, 1000 megs. Sand, dust resistant per MIL-E-5272. Withstand shock cycling −55°C to +260°C. Support 1500 V. RMS, 0 to 350,000 ft., mated. Per MIL-C-26636 standardized crimped wire terms.; aluminum shells; anti-deflection disk; integral insert, grommet; face seal, insert rim seal, shell peripheral seal; grommet double sealing risers for wire.

Insert Number in table, below, indicates shell size and contacts per diagrams at right; e.g., 48-10R10-5P, shell size 8 with 2—#20 contacts. (P, plug type; S, socket type).

Insert No.	48-10R			48-13R			48-16R		
	1-9	10-24	25-99	1-9	10-24	25-99	1-9	10-24	25-99
10-5P	15.01	13.49	11.97	18.90	16.98	15.07	18.58	16.70	14.82
10-5S	18.36	16.50	14.64	22.21	19.97	17.72	22.03	19.79	17.56
12-3P	19.72	17.72	15.72	21.93	19.71	17.49	22.15	19.91	17.67
12-3S	22.20	19.95	17.70	24.46	21.98	19.50	24.03	21.60	19.16
12-12P	19.21	17.27	15.32	21.41	19.24	17.07	21.58	19.40	17.21
12-12S	25.41	22.83	20.26	27.60	24.81	22.01	27.78	24.96	22.15
14-7P	19.12	17.18	15.25	22.15	19.91	17.67	23.13	20.79	18.45
14-7S	23.13	20.79	18.45	26.20	23.54	20.89	27.19	24.44	21.68
14-15P	19.07	17.14	15.21	22.06	19.82	17.59	21.95	19.72	17.50
14-15S	26.47	23.79	21.11	29.42	26.44	23.46	29.26	26.30	23.34
16-24P	20.97	18.84	16.72	24.70	22.19	19.69	25.19	22.63	20.08
16-24S	31.63	28.43	25.23	35.34	31.77	28.19	35.85	32.22	28.59
18-14P	24.21	21.75	19.30	27.16	24.41	21.66	29.15	26.20	23.35
18-14S	30.98	27.85	24.71	33.97	30.53	27.09	35.98	32.33	28.69
18-31P	24.06	21.63	19.19	26.88	24.15	21.43	27.46	24.68	21.90
18-31S	37.05	33.30	29.55	39.85	35.81	31.78	40.56	36.45	32.34
20-41P	27.03	24.30	21.56	32.66	29.35	26.04	31.65	28.44	25.24
20-41S	43.97	39.52	35.07	49.68	44.64	39.61	48.60	43.68	38.76
22-12P	32.82	29.49	26.17	36.51	32.82	29.12	38.36	34.48	30.59
22-12S	38.24	34.36	30.49	41.44	37.25	33.05	43.28	38.89	34.51
22-55P	29.89	26.87	23.84	33.13	29.78	26.42	34.19	30.73	27.27
22-55S	51.81	46.56	41.32	55.09	49.52	43.94	56.17	50.48	44.79
24-61P	37.54	33.74	29.94	44.38	39.89	35.39	43.91	39.46	35.02
24-61S	60.04	53.96	47.88	66.79	60.02	53.26	60.85	54.68	48.52

CABLE SUPPORT ASSEMBLY FOR SERIES 48

Cable clamps support cable or wire at the plug or receptacle and prevent twisting and pulling. Accommodates shell sizes from 8 through 24.

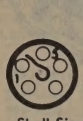
Mfr's Type 48-	Shell size	Length (Inches)	I.D. (Inches)	EACH		
				1-9	10-24	25-99
2840	8	.935	.180	1.82	1.63	1.45
2341	10	.935	.270	1.82	1.63	1.45
2342	12	.935	.400	1.82	1.63	1.45
2343	14	1.170	.460	1.82	1.63	1.45
2344	16	1.170	.610	1.71	1.53	1.36
2345	18	1.170	.690	1.90	1.70	1.51
2643	20	1.170	.830	1.82	1.63	1.45
2346	22	1.170	.940	1.86	1.68	1.49
2644	24	1.170	1.040	2.37	2.13	1.89

OPEN RIGHT ANGLE CABLE SUPPORT

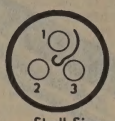
Allow right angle turns with added protection for the cable or wire. Have a strap to protect the wires at the right angle turns.

Part Number			Dimensions-Maximum				
Size	Amphenol	MS	A Dia.	B	C	D	E Thread UNEF-2B
10	48-2222-10200	MS27559-2	.797	1.293	1.049	.328	9/16-24
12	48-2222-12200	MS27559-3	1.016	1.293	1.248	.328	3/4-20
14	48-2222-14200	MS27559-4	1.110	1.460	1.330	.452	13/16-20
16	48-2222-16200	MS27559-5	1.234	1.460	1.447	.508	15/16-20
18	48-2222-18200	MS27559-6	1.360	1.561	1.577	.571	1 1/16 18
20	48-2222-20200	MS27559-7	1.485	1.732	1.698	.748	1 3/16-18
22	48-2222-22200	MS27559-8	1.610	1.732	1.819	.748	1 5/16-18
24	48-2222-24200	MS27559-9	1.735	2.000	1.945	.996	1 7/16-18

INSERTS AVAILABLE



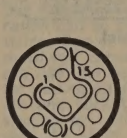
Shell Size
10
MS-24260
5—#20 Contacts
Insert 10-5*



Shell Size
12
MS-24260
3—#16 Contacts
Insert 12-3

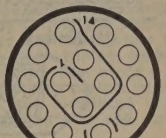
Shell Size
12
MS-24260
12—#20 Contacts
Insert 12-12*

Shell Size
14
MS-24260
7—#16 Contacts
Insert 14-7*



Shell Size
14
MS-24260
15—#20 Contacts
Insert 14-15*

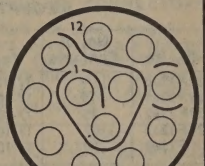
Shell Size
16
MS-24261
24—#20 Contacts
Insert 16-24*



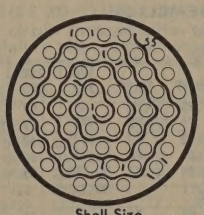
Shell Size
18
MS-24262
14—#16 Contacts
Insert 18-14

Shell Size
18
MS-24262
31—#20 Contacts
Insert 18-31*

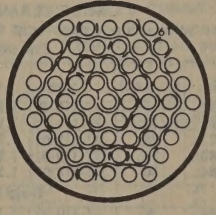
Shell Size
20
41—#20 Contacts
Insert 20-41*



Shell Size
22
MS-24263
12—#20 Contacts
Insert 22-12†



Shell Size
22
MS-24263
55—#20 Contacts
Insert 22-55*

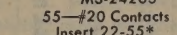


Shell Size
24
61—#20 Contacts
Insert 24-61*

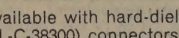
*Available with hard-dielectric face socket inserts for Ultra-Mate (MIL-C-38300) connectors. Pin inserts for MIL-C-38300 connectors have a resilient face and, except for marking, are identical to MIL-C-26500 pin inserts.

†Shielded contact is interchangeable with #12 power contact.

294 SERIES INSERTION AND REMOVAL TOOLS



MIL-C-26500
MIL-C-38300
Insertion Tool

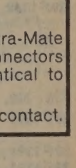


MIL-C-26500
Removal Tool

For inserting and removing contacts from Series 48 Amphenol connectors.

294-88. Insertion Tool.....9.38
294-89. Removal Tool.....9.49

MS3191 CONTACT CRIMPING TOOL

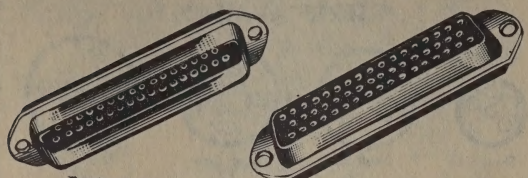


Easy to use manually operated, full-cycle crimping tool specially designed for use with Number 48 Series Amphenol connectors. Convenient tool includes positioners for Nos. 20, 16 and 12 contacts. 294-126. Crimping Tool.

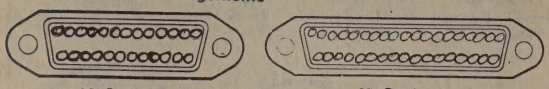
NET.....EACH 108.46

Amphenol Min Rac Pin & Socket Connectors

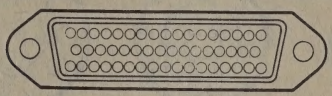
FOUR NEW FAMILIES COMPLETE THIS LINE OF POPULAR RACK + PANEL CONNECTORS



Contact Arrangements



25 Contact 37 Contact



50 Contact

ORIGINAL POKE-HOME MINRAC 17 FAMILY

Exclusive Amphenol miniature weight-saving connectors with removable Poke-Home (solder-type) contacts. Has versatility for circuit and design changes. Contacts are gold-over-copper plated brass, rated 7.5 amps, -55°C to 125°C.

RECEPTACLES Chromate finish

Stk. No.	No. of Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F1360	9	17-10090	1.71	1.55	1.29	1.03	.99	.86
39F1361	15	17-10150	2.45	2.23	1.84	1.47	1.35	1.23
39F1362	25	17-10250	3.64	3.30	2.73	2.20	2.00	1.83
39F1363	37	17-10370	5.18	4.68	3.86	3.11	2.81	2.58
39F1364	50	17-10500	6.61	6.00	4.95	3.99	3.64	3.33

PLUGS Chromate finish

39F1370	9	17-20090	1.25	1.13	.94	.75	.69	.63
39F1371	15	17-20150	1.71	1.55	1.29	1.03	.95	.86
39F1372	25	17-20250	2.41	2.18	1.79	1.44	1.30	1.19
39F1373	37	17-20370	3.30	3.00	2.49	2.00	1.78	1.64
39F1374	50	17-20500	4.20	3.82	3.15	2.53	2.31	2.11

CABLE CLAMP ASSEMBLIES

For use with either receptacle or plug

Chromate fin.

Stk. No.	Contact	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F1380	9	17-310-01	1.13	.95	.76	.68	.57	.52
39F1381	15	17-311-01	1.18	.99	.78	.71	.59	.54
39F1382	25	17-312-01	1.24	1.02	.82	.74	.62	.57
39F1383	37	17-313-01	1.28	1.07	.86	.77	.64	.59
39F1384	50	17-314-01	1.31	1.09	.87	.79	.65	.60
		Gold iridite						
39F1385	9	17-310-02	1.13	.95	.76	.68	.57	.52
39F1386	15	17-311-02	1.18	.99	.78	.71	.59	.54
39F1387	25	17-312-02	1.24	1.02	.82	.74	.62	.57
39F1388	37	17-313-02	1.28	1.07	.86	.77	.64	.59
39F1389	50	17-314-02	1.31	1.09	.87	.79	.65	.60

MIN RAC LOCKING ASSEMBLIES

For positive latching in cable to panel applications.

Stk. No.	Type	Use With	1-9	10-49	50-99	100-249	250-499	500-999
39F1390	17-529	All except 50 cont. spring	.65	.59	.49	.40	.36	.30
39F1391	17-768	All sizes screw	.72	.65	.54	.44	.40	.33
39F1392	17-770	50 cont. spring	.65	.59	.49	.40	.36	.30

•NEW FIXED PIN MINRAC 17

Rated 7.5 amps at 500V (RMS). -55°C to 125°C.

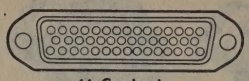
PLUGS

39F3050	9	17-80090-16	1.65	1.49	1.23	.99	.91	.83
39F3051	15	17-80150-16	2.41	2.18	1.81	1.45	1.33	1.21
39F3052	25	17-80250-16	3.66	3.32	2.75	2.21	2.02	1.85
39F3053	37	17-80370-16	5.15	4.64	3.83	3.09	2.78	2.55
39F3054	50	17-80500-16	6.60	6.00	4.94	3.99	3.62	3.31

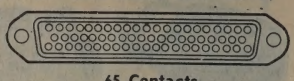
RECEPTACLE

39F3055	9	17-90090-16	1.15	1.04	.86	.69	.63	.58
39F3056	15	17-900150-16	1.62	1.47	1.22	.98	.89	.82
39F3057	25	17-900250-16	2.34	2.12	1.76	1.41	1.29	1.18
39F3058	37	17-900370-16	3.20	2.90	2.40	1.93	1.76	1.61
39F3059	50	17-900500-16	4.15	3.76	3.11	2.50	2.29	2.09

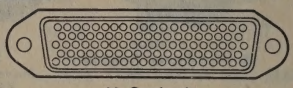
•NEW HIGH DENSITY TYPE (POKE HOME CONTACTS)



44 Contacts



65 Contacts



98 Contacts

Provide from 50% to nearly 100% more circuits in same size shell as regular commercial line. Temperature range -55 C to 125 C. Current Rating 3.0 amps. Voltage Rating 500V (RMS) at sea level, 75V (RMS) at 70,000 ft. Dielectric glass filled nylon. Dimensions and mtng. information same as rest of Poke-Home line.

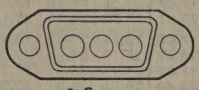
PLUGS

Stk. No.	Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F2120	14	17-80140-1	2.93	2.41	2.07	1.95	1.71	1.63
39F2122	26	17-80260-1	4.34	3.11	2.91	2.61	2.61	2.29
39F2124	44	17-80440-1	6.29	4.32	4.16	3.66	3.66	3.23
39F2126	65	17-80650-1	6.99	5.79	5.09	4.91	4.91	4.25
39F2128	98	17-80980-1	9.78	8.04	7.06	6.85	6.85	5.95

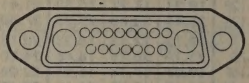
RECEPTACLES

39F2121	14	17-90140-1	2.28	1.91	1.72	1.60	1.41	1.35
39F2123	26	17-90260-1	2.70	2.51	2.37	2.11	1.97	1.89
39F2125	44	17-90440-1	4.39	3.31	3.17	2.80	2.66	2.49
39F2127	65	17-90650-1	4.81	4.28	3.79	3.64	3.35	3.13
39F2129	98	17-90980-1	6.57	5.84	5.17	4.99	4.61	4.32

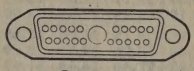
•NEW POWER/COAX TYPE (POKE HOME CONTACTS)



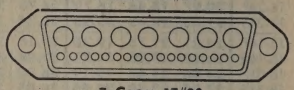
3 Coax



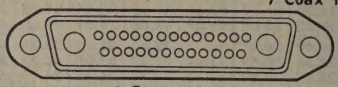
2 Coax 15#20



1 Coax, 20#20



7 Coax 17#20



2 Coax 25#20

For a wide range of applications the power and coax line offer shielded or coax cable termination along with power circuits. Permits a RF signal without interference. Rated 7.5 amps max. at 500V (RMS). Both power and coax contacts are removable, therefore field repairable.

PLUGS

Stk. No.	Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F3060	3	17-80003-1	1.52	1.37	1.21	1.10	.99	.88
39F3061	1	17-80201-1	2.88	2.59	2.30	2.08	1.87	1.65
39F3062	2	17-80152-1	2.96	2.66	2.37	2.15	1.93	1.71
39F3063	2	17-80252-1	3.86	3.46	3.16	2.87	2.57	2.27
39F3064	7	17-80177-1	2.32	2.09	1.86	2.15	1.51	1.34
		RECEPTACLE						
39F3065	3	17-90003-1	1.21	1.09	.97	.87	.78	.69
39F3066	1	17-90201-1	1.94	1.75	1.50	1.41	1.26	1.12
39F3067	2	17-90152-1	1.87	1.68	1.49	1.35	1.21	1.07
39F3068	2	17-90252-1	2.34	2.10	1.92	1.74	1.56	1.38
39F3069	7	17-90177-1	2.00	1.80	1.60	1.45	1.30	1.15

•NEW ENCAPSULATED MINRAC 17

Rated 7.5 amps at 500V (RMS). -55C to 125C.

PLUGS

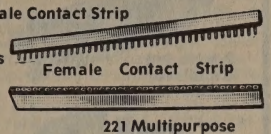
Stk. No.	Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F2110	9	17-10090-1(390)	1.75	1.59	1.31	1.06	.97	.88
39F2112	15	17-10150-1(390)	2.48	2.25	1.86	1.49	1.36	1.25
39F2114	25	17-10250-1(390)	3.62	3.28	2.71	2.18	1.99	1.82
39F2116	37	17-10370-1(390)	5.20	4.70	3.89	3.13	2.82	2.60
39F2118	50	17-10500-1(390)	6.63	6.00	4.96	4.00	3.65	3.34

RECEPTACLES

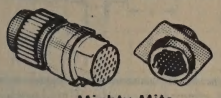
39F2111	9	17-20090-1(390)	1.29	1.17	.97	.78	.72	.66
39F2113	15	17-20150-1(390)	1.76	1.59	1.32	1.06	.97	.88
39F2115	25	17-20250-1(390)	2.42	2.19	1.80	1.45	1.30	1.20
39F2117	37	17-20370-1(390)	3.36	3.04	2.52	2.02	1.79	1.65
39F2119	50	17-20500-1(390)	4.24	3.84	3.18	2.55	2.33	2.14

Choose From These Micro Miniature Shells Then Pick The Contact You Need
All Connectors Supplied Less Contacts

220 Micro Rac Connectors

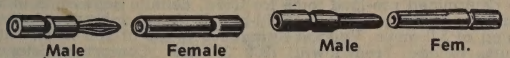


221 Multipurpose Strip Connectors



Mighty-Mite
Type 222 Plug and Jack Illustrated with Wireform Contacts

223 Tiny Tim Rack and Panel Connectors



"Wire-Form" "Relia-Tac"

INDIVIDUAL "WIRE-FORM" (3 AMPS) AND "RELIA-TAC" 24, 26, 28 CONTACTS

For Series 220-223 rated 3 amps. Both 24, 26, 28 solid wire; or stranded wire. Wire Form male gold clad copper alloy wire members in copper sleeves both male and female. Size, .403 x .050". Relia-Tac: Male—.389 x .050". Female—.404 x .050". Guide pins fit either type. Note: Relia-Tac does not mate with Wire-Form.

Stk. No.	Type	Description	Per Package of 100			
			1-9	10-49	50-99	100-249
39F1403	220-P01	Wire-Form Male	7.50	6.60	5.50	4.90
39F1403	220-S01	Wire-Form Female	3.30	3.00	2.50	2.20
39F1400	220-P02	Relia-Tac Male	6.30	5.50	4.70	4.00
39F1401	220-S02	Relia-Tac Female	15.80	13.80	11.90	10.30

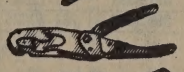
CRIMP TOOL BUSHINGS FOR MOD. 357-100, 104

Stk. No.	Type	For Contact	Net
39F1269	357-300-1	220-SO1,SO2, 220-PO1	18.50
39F1270	357-300-8	220-PO2	18.50

MIN-RAC 17, WIREFORM, & RELIA-TAC CONTACT TOOLS

357-100

Model 357-100 Crimp tool for miniature contacts. Adjustable 4-indent miniature to MIL-T-22520. Requires contact locator bushing for specific contact used, make selection from bushing list below.
39F3044. NET **95.00**



357-552

Model 357-104. Crimp tool with miniature step adjustable; requires contact locator bushing, make selection below.
39F1268. NET **92.50**

Model 357-552. For RG-178/U, crimp tool for coax contacts. Cycle controlled hex. crimp action for reliable termination of outer ferrule.
39F3045. NET **105.00**

Model 357-553. For RG-195/, crimp tool.
39F3046. NET **105.00**

Model 356-200. Insertion and removal tool used with bits below for specific contact.
39F1262. NET **3.25**

CONTACT INSERTION AND REMOVAL BITS FOR TOOL 356-200

Stk. No.	Type	For Contact	Function	Net
39F3037	356-400-1	17-763, 766	Insertion	9.50
39F3038	356-400-5	17-763	Removal	5.25
39F3039	356-400-6	17-766	Removal	4.50
39F3040	356-400-7	17-1112,1132	Removal	4.50
39F3041	356-400-8	17-1113,1130	Removal	4.50
39F3042	356-400-2	17-1130-1132	Insertion	11.50
39F3043	356-400-3	17-1112,1113	Insertion	6.50
39F1263	356-400-11	220-SO1-PO1 220-SO2,PO2	Insertion	5.50
39F1264	356-400-12	220-SO1	Removal	5.60
39F1265	356-400-13	220-PO1	Removal	4.50
39F1266	356-400-14	220-SO2	Removal	5.00
39F1267	356-400-15	220-PO2	Removal	4.75

SERIES 220 "MICRO,RAC"™ CONNECTORS

High density, cable to cable. Panel to cable & rack to panel terminations. Polarized mono block construction contact identification numbers molded in 52 contact size. 1.888"L x .677"W. 1.492 mounting centers 104 contact 3.017 x.677 x 2.611 mounting centers. Less contacts right. Av. wt. 1½ oz.

Stk. No.	Type	Contacts	Description	Each			
				1-9	10-49	50-99	100-249
39F1405	220-1N052	52	Plug	1.77	1.42	1.24	1.06
39F1406	220-2N052	52	Receptacle	1.54	1.23	1.08	.92
39F1407	220-5	52	Cable Clamp	1.38	1.10	.97	.83
39F1408	220-1N104	104	Plug	2.20	1.76	1.54	1.32
39F1409	220-2N104	104	Receptacle	1.91	1.53	1.34	1.15
39F1410	220-6	104	Cable Clamp	1.43	1.14	1.00	.86

SERIES 221 MICRO-MINIATURE STRIP CONNECTORS

Use full length as is or cut to specific length. Almost any configuration can be produced quickly and easily by cutting and stacking strips. Two or more strips can be stacked or epoxied together for multi-row connector. When stacked layer to layer, contact centers are .100" for both connectors. Used guide pins at least every 3 in. for mating alignment as well as keying. Guide pins replace both a pin and socket contact; also one contact hole is utilized when staking or cutting connector. Supplied less contacts and guide pins. Av. shpg. wt. 1 oz.

Stk. No.	Type	Contacts	Description	Spacing	Each			
					1-9	10-49	50-99	100-249
39F1411	221-1560	60	6" Plug	.100"	.75	.64	.56	.53
39F1412	221-1660	60	6" Recept.	.100"	.62	.53	.47	.44
39F1413	221-2553	53	4" Plug	.075"	.66	.57	.49	.46
39F1414	221-2653	53	4" Recept.	.075"	.57	.48	.43	.40

SERIES 222 "MIGHTY MITE" CIRCULAR CONNECTORS

Highly reliable micro miniature connectors for cable-to-cable or cable-to-chassis applications. .085" centers. Five keys are molded into connector to insure proper alignment. Contact identification numbers molded into the polycarbonate resin dielectric. 19 contact size, .621" dia. x 2.618" long: 31 contact., 745" x 2.948"; 61 contact .966" x 3.530". Less contacts right. Av. shpg. wt. 1½ oz.

Stk. No.	Type	Contacts	Description	Each			
				1-9	10-49	50-99	100-249
39F1416	222-11N19	19	Plug	1.00	.83	.67	.57
39F1417	222-12N19	19	Receptacle	.80	.67	.54	.46
39F1418	222-518	19	Cable Clamp	1.68	1.39	1.13	.96
39F1419	222-11N31	31	Plug	1.00	.82	.66	.57
39F1420	222-12N31	31	Receptacle	.80	.66	.54	.46
39F1421	222-519	31	Cable Clamp	1.80	1.48	1.20	1.02
39F1423	222-12N61	61	Receptacle	.85	.71	.57	.49
39F1424	222-520	61	Cable Clamp	4.10	3.39	2.74	2.33

SERIES 223 "TINY TIM" RACK AND PANEL CONNECTORS

For circuit modules either potted in or surface mounted; micro miniature cable-to-cable use. Meets MIL-C-8384B. Contact spacing .100" centers on each row. Screw mount. Less contacts right. Wt. 1½ oz.

Stk. No.	Type	Contacts	Description	Mts. Ctrs.	Each			
					1-9	10-49	50-99	100-249
39F1425	223-1105	5	Plug	.593"	.60	.50	.41	.35
39F1426	223-1205	5	Recept.	.593"	.57	.48	.38	.33
39F1427	223-1109	9	Plug	.793"	.53	.44	.35	.30
39F1428	223-1209	9	Recept.	.793"	.57	.48	.38	.33
39F1429	223-1117	17	Plug	1.193"	.62	.52	.42	.36
39F1430	223-1217	17	Recept.	1.193"	.60	.49	.39	.34

MULTICONTACT PLUGS AND SOCKETS

Shielded cable and chassis connectors. Non rotating gold over silver plated contacts. Interlocking barriers prevent shorting. 900 V, 60 Hz AC. *Insert only; all others with can. "S" in desc. column-cable type, "B"-chassis type. Av. shpg. wt. 3 oz.

11 CONTACTS

Stock No.	Type	Contacts #16	Contacts #20	Deso.	Each 1-49	Each 50-99	Each 100-249
39FX050	126-804*	2	9	B—plug	1.03	.81	.67
39FX051	126-805*	2	9	B—socket	1.06	.84	.70
39FX052	126-809	2	9	A—plug	1.68	1.32	1.10
39FX053	126-808	2	9	A—socket	1.72	1.36	1.13

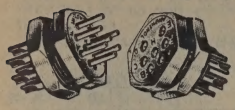
15 CONTACTS

39FX054	126-151*	3	12	B—plug	1.36	1.07	.88
39FX055	126-150*	3	12	B—socket	1.03	.81	.67
39FX056	126-152	3	12	A—plug	2.63	2.08	1.72
39FX057	126-153	3	12	A—socket	2.05	1.62	1.35

20 CONTACTS

39FX058	126-806*	4	16	B—plug	1.63	1.28	1.06
39FX059	126-807*	4	16	B—socket	1.30	1.02	.85
39FX060	126-811	4	16	A—plug	2.61	2.06	1.71
39FX061	126-810	4	16	A—socket	2.28	1.80	1.49

MINIATURE CONNECTORS



For inter-connecting miniature equipment. Uses inter-changeable brass hardware and gold-finished contacts. Type 1-105 dielectric body molds, silver plated bases. For No. 20 AWG or No. 22 JAN-C-76 wire. Has 5/8" threaded body with hex nut for panel mounting. Ship wt., 2 oz.

Stock No.	Mfr. Type	Contacts	Description	1-49	50-99	100-249
42FX100	126-010	5	Chassis Plug	.73	.59	.48
42FX101	126-011	5	Chassis Socket	1.16	.92	.77
42FX104	126-191	7	Chassis Plug	.86	.68	.56
42FX105	126-192	7	Chassis Socket	1.47	1.16	.97
42FX102	126-012	9	Chassis Plug	.99	.79	.65
42FX103	126-013	9	Chassis Socket	1.82	1.44	1.20
42FX108	126-1063	Hood and clamp assembly		.60	.48	.40
42FX109	126-1064	Locking sleeve for cord conn.		.35	.27	.23
42FX110	126-1069	Clip retainer for chassis unit		.06	.05	.04

WITH HOOD AND CLAMP

Stock No.	Mfr. Type	Cont.	Desc.	1-49	50-99	100-249
42FX119	126-215	4	Socket	1.47	1.16	.96
42FX120	126-217	5	Plug	1.60	1.27	1.06
42FX121	126-223	5	Socket	2.07	1.64	1.37
42FX122	126-195	7	Plug	1.76	1.40	1.16
42FX123	126-196	7	Socket	2.38	1.88	1.57
42FX124	126-220	9	Plug	1.90	1.50	1.25
42FX125	126-222	9	Socket	2.72	2.16	1.79

WITH LOCKING CLIP

42FX112	126-214	4	Plug	.87	.69	.57
42FX113	126-216	5	Plug	.78	.62	.52
42FX114	126-218	5	Socket	1.24	.98	.82
42FX115	126-197	7	Plug	.92	.73	.62
42FX116	126-198	7	Socket	1.55	1.23	1.03
42FX117	126-219	9	Plug	1.06	.85	.70
42FX118	126-221	9	Socket	1.90	1.50	1.25

SERIES 143 PRIN-CIR CONNECTORS

Fit .054"-.070" circuit boards or series 133 plugs. Gold-plated silver contacts have only 5 millivolt drop at 2 amps, readily withstand repeated insertions. Contacts are on .156" centers except for 28-cont. style which has .125" centers. Last 2 digits in type no. indicate contact style: —01 eyelet; —02 lug; —03 pin. Card insertion depth .333", height .458", weight 3 oz.

Stock No.	Type No.	Cont.	1-49	50-99	100-249	250-999	1M-2499
42F304	143-006-01	6	1.04	.87	.73	.63	.56
42F300	143-010-01	10	1.16	.97	.82	.70	.62
42F308	143-012-01	12	1.21	1.01	.85	.73	.64
42F301	143-015-01	15	1.25	1.04	.88	.75	.67
42F302	143-018-01	18	1.44	1.20	1.01	.86	.77
42F303	143-022-01	22	1.68	1.41	1.18	1.01	.90
42F306	143-022-02	22	1.81	1.51	1.27	1.09	.97
42F309	143-006-03	6	1.14	.96	.80	.69	.61
42F310	143-010-03	10	1.29	1.08	.91	.78	.69
42F311	143-012-03	12	1.33	1.11	.93	.80	.71
42F312	143-015-03	15	1.37	1.15	.96	.83	.73
42F313	143-018-03	18	1.58	1.32	1.11	.95	.84
42F314	143-022-03	22	1.87	1.57	1.31	1.13	1.00
39F1479	143-022-12	22	1.87	1.57	1.31	1.13	1.00
42F305	143-953	Polarizing key for above. NET					.02

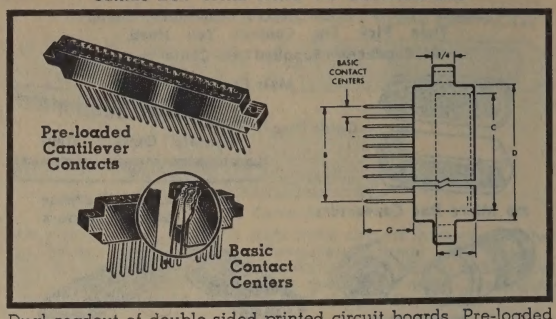
SERIES 133—MATES FOR SERIES 143

Double tail solder type, rated 600V RMS. 5 amp. Ht. .458".

Stock No.	Type No.	Cont.	1-49	50-99	100-249	250-999	1M-2499
42F316	133-010-03	10	1.93	1.62	1.36	1.16	1.03
42F317	133-012-03	12	2.23	1.86	1.56	1.34	1.19
42F318	133-015-03	15	2.27	1.90	1.59	1.36	1.21
42F319	133-018-03	18	2.64	2.21	1.85	1.59	1.41
42F320	133-022-03	22	2.77	2.31	1.94	1.66	1.48
42F307	133-006-03	6	1.73	1.44	1.21	1.04	.92
42F196	133-006-21	6	1.77	1.48	1.24	1.06	.94
42F136	133-010-21	10	2.00	1.67	1.40	1.20	1.07
42F137	133-015-21	15	2.39	2.00	1.68	1.44	1.28
42F138	133-018-21	18	2.70	2.26	1.90	1.63	1.44
42F139	133-022-21	22	2.93	2.45	2.06	1.76	1.57

You Can Depend on NEWARK For Everything in Industrial Electronics

SERIES 261 WIRE-WRAP PC CONNECTORS



Dual readout of double-sided printed circuit boards. Pre-loaded cantilever-type contacts are assembled into dielectric with precise spacing for automatic solderless wrap terminations. Tail length is sufficient for three wire wraps plus space for bussing or PC board next to block. Contacts are confined in dielectric to determined pre-load force for fixed, definite separation eliminating possibility of shorts. Gold-plated phosphor bronze contacts rated at 5.0 amps. Voltage rating: 300 V rms at sea level. Minimum voltage breakdown: 1800 V rms. Contact resistance: 6.0 milliohms max. .025" square tail, with 50001-type contact. Key replaces one pair of contacts. See dimensions in tables below. **Dimension 'A' is overall length; 'E' is to mounting centers.**

.100" CENTER*

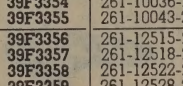
Contacts	A	B	C	D	E
15	2.474	1.400	1.720	1.874	2.156
18	2.774	1.700	2.020	2.174	2.456
22	3.174	2.100	2.420	2.574	2.856
30	3.974	2.900	3.220	3.374	3.656
36	4.574	3.500	3.820	3.974	4.256
43	5.274	4.200	4.520	4.674	4.956

.125" CENTER†

15	2.824	1.750	2.070	2.224	2.506
18	3.199	2.125	2.445	2.599	2.881
22	3.699	2.625	2.945	3.099	3.381
28	4.449	3.375	3.695	3.849	4.131
36	5.449	4.375	4.695	4.849	5.131
43	6.324	5.250	5.570	5.724	6.006

Stock No.	Mfr's Type	No. Contacts	EACH 1-49	50-99	100-249	250-999	1000-Up
39F3350	261-10015-2	15*	2.44	2.05	1.72	1.47	1.30
39F3351	261-10018-2	18*	2.80	2.34	1.97	1.68	1.49
39F3352	261-10022-2	22*	3.27	2.74	2.29	1.97	1.74
39F3353	261-10030-2	30*	4.09	3.42	2.87	2.46	2.18
39F3354	261-10036-2	36*	4.75	3.97	3.38	2.86	2.53
39F3355	261-10043-2	43*	5.53	4.62	3.88	3.32	2.95
39F3356	261-12515-2	15†	2.24	2.05	1.72	1.47	1.30
39F3357	261-12518-2	18†	2.80	2.34	1.97	1.68	1.49
39F3358	261-12522-2	22†	3.27	2.74	2.29	1.97	1.74
39F3359	261-12528-2	28†	4.09	3.42	2.87	2.46	2.18
39F3360	261-12536-2	36†	4.75	3.97	3.33	2.86	2.53
39F3361	261-12543-2	43†	5.53	4.62	3.48	3.32	2.95
39F3362	261-70005	Pol. key	.02	.02	.02	.02	.02

PRINTED CIRCUIT CONTACTS

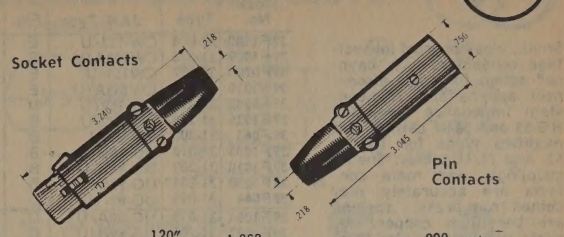


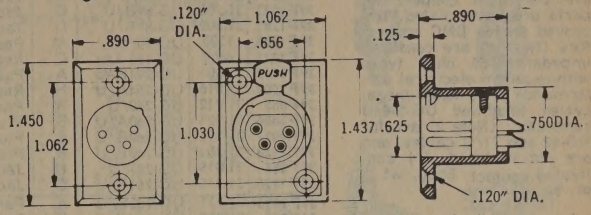
Double spring action and a wide flexing range insure positive contact and non-wearing insertion of printed circuits. Double plating of contact surface provides protection against deterioration. One piece connector body is made of flame-retardent diallyl phthalate glass fiber. Voltage is between adj. contacts—1800 VAC (RMS), Insulation Res. 5,000 megs. Contact spacing—.156" centers. Contact: Material-Beryllium copper or phosphor bronze (1150) all have .128" clearance holes, all have two rows of independent contacts. Solder terminals conform to (MIL-C-Z1097).

Stk. No.	Type 225-	No. Cont.	Tail Style	1-24	25-99	100-249	250-999	M-2499
39F1482	20621-101	6/12	Eyelet	1.25	1.04	.88	.75	.67
39F1483	20621-103	6/12	Str. Dip. Sol.	1.25	1.04	.88	.75	.67
39F1484	20621-105	6/12	Rt. angle Dip	1.37	1.15	.96	.83	.73
39F1485	21021-101	10/20	Eyelet	1.66	1.39	1.17	1.00	.89
39F1486	21021-103	10/20	Str. Dip. Sol.	1.66	1.39	1.17	1.00	.89
39F1488	21521-101	15/30	Eyelet	2.31	1.93	1.62	1.39	1.23
39F1489	21521-103	15/30	Str. Dip. Sol.	2.31	1.93	1.62	1.39	1.23
39F1490	21521-105	15/30	Rt. angle Dip	2.70	2.26	1.90	1.63	1.44
39F1491	21821-101	18/36	Eyelet	2.68	2.24	1.88	1.61	1.43
39F1492	21821-103	18/36	Str. Dip. Sol.	2.68	2.24	1.88	1.61	1.43
39F1494	22221-101	22/44	Eyelet	2.95	2.47	2.07	1.78	1.58
39F1495	22221-103	22/44	Str. Dip. Sol.	2.95	2.47	2.07	1.78	1.58
39F1496	22221-105	22/44	Rt. angle Dip	3.62	3.03	2.54	2.18	1.93
39F1497	22821-101	28/56	Eyelet	4.95	4.14	3.47	2.98	2.64
39F1498	22821-103	28/56	Str. Dip. Sol.	4.95	4.14	3.47	2.98	2.64

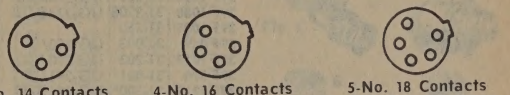
Amphenol Audio Connectors

New! Excellite™ Microphone Plugs and Receptacles. Totally new concept in low-level circuit cable connectors. Designed for use with streamlined modern audio equipment. Shells are made of rugged, high-impact strength, molded ABS thermoplastic. Same as used in football helmets, telephones etc. Lighter in weight, lower in cost and interchangeable with all industry standards. Push-button lock and release; positive-gripping, full circumference cable clamps hold up to 5/16" O.D. cable. Unitized removable inserts of high impact thermo-plastic; screw machine brass contacts silver plated for top performance. Black rubber cable boot. Voltage rating, Test: 1400V (RMS); Service: 133 (RMS).





Standard Contact Arrangement (Face view—Pin Insert)



3-No. 14 Contacts Rated at 15 Amps

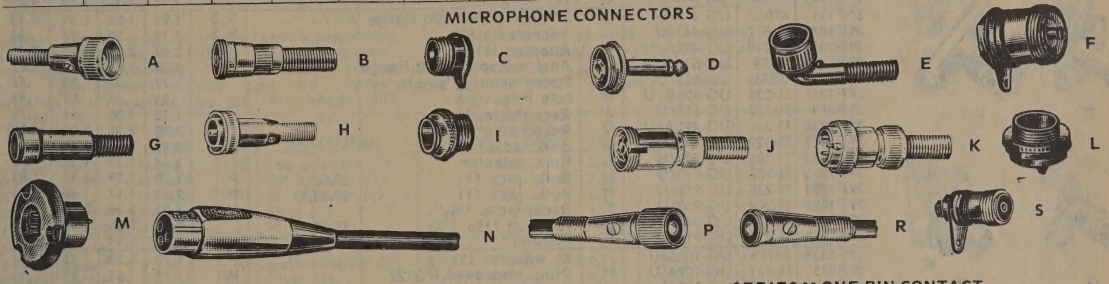
4-No. 16 Contacts Rated at 10 Amps

5-No. 18 Contacts Rated at 7.5 Amps

Male Plug

Stock No.	Type	Contacts	1-49	50-99	100-249	250-499	500-999
39F3004	91-453	3	1.20	1.02	.90	.78	.74
39F3005	91-457	4	1.33	1.14	.99	.86	.81
39F3006	91-461	5	2.12	1.83	1.62	1.40	1.25
FEMALE PLUG							
39F3005	91-454	3	1.42	1.20	1.07	.92	.87
39F3008	91-458	4	1.80	1.50	1.34	1.16	1.10
39F3009	91-462	5	3.10	2.62	2.32	2.02	1.90
MALE RECEPTACLE							
39F3010	91-455	3	1.09	.92	.80	.70	.66
39F3011	91-459	4	1.30	1.10	.96	.84	.78
39F3012	91-463	5	1.65	1.42	1.23	1.07	1.02
FEMALE RECEPTACLE							
39F3013	91-456	3	1.78	1.69	1.47	1.29	1.21
39F3014	91-460	4	1.90	1.62	1.41	1.28	1.16
39F3015	91-464	5	2.80	2.40	2.10	1.82	1.71

MICROPHONE CONNECTORS



"QUIK-MIKE" MICROPHONE CONNECTORS

Figs. M & N. Body is high grade zinc alloy. Gold plated contacts for easy soldering. Nickel finish insures resistance to corrosion. M —Male; F—Female. Ave. shpg. wt. 5 oz.

Stk. No.	Type	Con.	Desc.	1-49	50-99	100-249	200-499	500-999
39F151	91-853	3M	Plug	1.89	1.62	1.41	1.24	1.12
39F152	91-854	3F	Jack	2.51	2.16	1.89	1.65	1.49
39F153	91-855	3M	Recpt.	1.47	1.26	1.10	.96	.87
39F154	91-856	3F	Recpt.	3.48	2.99	2.61	2.29	2.07
39F155	91-857	4M	Plug	2.02	1.74	1.52	1.33	1.20
39F156	91-858	4F	Jack	2.85	2.45	2.14	1.87	1.69
39F157	91-859	4M	Recpt.	1.59	1.37	1.20	1.05	.95
39F158	91-860	4F	Recpt.	3.75	3.22	2.81	2.46	2.23

SERIES 75 SINGLE BUTTON CONTACT

Flat button contact means no pins to bend. Straight plug may be converted to jack by removing coupling ring. Phono plug adapter. 75 MCIP; screws into plug. Av. shpg. wt., 3 oz.

Stk. No.	Type	Fg.	Con.	Desc.	1-49	50-99	100-249	250-499	500-999
39F000	75-MC1F	A	1	Plug	.70	.60	.53	.46	.42
39F001	75-MC1M	B	1	Jack	.48	.42	.36	.32	.29
39F002	75-PC1M	C	1	Receptacle	.48	.42	.36	.32	.29
39F003	75-MC1P	D	1	Phone Plug Adapter	.68	.58	.51	.45	.40
39F004	75-MC1FA	E	1	90° Plug	1.48	1.27	1.11	.97	.88
39F005	75-CL-PC1M	F	1	Receptacle	.68	.58	.51	.44	.40
39F1280	75-CCC1	...		Shorting Cap Chain	.47	.40	.35	.31	.28

SERIES 75 MINIATURE MICROPHONE CONNECTORS

Have same rugged characteristics of standard 75 series mike connectors. Female is 1 11/64" long, male is 1" longer, chassis is 5/8" long. Threads are 3/8-32, all parts machined brass nickel plated. Coupling ring removable for versatility. Accepts maximum cable OD of .208 inches. Wt., 3 oz.

No.	Type	Desc.	Fig.	1-49	50-99	100-249	250-499	500-999
39F094	75-1	Str. Pl.	P	.76	.65	.57	.50	.45
39F095	75-2	Cbl. Jack	R	.50	.43	.37	.33	.29
39F096	75-3	Recep.	S	.53	.45	.40	.35	.31

SERIES 80 ONE PIN CONTACT

Stk. No.	Type	Fg.	Con.	Desc.	1-49	50-99	100-249	250-499	500-999
39F006	80-F	G	1F	Jack	.77	.67	.58	.51	.46
39F007	80-M	H	1M	Plug	.76	.65	.57	.50	.45
39F008	80-C	I	1F	Recpt.	.60	.52	.45	.40	.36

SERIES 80 TWO PIN CONTACT

39F009	80-MC2F	G	2F	Jack	.85	.73	.64	.56	.50
39F1284	80-MC2F1	..	2F	Plug	.85	.73	.64	.56	.50
39F010	80-MC2M	H	2M	Plug	.80	.68	.60	.52	.47
39F1285	80-MC2M1	..	2M	Jack	.80	.68	.60	.52	.47
39F011	80-PC2F	I	2F	Recpt.	.68	.58	.51	.44	.40
39F1286	80-PC2M	..	2M	Recpt.	.66	.56	.49	.43	.39

SERIES 91 THREE PIN CONTACT

39F012	91-MC3F	I	3F	Jack	1.13	.97	.85	.74	.67
29F1287	91-MC3F1	J	3F	Plug	1.18	1.01	.88	.77	.70
39F013	91-MC3M	K	3M	Plug	1.11	.95	.83	.73	.66
39F1288	91-MC3M1	K	3M	Jack	1.06	.91	.79	.70	.63
39F014	91-PC3F	L	3F	Recpt.	.80	.69	.60	.52	.47
39F1289	91-PC3M	..	3M	Recpt.	.72	.62	.54	.47	.43

SERIES 91 FOUR PIN CONTACT

39F015	91-MC4F	J	4F	Jack	1.17	1.00	.88	.77	.69
39F1290	91-MC4F1	..	4F	Plug	1.23	1.05	.92	.80	.73
39F016	91-MC4M	K	4M	Plug	1.16	.99	.87	.76	.69
39F1291	91-MC4M1	..	4M	Jack	1.11	.96	.83	.73	.66
39F017	91-PC4F	L	4F	Recpt.	.76	.66	.57	.50	.45
39F1292	91-PC4M	..	4M	Recpt.	.73	.62	.54	.48	.43

Amphenol BNC Connectors

Small, weatherproof low-voltage connectors with bayonet action for quick-disconnect applications. Non-constant impedance types for RG-55 and 58/U cables, and modified types for RG-59, 62, and 71/U cables. Shells, couplings, and male contacts are accurately machined from brass. . .springs are beryllium copper. All parts are silver-plated. Improved Series BNC connectors (Note 1) are constant-impedance 50 ohm types with excellent electrical performance up to 10,000 megacycles. Modified UG-290/U connector; (Note 2) are for RG-62 and 71/U cables, and are not matched. (*) captivated contact. Shpg. wt. 3 oz. ea.

A

B

C

F

G

H

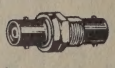
L

M

N

O

P


Q

Astro plate gives you R.F. connectors that can take constant handling, high temp. applications and are resistant to abrasions. It is rated 200 to 350 on Vicker hardness scale. By comparison silver is rated at 70 to 155. This tarnish free plating is available at no additional charge.

TYPE "BNC" CONNECTORS

Stock No.	Type	JAN Type	Fig.	Description	RG/U Cables	Mtg. Code	1-24	25-99	100-499	500-999
39F1000	31-006	CW-123/U	E	Cap & chain	.....	....	.78	.64	.54	.47
39F1009	31-026	CW123A/U	E	Cap & chain (1)	.....	....	.54	.44	.37	.32
39F072	31-007	CW155/U	E	Cap	.....	....	.33	.27	.23	.20
39F1010	31-027	CW155A/U	E	Cap	.....	....	.45	.37	.31	.27
39F1002	31-017	CW-159/U	N	Shorting plug	.....	....	1.06	.87	.73	.63
39F1025	31-210	CW-282/U	E	Cap & chain (1)	.....	....	.78	.64	.54	.47
39F063	31-002	UG-88/U	B	Plug	55,58	....	.74	.64	.51	.44
39F1003	31-018	UG-88B/U	B	Plug	55,58	....	.86	.70	.59	.51
39F1018	31-202	UG-88C/U	B	Plug (1)	55,58	....	.80	.66	.55	.47
39F1220	31-301*	UG-88C/U	B	Plug (1)	55,58,141,142	....	1.57	1.29	1.08	.93
39F064	31-005	UG-89/U	D	Jack	55,58	....	1.21	.99	.83	.72
39F1004	31-019	UG-89A/U	D	Jack	55,58	....	1.12	.92	.77	....
39F1021	31-205	UG-89B/U	D	Jack (1)	55,58	....	1.09	.89	.75	.65
39F1221	31-302*	UG-89B/U	D	Jack (1)	55,58,141,142	....	2.57	2.11	1.77	1.53
39F1302	1300	UG-90/U	M	Panel jack, sq. flange	55,58	....	1.70	1.39	1.17	....
39F1311	4500	UG-185/U	C	Receptacle, sq. flange		....	1.25	1.02	.86	.74
39F1017	31-201	UG-291B/U	A	Panel jack (1)	55,58	R	1.36	1.12	.94	.81
39F1001	31-016	UG-254A/U	H	Receptacle*	.....	....	5.14	4.22	3.54	3.06
39F065	31-012	UG-260/U	B	Plug	59,62,71	....	.80	.66	.55	.47
39F1006	31-021	UG-260A/U	B	Plug	59,62,71	....	.87	.71	.60	.52
39F1027	31-212	UG-260B/U	B	Plug (1)	59,62,71	....	.90	.74	.62	.54
39F1223	31-304*	UG-260B/U	B	Plug (1)	59,62,71,140	....	1.64	1.35	1.13	.98
39F066	31-015	UG-261/U	D	Jack	59,62,71	....	1.36	1.12	.94	.81
39F1028	31-215	UG-261B/U	D	Jack (1)	59,62,71	....	1.29	1.06	.89	.77
39F1026	31-211	UG-262B/U	A	Panel jack (1,	59,62,71	....	1.50	1.23	1.03	....
39F068	31-008	UG-274/U	F	Tee adapter	.....	....	2.41	1.98	1.66	1.43
39F1024	31-208	UG-274A/U	F	Tee adapter	.....	....	2.64	2.17	1.82	1.57
39F1080	31-2208	UG-274B/U	F	Tee adapter	.....	R,S	2.90	2.38	2.00	1.73
39F1081	31-350	.....	O	Plug	55,142	R	3.48	2.86	2.40	2.07
39F069	31-003	UG-290/U	C	Receptacle	.....	....	.83	.68	.57	.49
39F1019	31-203	UG-290A/U	C	Receptacle (1)	.....	....	.90	.74	.62	.54
39F070	31-001	UG-291/U	A	Panel jack	55,58	....	1.34	1.10	.92	.79
39F1219	31-300*	UG-291B/U	A	Panel jack (1)	55,58,141,142	....	3.95	3.24	2.72	....
39F071	31-009	UG-306/U	G	90° adapter	.....	....	2.16	1.77	1.49	1.29
39F1071	31-209	UG-306A/U	G	90° adapter	.....	R,S	2.58	2.12	1.78	1.54
39F1331	47000	UG-414/U	Q	2 Female ends, sq. flange		R,S	1.90	1.56	1.31	1.13
39F1036	31-817	UG-447/U	C	Receptacle (2)	.....	R,S	1.12	.92	.77	.66
39F1031	31-218	UG-491A/U	P	Adapter (1)	.....	R,S	2.47	2.02	1.70	1.47
39F1313	5675	UG-535/U	C	Ang. receptacle, sq. flange		R	2.38	1.95	1.64	1.42
39F1312	5575	UG-625/U	H	Receptacle, 7/16" single			.77	.63	.53	.46
39F1337	31-236	UG-625B/U	H	hole mtg.		....	.83	.68	.57	.49
39F073	31-102	UG-657/U	J	Receptacle, 7/16"	.....	....	1.32	1.08	.91	.79
39F1033	31-220	UG-492A/U	Q	Receptacle*	.....	....	2.90	2.38	2.00	1.73
39F1079	31-3220	UG-492D/U	Q	Bulk. adapter*	.....	X	3.48	2.86	2.40	2.07
39F1022	31-206	UG-909/U	L	Bulk. adapter	.....	....	1.64	1.35	1.13	.98
39F1023	31-207	UG-910/U	L	Bulk. jack (1)	55,58	P	1.70	1.39	1.17	1.01
39F1339	31-238	UG-912/U	H	Bulk. jack (1)	59,62,71	P	2.03	1.67	1.40	1.21
39F1020	31-204	UG-913/U	K	Receptacle, 13/32"	.....	Y	3.24	2.66	2.23	1.92
39F1030	31-217	UG-349A/U	M	90° plug (1)	55,58	....	2.83	2.32	1.95	1.68
39F1032	31-219	UG-914/U	P	Adapter†	.....	....	1.34	1.10	.92	.79
39F1335	84975	UG-1033/U	...	St. adapter (1)	.....	....	1.70	1.39	1.17	1.01
39F075	31-221	UG-1094/U	H	Plug, improved, RG122		W	.74	.61	.51	.44
39F3130	31-2221	UG-1094A/U	H	Receptacle (2)	.....	Y	.96	.79	.66	.59
39F1034	31-222	UG-1098/U	C	Receptacle (2)	.....	O	2.80	2.30	1.93	1.67
39F1012	31-104	.....	C	Bulk receptacle	.....	R,S	1.80	1.48	1.24	....
39F1035	31-759	.....	...	90° Receptacle	.....	....	.17	.14	.12	.10
39F1039	31-842	.....	C	Ground lug	.....	R,S	1.73	1.42	1.19	....
39F1040	31-850	.....	K	Receptacle (2)	.....	....	3.72	3.05	2.56	2.21
39F1042	31-351	.....	...	90° plug	59,62,71	....	3.48	2.86	2.40	2.07
39F1473	31-352	.....	...	Plug	58,141	....	5.01	4.11	3.45	2.98
39F1043	31-356	.....	...	Plug	59,62	....	3.12	2.56	2.15	....
39F1044	31-359	.....	...	Jack	58,141	....	3.48	2.86	2.40	2.07
39F1072	36775	.....	...	Plug	59,62,140	....	1.09	.89	.75	.65
39F1082	36875	.....	...	Straight plug, RG58.141U	.....	....	1.06	.87	.73	.63
39F029	68175	.....	...	Straight plug RG/055,142	.....	....	1.07	.88	.74	.64
39F1083	79025	.....	...	Straight plug RG/062,140	.....	....	4.92	4.04	3.39	2.93
39F1084	79675	.....	...	Receptacle sq. flange	.....	....	3.57	2.93	2.46	2.12
39F1085	95725	.....	...	Receptacle sq. flange	.....	....				
				Panel jacks sq. flange RG/U58, 141	.....	....	2.00	1.64	1.38	1.19

ASTRO PLATE RF CONNECTORS

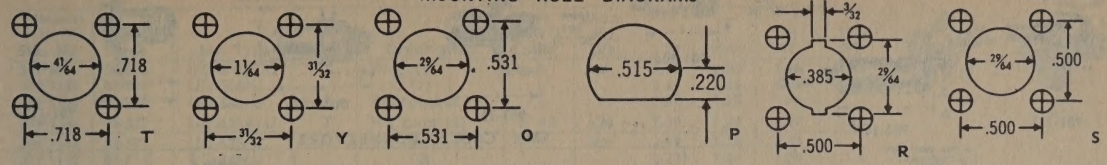
TYPE BNC CONNECTORS

Stk. No.	Mil. Type	Type	Description	1-24	25-99	100-499	500-999	1000-2499
39F1248	UG88	31-002-1050	Straight Plug	.74	.61	.51	.44	.39
39F3165	UG88B/U	31-018-1050	Straight Plug	.86	.70	.59	.51	.45
39F1253	UG88C/U	31-202-1050	Straight Plug	.80	.66	.55	.47	.42
39F3166	UG89/U	31-005-1050	Cable Jack	1.21	.99	.83	.72	.63
39F3167	CW123A	31-026-1050	Cap and Chain	.54	.44	.37	.32	.28
39F1251	UG260/U	31-012-1050	Straight Plug	.80	.66	.55	.47	.42
39F3168	UG260A/U	31-021-1050	Straight Plug	.87	.71	.60	.52	.46
39F3169	UG260B/U	31-212-1050	Straight Plug	.90	.74	.62	.54	.47
39F1250	UG274/U	31-008-1050	T Adapter	2.41	1.98	1.66	1.43	1.26
39F3170	UG274A/U	31-208-1050	T Adapter	2.64	2.17	1.82	1.57	1.38
39F1249	UG290/U	31-003-1050	Panel Receptacle	.83	.68	.57	.49	.43
39F1254	UG290A/U	31-203-1050	Panel Receptacle	.90	.74	.62	.54	.47
39F3171	UG306/U	31-009-1050	Angle Adapter	2.16	1.77	1.49	1.23	1.13
39F3172	UG349A/U	31-217-1050	BNC/N Adapter	2.83	2.32	1.95	1.68	1.48
39F3173	UG491A/U	31-218-1050	Straight Adapter	2.47	2.02	1.70	1.47	1.29
39F3174	UG492A/U	31-220-1050	Bulkhead Adapter	2.90	2.38	2.00	1.73	1.52
39F3175	UG625/U	5575-1050	Bulkhead Receptacle	.77	.63	.53	.46	.40
39F3176	UG625B/U	31-236-1050	Bulkhead Receptacle	.83	.68	.57	.49	.43
39F1252	UG657/U	31-102-1050	Bulkhead Receptacle	1.32	1.08	.91	.79	.69
39F1255	UG914/U	31-219-1050	Straight Adapter	1.34	1.10	.92	.79	.70
39F1256	UG1094/U	31-221-1050	Bulkhead Receptacle	.74	.61	.51	.44	.39

Mounting hole dimensions for UHF Connectors on next page.

Amphenol Connectors

MOUNTING HOLE DIAGRAMS



MIL-CRIMP BNC CONNECTORS

Terminates with either 100% crimp or center contact soldered. 50 ohm imped. VSWR identical to solder type BNC connectors up to 10,000 Mc. Sizes: plug, 1 17/64 x 9/16" dia. right angle plug, 1 9/16 x 1 1/8 x 9/16 cable jack, 1 11/32 x 9/16 dia. blkd. jack.

Stk. No.	Type	Fig.	Description	RG/U Cables	Mtg. Code	1-24	25-99	100-499	500-999	1000-2499
39F1438	31-320	A	Plug	58,141	- - - -	1.21	.99	.83	.72	.63
39F1439	31-335	B	Angle plug	58,141	- - - -	4.09	3.36	2.82	- - - -	- - - -
39F1440	31-327	D	Jack	58,141	- - - -	1.50	1.23	1.03	.89	.78
39F1441	31-342	C	Blkh. jack	58,141	N	2.18	1.79	1.50	1.29	1.14
39F1442	31-326	A	Plug	55,142,223	- - - -	1.21	.99	.83	.72	.63
39F1443	31-334	B	Angle plug	55,142,223	- - - -	4.09	3.36	2.82	- - - -	- - - -
39F1444	31-333	D	Jack	55,142,223	- - - -	1.61	1.32	1.11	- - - -	- - - -
39F1445	31-341	C	Blkh. jack	55,142,223	N	2.18	1.79	1.50	1.29	1.14
39F1446	31-321	A	Plug	59,82,62,140	- - - -	1.21	.99	.83	.72	.63
39F1447	31-326	B	Angle plug	59,82,62,140	- - - -	4.14	3.39	2.85	2.46	2.17
39F1448	31-328	D	Jack	59,82,62,140	- - - -	1.70	1.39	1.17	1.01	- - - -
39F1449	31-343	C	Blkh. jack	59,82,62,140	N	2.16	1.77	1.49	1.29	1.13
39F1454	31-323	A	Plug	180,195	- - - -	1.47	1.20	1.01	.87	.71
39F3180	31-338	B	Angle plug	180,195	- - - -	4.09	3.36	2.82	- - - -	- - - -
39F1446	31-330	D	Jack	180,195	- - - -	1.77	1.45	1.22	- - - -	- - - -
39F1447	31-345	C	Blkh. jack	180,195	N	2.27	1.86	1.56	1.35	1.19
39F3140	31-324	A	Plug	122	- - - -	1.55	1.27	1.07	- - - -	- - - -

Fig-A

Fig. B

Fig C

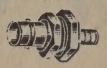


Fig D

TYPE UHF CONNECTORS

Large single and twin-contact connectors are provided with rubber sealing gasket for weather-proofing, while small single and twin-contact types can be water-proofed by application of Amphenol 307 Silicone Compound to mating insulator surfaces. Metal surfaces are silverplated. Beaded chains for caps are nickel-plated brass. Shipping weight each, 4 oz. approx.

Stock No.	Type	Jan Type	Fig.	Description	For RG-/U Cables	Mtg. Code	1-24	25-99	100-499	500-999
39F034	83-1T	M-358	H	Tee adapter (1)	. . .	- - - -	3.09	2.54	2.13	1.84
39F1060	83-58	M-359A	I	90° adapter (1)	. . .	- - - -	2.28	1.87	1.57	1.35
39F035	83-1J	PL-258	F	St. adapter (1)	. . .	- - - -	1.21	.99	.83	.72
39F030	83-1SP	PL-259	J	Plug (1)	. . .	- - - -	1.61	.50	.42	.36
39F031	83-1SPN	PL-259A	J	Plug (1)	8-13, 63	- - - -	1.12	.92	.77	.66
39F1065	83-756	49195	J	Plug (1)	8-13, 63	- - - -	1.60	1.31	1.10	.95
39F047	83-22F	PL-275	K	Bulk adapter (2)	8-12	- - - -	3.79	3.11	2.61	- - - -
39F1056	83-2SP	PL-295	L	Plug (4)	. . .	- - - -	7.43	6.10	5.12	- - - -
39F039	83-1R	SO-239	M	Receptacle (1)	57,130	X	.58	.48	.40	.35
39F043	83-22SP	UG-102/U	L	Plug (2)	. . .	- - - -	1.60	1.31	1.10	.95
39F048	83-22R	UG-103/U	M	Receptacle (2)	22	- - - -	1.29	1.06	.89	.77
39F044	83-22AP	UG-104/U	I	90° Bulk adap. (2)	. . .	- - - -	2.64	2.17	1.82	- - - -
39F037	83-1H	UG-106/U	N	Hood (1-2)	22	Z	.49	.40	.34	.29
39F1064	83-750	UG-111/U	J	Plug (1)	59,62,71	- - - -	1.06	.87	.73	.63
39F040	83-185	UG/175U	F	Reducing adap.	58	- - - -	.19	.15	.13	.11
39F041	83-168	UG-176/U	F	Reducing adap.	59,62,71	- - - -	.19	.15	.13	.11
39F038	83-765	UG-177/U	N	Hood (1)	29,55,58	Z	.45	.37	.31	.27
39F032	83-776	UG-203/U	J	Plug (1)	55,59,62,71	- - - -	1.70	1.39	1.17	1.01
39F1058	83-21R	UG-357/U	M	Receptacle (2)	. . .	- - - -	3.88	3.18	2.67	- - - -
39F1059	83-21SP	UG-358/U	J	Plug (3)	34	- - - -	5.01	4.11	3.45	- - - -
39F036	83-1F	UG-363/U	K	Bulk adapter (1)	. . .	- - - -	2.79	2.29	1.92	1.66
39F033	83-1AP	UG-646/U	F	90° adapter (1)	. . .	- - - -	1.77	1.45	1.22	1.05
39F042	83-1AC	. . .	R	Cap&chain (1-2)	. . .	- - - -	.80	.66	.55	.47
39F1052	83-1RTY	SO-239	M	Receptacle (1)	. . .	- - - -	.90	.74	.62	.54
39F1061	83-59	. . .	P	90° Plug (1)	17,18	- - - -	4.72	3.87	3.25	2.80
39F1062	83-65	. . .	F	Reducing adap.	250 Diam.	- - - -	.29	.24	.20	.17
39F1063	83-716	. . .	M	Receptacle* (1)	. . .	X	4.79	3.93	3.30	2.85
39F049	83-798	SO-239A	M		. . .	X	1.42	1.17	.98	.85
39F1068	83-821	. . .	H	Plug (2) Teflon	22	- - - -	2.25	1.85	1.55	1.34
39F1225	83-822	49190	J	Plug (1) Teflon	. . .	- - - -	.83	.68	.57	.49
39F088	83-850	. . .	E	Solderless plug	11	- - - -	3.41	2.80	2.35	- - - -
39F089	83-851	. . .	E	Solderless plug	8-13,63	- - - -	2.45	2.01	1.69	1.46

E

F

H

I

J

K

L

M

*Pressurized types

NOTES:
1) Small single-contact connectors
2) Small twin-contact connectors
3) Large single-contact connectors
4) Large twin-contact connectors

ASTRO PLATE SERIES 83

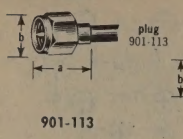
Stk. No.	Mil. Type	Type	Description	1-24	25-99	100-499	500-999	1000-2499
39F3144	UG106/U	83-1H-1050	Hood	.49	.40	.34	.29	.26
39F3145	UG111/U	83-750-1050	Plug (RG 59, 62 etc. Cable)	1.06	.87	.73	.63	.55
39F3146	UG175/U	83-185-1050		.19	.15	.13	.11	.10
39F3147	UG176/U	83-168-1050	Reducing Adapter (RG 59, 62)	.19	.15	.13	.11	.10
39F3148	UG177/U	83-765-1050	Hood	.45	.37	.31	.27	.24
39F3149	SO-239A	83-798-1050	Panel Receptacle	1.42	1.17	.98	.85	.74
39F3150	PL-259	83-1SP-11050	Plug-Bakelite Insul.	.61	.50	.42	.36	.32
39F3151	PL-259A	83-1SPN-1050	Plug-Teflon Insul.	1.12	.92	.77	.66	.59
39F3152	M-358	83-1T-1050	T Adapter	3.09	2.54	2.13	1.84	1.62
39F3153	UG363/U	83-1F-1050	Bulkhead Adapter	2.79	2.29	1.92	1.66	1.46
39F3154	UG646/U	83-1AP-1050	Angle Adapter	1.77	1.45	1.22	1.05	.93

N

P

R

Amphenol Connectors



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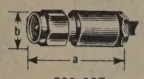

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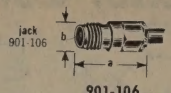

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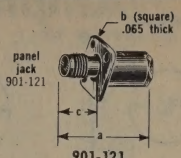

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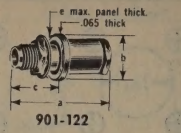

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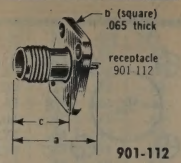

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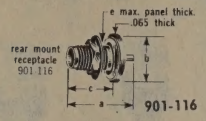

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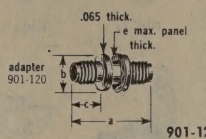
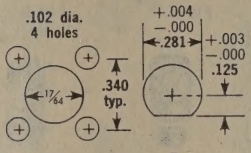


901-120

Mounting Dimensions



SMA CABLE CONNECTORS

Stk. No.	Type	Description	For RG/U Cables	Mtg. Hole	Cable Affix-ment	1-24	25-99	100-499	500-999
39F2956	901-113	plug, w/o contact & insulator	. . . .						
39F2952	901-105	plug, w/contact & insulator	. . . .	. .	solder	1.68	1.38	1.16	1.00
39F2954	901-111	plug, w/o contact & insulator	. . . .	. .	solder	2.08	1.70	1.43	1.23
41F753	901-107	plug, w/ contact & insulator	. . . .	. .	clamp	2.25	1.85	1.55	1.34
39F2953	901-106	jack, w/contact & insulator	. . . .	. .	clamp	3.08	2.52	2.12	1.83
41F755	901-108	jack, w/contact & insulator	. . . .	. .	solder	1.76	1.44	1.21	1.04
39F2950	901-103	plug, straight	55,58,141,142,223	. .	clamp	2.76	2.26	1.90	1.64
39F2951	901-104	jack, straight	55,58,141,142,223	. .	clamp	3.86	3.17	2.66	2.30
41F758	901-121	jack, panel mounted	55,58,141,142,223	. .	clamp	3.35	2.75	2.31	1.99
39F2959	901-122	jack, bulkhead mounted, rear	55,58,141,142,223	Y	clamp	4.27	3.50	2.94	2.54
41F760	901-101	plug, straight	58,142,223	Z	clamp	3.80	3.12	2.62	2.26
41F761	901-102	jack, straight	58,142,223	. .	crimp	3.14	2.57	2.16	1.86
41F762	901-109	plug, straight	58,141,303	. .	crimp	2.69	2.20	1.85	1.60
41F763	901-110	jack, straight	58,141,303	. .	crimp	3.14	2.57	2.16	1.86
39F2955	901-112	recept, panel mounted	. . . .	. .	crimp	2.85	2.33	1.96	1.69
41F765	901-116	recept, bulkhead mtg. rear	. . . .	Y	. . .	2.89	2.37	1.99	1.72
39F2957	901-117	recept. bulkhead mtg. front	. . . .	Z	. . .	2.48	2.04	1.71	1.48
41F767	901-118	straight, plug-plug	. . . .	Z	. . .	2.53	2.07	1.74	1.50
41F768	901-119	straight, jack-jack	. . . .	. .	. . .	3.75	3.07	2.58	2.23
39F2958	901-120	bulkhead, jack-jack	. . . .	. .	. . .	2.42	1.99	1.67	1.44
39F2960	901-2500	tool kit	. . . .	Z	. . .	3.21	2.63	2.21	1.91

Stk. No.	Type	Description	Max. SWR	Net
41F770	131-1074	APC-N plug to SMA plug	1.04 @ 4 GHz	**35.00**
41F771	131-1075	APC-N plug to SMA jack	1.09 @ 9 GHz	
41F772	131-1076	APC-N jack to SMA plug	1.10 @ 12 GHz	
41F773	131-1077	APC-N jack to SMA jack	1.14 @ 18 GHz	

PRECISION 7mm CONNECTOR

50 ohm coaxial connector designed for use with rigid 7mm air line. Sexless coplanar mating by means of threaded ring housed within coupling nut permits any two connectors in the 7mm line size to be interconnected. The electrical and mechanical contact is made in an identical plane permitting accurate determination of the electrical length of a mated pair of connectors or of an air line assembly with a connector on each end. All components of the connector are held captive.

Stk. No.	Type	Max. SWR	Net Per Pair
41F774	131-1050	1.039 to 18 GHz	35.00

TOOL KIT

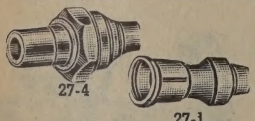
For assembly and disassembly of connectors to air line. Contains collet extractor (top rt.) line wrench (center) spanner wrench (top lt.) and torque wrench.

Stk. No.	Type	Net	
41F775	131-2025	65.00	

APC-7 BETWEEN SERIES ADAPTERS

Stk. No.	Type	Descrip. APC-7 to	Max. SWR For Single Adapter	Net
41F776	131-1025	N jack	1.015 @ 4 GHz 1.025 @ 9 GHz 1.035 @ 12 GHz 1.045 @ 18 GHz	50.00
41F777	131-1035	N plug		50.00
41F778	131-1027	BNC jack	1.035 @ 4 GHz 1.065 @ 9 GHz 1.08 @ 12.4 GHz	50.00
41F779	131-1037	BNC plug		50.00
41F780	131-1026	TNC jack	same as BNC plus	50.00
41F781	131-1036	TNC plug	1.12 @ 18 GHz	50.00
41F782	131-1028	SMA jack	1.07 @ 12.4 GHz	80.00
41F783	131-1038	SMA plug	1.10 @ 18 GHz	80.00
41F784	131-1022	GR 874	1.04 @ 4 GHz 1.06 @ 9 GHz	60.00
41F785	131-1023	GR 900	1.011 @ 4 GHz 1.021 @ 8.5 GHz	110.00

SUB-MINIATURE RF CONNECTORS



Machined brass gold finished, beryllium copper female contacts, brass male contacts. Teflon insulation except hermetically sealed receptacles which are glass and Teflon. Field serviceable types require no crimping, 50 ohm types use 227-900 tool. 75 ohm Types use 227-901 Tool. See Tool page for listing. Av. shpg. wt. 3 oz.

75 OHM

Stock No.	Type No.	Descrip.		1-24	25-99	100-499	500-999
42F213	27-13	Plug	-Push On	1.41	1.16	.97	.84
42F214	27-14	Jack	-Push On	1.09	.89	.75	.
42F215	27-15	Recep.	-Push On	1.22	1.00	.84	.72
42F219	27-19	Plug	-Screw On	1.06	.87	.73	.63
42F220	27-20	Jack	-Screw On	3.19	2.62	2.20	. .
42F221	27-21	Recep.	-Screw On	1.26	1.04	.87	.75
42F222	27-22	Jack, Blkh.	-Screw On	2.00	1.64	1.38	1.19

50 Ohms

Stock No.	Type No.	Descrip.	Tool No.	1-24	25-99	100-499	500-999
42F201	27-1	Plug	-Push On	.83	.68	.57	.49
42F202	27-2	Jack	-Push On	.84	.69	.58	.50
42F203	27-3	Recep. Blkh.	-Push On	1.21	.99	.83	.72
42F204	27-4	Jack Blkh.	-Push On	1.15	.94	.79	.68
42F207	27-7	Plug	-Screw On	.78	.64	.54	.47
42F208	27-8	Jack	-Screw On	.90	.74	.62	.54
42F209	27-9	Receptacle	-Screw On	.68	.56	.47	.41
42F210	27-10	Jack, Blkh.	-Screw On	1.15	.94	.79	.68
42F212	27-12	Recep. Herm.	-Screw On	2.41	1.98	1.68	. .
42F226	27-26	Pptd.	-Screw On	1.90	1.56	1.31	1.13
39F1217	27-28	Adap., Sub.	-Screw On	2.27	1.86	1.56	1.35

SERIES 5116 SUBMINAX COAXIAL CONNECTORS

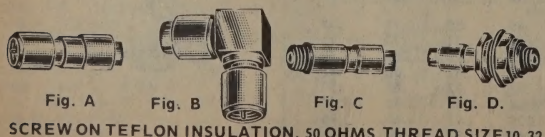


Fig. A Fig. B Fig. C Fig. D.

SCREW ON TEFLON INSULATION. 50 OHMS. THREAD SIZE 10-32.

Stk. No.	Type	For RG/U Cable	Description	Fig.	1-24	25-99	100-499	500-999
41F786	5116-037575	174,188	St. Plug	A	3.03	2.49	2.09	1.80
41F787	5116-037475	178,196	St. Plug	A	2.82	2.31	1.94	1.67
41F788	5116-037675	174,188	Angle Plug	B	5.40	4.43	3.72	. . .
41F789	5116-037600	178,196	Angle Plug	B	4.40	3.61	3.03	. . .
41F792	5116-037875	174,188	Blkh. Jack	D	4.56	3.74	3.14	. . .
41F793	5116-037800	178,196	Blkh. Jack	D	4.56	3.74	3.14	. . .

Amphenol Connectors

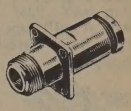
TYPE C CONNECTORS

Stk. No.	Type	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F087	82-530	UG-573A/U	T	Plug (2)	8, 9	.420	2.51	2.06	1.73	1.49
39F1135	82-508	UG-564/U	..	.... (2)	....	....	3.24	2.66	2.23	1.92
39F1133	82-504	UG-568/U	A	Receptable (2)	....	....	2.08	1.70	1.43	....
39F1145	82-532	UG-628A/U	T	HV plug (2)	8, 9A	.420	3.30	2.70	2.27	1.96
39F1143	82-521	UG-632/U	N	HV jack (2)	....	.420	3.99	3.28	2.75	....
39F1140	82-514	UG-643/U	..	.... (2)	....	....	2.73	2.24	1.88	....
39F1141	82-515	UG-634/U	R	Plug (2)	....	....	3.30	2.70	2.27	....
39F1147	82-534	UG-709A/U	C	Bulk. recpt. (2)	55, 58	.206	2.87	2.36	1.98	1.71
39F1144	82-531	UG-710A/U	V	90°plug (2)	....	....	4.95	4.06	3.41	2.94

A

B

C


D

TYPE N CONNECTORS

Weatherproof low-voltage connectors of constant impedance all are 50 ohm types except (1) which are 70 ohms or (2) which are both. *Astroplate Shpg. wt. 4 oz.

Stk. No.	Type	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1101	82-86	UG-18B/U	C	Plug	5, 6, 21	.332	2.11	1.73	1.45	1.25
39F1108	82-96	UG-21C/U	C	Plug	8, 9, 10	.332	1.55	1.27	1.07	.92
39F019	82-61	UG-21B/U	C	Plug	8, 9, 10	.332	1.38	1.13	.95	.82
39F3156	82-61*	UG-21B/U	C	Plug	8, 9, 10	.332	1.38	1.13	.95	.82
39F1118	82-202	UG-21D/U	C	Plug	8, 9, 10	.332	1.28	1.05	.88	.76
39F3155	82-202*	UG-21D/U	C	Plug	8, 9, 10	.332	1.28	1.05	.88	.76
39F020	82-62	UG-22B/U	D	Panel jack	8; 9, 10	.332	2.00	1.64	1.38	1.09
39F1122	82-208	UG-22D/U	D	Panel jack	8, 9, 10	.332	1.95	1.60	1.34	....
39F021	82-63	UG-23B/U	E	Jack	8, 9, 10	.332	1.64	1.35	1.13	.98
39F1106	82-94	UG-23C/U	E	Jack	8, 9, 10	.332	2.00	1.64	1.38	1.19
39F1123	82-209	UG-23D/U	E	Jack	8, 9, 10	.332	1.82	1.49	1.25	1.08
39F076	82-64	UG-27A/U	F	90° adapter	.....	....	3.46	2.83	2.38	2.05
39F1109	82-98	UG-27B/U	F	90° adapter	.....	....	3.73	3.06	2.57	2.22
39F1127	82-213	UG-27C/U	F	90°adapter	.....	....	2.87	2.36	1.98	1.71
39F1110	82-99	UG-28A/U	..	Tee adapter	.....	....	3.67	3.01	2.53	2.18
39F077	82-65	UG-29A/U	G	St. adapter	.....	....	2.12	1.74	1.46	1.26
39F1112	82-101	UG-29B/U	G	St. adapter	.....	....	1.86	1.52	1.28	1.10
39F022	82-66	UG-30/U	..	Bulk. adapter	.....	....	4.30	3.53	2.96	2.55
39F1117	82-201	UG-30C/U	..	Bulk. adapter	.....	....	4.18	3.43	2.88	....
39F1111	82-100	UG-57B/U	H	St. adapter	.....	....	2.37	1.94	1.63	1.41
39F3162	82-100*	UG-57B/U	H	St. Adapter	.....	....	2.37	1.94	1.63	1.41
39F023	82-24	UG-58/U	A	Receptacle	.....	....	1.10	.91	.76	.66
39F3161	82-24*	UG-58/U	A	Receptacle	.....	....	1.10	.91	.76	.66
39F028	82-97	UG-58A/U	A	Receptacle	.....	....	1.12	.92	.77	.66
39F3160	82-97*	UG-58A/U	A	Receptacle			1.12	.92	.77	.66
39F024	82-84	UG-94A/U	C	Plug (1)	11-13	.420	2.22	1.82	1.53	1.32
39F1104	82-89	UG-95A/U	E	Jack (1)	11-13	.420	2.28	1.87	1.57	....
39F018	82-36	UG-107A/U	B	Tee adapter	.....	....	5.01	4.11	3.45	....
39F078	82-102	UG-107B/U	B	Tee adapter	.....	....	5.27	4.32	3.63	3.13
39F1113	82-105	UG-204A/U	C	Plug	14, 74	.545	7.25	5.94	4.99	....
39F1128	82-811	UG-680/U	..	Bulk. recpt.	.....	....	2.37	1.94	1.63	1.41
39F1114	82-106	MX-913/U	..	Cap & chain	.....	....	.64	.52	.44	....
39F3159	82-106*	MX-913/U	..	Cap & chain	.....	....	.64	.52	.44	.38
39F1115	82-112	.....	B	Receptacle	.....	....	2.11	1.73	1.45	1.25
39F1129	82-835	.....	C	Angle plug	8, 9, 10	.332	4.69	3.85	3.23	2.79
39F1340	91100	UG-30D/U	C	Adpg 2F Ends	.....	....	3.30	2.70	2.27	1.96
39F1323	34000	UG-536/U	..	Plug R, 55, 58	.....	....	2.32	1.91	1.60	1.38
39F3158	34000*	UG-536/U	..	Plug R, 55	.....	....	2.32	1.91	1.60	1.38
39F1324	34025	UG-536B/U	C	Plug R, 55	.....	....	1.52	1.25	1.05	.91
39F3157	34025*	UG-536B/U	C	Plug R, 55	.....	....	1.52	1.25	1.05	.91

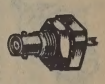
E

F

G

H

N


R

T

V

TYPE "HN" CONNECTORS

Have 5 KV peak rating, when used with Amphenol 307 Silcone compound. Machined brass. 4 oz.

Stk. No.	Type	Jan Type	Fig.	Description	For RG/U Cable	Mx. Jkt. Dia.	1-24	25-99	100-499	500-999
39F026	82-804	UG-59B/U	...	Plug	8-10	.420	3.57	2.93	2.46	2.12
39F1150	82-38	UG-59A/U	...	Plug	8-10	.420	3.95	3.24	2.72	2.35
39F1158	82-92	UG-496/U	A	Receptacle	....	....	3.03	2.49	2.09	1.80
39F027	82-805	UG-560/U	Y	Receptacle	....	....	3.54	2.91	2.44	2.11
39F1163	82-130	.....	W	Cap & chain	54A	....	1.60	1.31	1.10	....
39F1166	82-816	.....	...	Plug	8-10	.250	4.46	3.66	3.07	2.65
39F1167	82-833	.....	Z	Angle plug	....	.420	7.55	6.19	5.20	4.49
39F1169	82-843	.....	X	HV receptacle	8-10	....	7.55	6.19	5.20	4.49
39F1170	82-856	.....	Z	Angle plug	....	.420	7.84	6.43	5.40	4.66

W

X

Y

Z

AMPHENOL MS CONNECTORS ASSEMBLED TO YOUR ORDER

Fast delivery is assured thru Newark assembly dept. makes up and positions to your specifications any MS amphenol connectors listed. Type no's stamped on part when specified.

SAVES YOU BOTH TIME AND MONEY—FAST RESPONSE TO YOUR NEEDS

Amphenol RF Connectors

A

B

CABLE TERMINATIONS

Designed to terminate coax shield without soldering and permitting the inner conductor to extend beyond the termination. (*) Mount in 5/16" hole. Average wt., 4 oz.

Stock No.	Type	Jan Type	Fig.	RG/U Cable	Max. Jkt. Dia.	Mounting	1-24	25-99	100-499	500-999
39F1300	1025	MX1684/U*	A	56,58	.195	Locknut	.60	.49	.41	.35
39F1309	4025	MX1801/U	B	59,62,71	.250	Rt. Strap	.84	.69	.58	. .

C

D

COAXIAL PLUG-IN CONNECTORS

Commonly used on drawer-type chassis for direct plug-in connections. Plug and receptacle mount in 5/16" hole. 2,000 volts. Average wt., 4 oz.

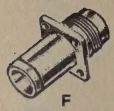
Stock No.	IPC Type	Jan Type	Fig.	Description	1-24	25-99	100-499	500-999
39F1305	2225	UG1050/U	E	Male	.90	.74	.62	.54
39F1304	2175	UG1051/U	E	Female	1.05	.86	.72	.62

E

MB COAXIAL CONNECTORS

Excellent electrical and mechanical properties at low cost. Extremely small, use up to 500 mc, 500 volts, 400°F. Bayonet lock. Average weight, 4 oz.

Stock No.	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1326	45000	G	Plug	58	.195	1.47	1.20	1.01	.87
39F1329	46000	H	Receptacle, nylon	. .	. .	1.16	.95	.80	.69
39F1334	48850	G	Plug with Jacket Clamp	195	. .	1.55	1.27	1.07	.92


F

MHV COAXIAL CONNECTORS

Miniature high voltage connectors are small bayonet-lock connectors for use up to 50 mc., 5,000 volts, 5 amps. Similar, but do not mate with BNC Connectors. Average Shpg. wt., 4 oz.

Stk. No.	IPC Type	Jan Type	Fig.	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1321	27000	UG931/U	C	. . .	. .	2.02	1.66	1.39	1.20
39F1322	28000	UG932/U	D	59	.242	2.08	1.70	1.43	1.23
39F1478	27975	UG932A/U	. .	59,62,71	. .	1.96	1.61	1.35	1.17

G

TWINAX

Have a nominal impedance of 95 ohms and are weather-proof. All are polarized to preserve continuity of the individual conductors. These conductors can normally be used at frequencies up to 200 mc, and in some cases to 500 mc with caution. Maximum peak-operating voltage is 500 volts. Type 309-6275 plug for RG-U 22 cable. Average shpg. wt., 4 ounces.

Stk. No.	IPC Type	Jan Type	Fig.	Description	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1314	6275	UG-421/U	. .	Plug	.405	3.48	2.86	2.40	2.07
39F1341	6225	UG-422/U	F	Receptacle, sq. flange	. .	3.64	2.99	2.51	2.17

H

J

MISCELLANEOUS CONNECTORS AND ADAPTERS

*55, 58, 59, 60, 71. †8-10, 87A, 115,

Stk. No.	Type	Jan Type	Fig.	Description	Max. Jkt. RG-/U Cables	Dia.	1-24	25-99	100-499	500-999
39F1171	82-21	UG-85/U	L	Plug	(*)	.242	6.66	5.47	4.59	. .
39F1174	82-42	UG-87/U	K	Receptacle	. .	. .	6.23	5.11	4.29	. .
39F1175	82-59	UG-154/U	J	Plug	17,18	.870	26.70	21.90	18.39	. .
39F1177	82-110	UG-352A/U	K	Receptacle	. .	....	12.04	9.87	8.29	. .
39F1187	82-312	UG-1185/U	. .	Plug	(†)	.425	1.60	1.31	1.10	.95
39F1188	82-313	UG-1186/U	. .	Jack	(†)	.425	2.08	1.70	1.43	1.23
39F1190	82-320	UG-1213/U	. .	Plug	(†)	.425	4.89	4.01	3.37	. .
39F1200	82-842	. . .	M	Push-on plug	. .	. .	.76	.62	.52	. .

K

L

(*) Astroplate

BETWEEN SERIES ADAPTERS

Stk. No.	Type	MIL.	Mates With	1-24	25-99	100-499	500-999
30F1038	31-830	UG-201/U	N female and BNC male	2.77	2.27	1.91	1.65
39F1029	31-216	UG-201A/U	N female and BNC male	1.92	1.57	1.32	1.14
39F3135	31-216-1050*	UG-201A/U	N female and BNC male	1.92	1.57	1.32	1.14
39F074	31-028	UG-273/U	BNC male and UHF 49194	1.55	1.27	1.07	.92
39F1030	31-217	UG-349A/U	N male and BNC female	2.83	2.32	1.95	1.68
39F3136	31-217-1050*	UG-349/U	N male and BNC female	2.83	2.32	1.95	1.68
39F1135	82-508	UG-564/U	C male and N female	3.24	2.66	2.23	.....
39F1195	82-540	UG-565A/U	C female and N male	3.53	2.89	2.43	.....
39F1217	27-28	....	BNC female to 50 ohm Screw-on subminax male	2.27	1.86	1.56	1.35
39F1310	4400	UG-146/U	UHF female and N male	3.64	2.89	2.51	2.17
39F1307	2900	UG-255/U	BNC male and UHF remale	2.57	2.11	1.77	1.53
39F1320	26700	UG-318/U	N male and UHF female	4.33	3.55	2.98	.....

NEWARK CAN SUPPLY ALL AMPHENOL CONNECTOR NEEDS

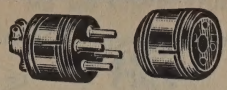
Newark can furnish the entire Amphenol line and stocks items not listed in these pages.

Due to our assembly facilities, we are able to assemble many connectors otherwise unavailable. We can provide faster, more comprehensive service

Connectors, Receptacles & Plugs Amphenol

TYPE 86-PM SHIELDED MULTI-WIRE CONNECTORS

Consists of Amphenol "S" type sockets or "CP" plug and snap-on black steel caps with rubber grommets. Takes cable up to 7/16" dia. Size, 13/16×13/32". Wt., 2 oz.



MALE

Stk. No.	Type	Contacts	1-49	50-99	100-249	250-999	1000-2499
39F120	86-PM4	4	.55	.47	.416	.324	.288
39F121	86-PM5	5	.55	.47	.418	.326	.290
39F122	86-PM6	6	.57	.49	.434	.340	.300
39F125	86-PM8	8 oct.	.57	.49	.436	.340	.302
39F126	86-PM9	9	.58	.50	.442	.346	.306
39F127	86-PM11	11	.59	.51	.450	.350	.310
42F025	86-PM12	12	.60	.51	.455	.354	.311
42F026	86-PM20	20	.95	.80	.730	.570	.500

FEMALE

39F140	78-PF4	4	.50	.43	.381	.297	.264
39F141	78-PF5	5	.52	.45	.393	.307	.273
39F142	78-PF6	6	.54	.47	.412	.322	.286
39F145	78-PF8	8 oct.	.50	.43	.383	.300	.266
39F146	78-PF9	9	.53	.46	.408	.318	.260
39F147	78-PF11	11	.58	.50	.430	.343	.305

CAPS AND CABLE CLAMPS

Stk. No.	Type	Description	1-49	50-99	100-249	250-999	1000-2499
42F017	3-13	Cap. with end grommet	.17	.15	.124	.094	.085
42F018	3-17	Cap. with side grommet	.24	.22	.19	.14	.128
42F019	3-24	Cap. with cable clamp	.28	.25	.213	.161	.146
39F150	79-CC4	Cable Clamp	.09	.07	.066	.052	.05

MULTY-WIRE CONNECTORS WITH CABLE CLAMPS

All specifications are as above, but with high quality cable clamps. Takes cable up to 7/16" dia. Size, 13/16×13/32". Shpg. wt. 3 oz.

MALE

Stk. No:	Type	Contacts	1-49	50-99	100-249	250-999	1000-2499
42F000	86-PM4-11	4	.66	.57	.506	.391	.35
42F001	86-PM5-11	5	.66	.57	.507	.393	.351
42F002	86-PM6-11	6	.68	.59	.523	.407	.361
42F005	86-PM8-11	8	.68	.59	.525	.407	.363
42F006	86-PM9-11	9	.69	.60	.531	.413	.367
42F007	86-PM11-11	11	.70	.61	.54	.417	.371
42F027	86-PM12-11	12	.71	.61	.545	.421	.373

FEMALE

42F009	78-PF4-11	4	.61	.53	.47	.364	.325
42F010	78-PF5-11	5	.63	.55	.482	.374	.334
42F011	78-PF6-11	6	.65	.57	.501	.39	.347
42F014	78-PF8-11	8	.61	.53	.472	.367	.327
42F015	78-PF9-11	9	.65	.56	.50	.385	.343
42F016	78-PF11-11	11	.69	.60	.52	.41	.366

"CP" PLUGS

Can be assembled in any one of the plug caps or receptacle shells. Ideal for use as chassis connectors, with plug-in units. Plugs with 4, 5, 6 and 7 contacts do not have center guide post. Current rating is 5 amps except (†3) amps. (*) Mica filled phenolic. Size: 13/4x7/16". Wt. 2 oz.

Stk. No.	Type	Contacts	1-49	50-99	100-249	250-999	1000-2499
42F030	86-CP4	4	.30	.25	.221	.171	.152
42F031	86-CP5	5	.30	.24	.223	.173	.154
42F032	86-CP6	6	.32	.27	.239	.185	.164
42F033	86-CP7S	7 small	.33	.280	.245	.191	.17
42F034	86-CP8	8 octal	.32	.27	.241	.187	.166
42F035	86-CP8T*	8	.33	.27	.246	.19	.169
42F036	86-CP9	9	.33	.28	.247	.193	.17
42F037	86-CP11	11	.34	.28	.253	.196	.174
42F038	86-CP12†	12	.35	.29	.26	.201	.175

STEEL MOUNTING SHELLS

Type 23-1S extends 13/16" above or below chassis. Mounts in 13/4" hole. 3 notch holes for #6 screws. Type 61-61 recesses 13/16" only. Mounts in 17/16" hole. Two 5/32" screw holes on 13/4" center. Shpg. wt. 5 oz.

23-1S

61-61

Stock No.	Type	1-49	50-99	100-249	250-999	1000-2499
39F1242	23-1S	.26	.22	.195	.155	.14
39F1243	61-61	.14	.12	.11	.10	.08

RECEPTACLES AND PLUGS

A B C D

Mount on or below panels, or with cable terminals. Rates 110 volts, 15 amps or 250 volts, 10 amps. Bakelite insulation. Retainer ring types require 111/64" hole. Mounting plate types require 19/32" hole & mounting centers, slotted 11/2" to 17/8"; recessed shell types require 13/8" hole with mounting centers, 13/4". Two pole female receptacles take standard or polarized plugs. Fig. A with retainer ring. Fig. B. with removable mounting plate Fig. C, with recessed shell. Fig. D, with shielded cable clamp. U.L. Approved. Av. shpg. wt. 3 oz.

Stk. No.	Type	Poles	Descrip.	Fig.	1-49	50-99	100-249	250-499	500-999
39F100	61-F	2	Fem. univ.	A	.42	.36	.31	.27	.25
39F101	60-F	3	Fem. Pol.	A	.48	.41	.36	.32	.29
39F102	61-M	2	Male Std.	A	.46	.39	.34	.30	.27
39F104	60-M	3	Male Pol.	A	.58	.50	.44	.38	.35
39F105	61-F1	2	Fem. univ	B	.49	.42	.37	.32	.29
39F106	60-F1	3	Fem. Pol.	B	.56	.48	.42	.37	.33
39F109	60-M1	3	Male Pol.	B	.66	.57	.50	.43	.39
39F110	61-F10	2	Fem. Univ.	C	.62	.53	.46	.40	.37
39F111	61-M10	2	Male Std.	C	.65	.56	.49	.43	.39
39F113	61-F11	2	Fem. Univ.	D	.58	.50	.44	.38	.35
39F114	61-M11	2	Male Std.	D	.62	.53	.47	.41	.37
39F115	61-MP11	2	Male Pol.	D	.61	.53	.46	.40	.36
39F116	Type 61-MIP-61F. Molded in plate receptacle. Takes 2 pole plug.				.45	.39	.34	.30	.27

MINIATURE CABLE CONNECTORS

For cables up to six conductors. Bakelite elements are housed in cadmium plated brass shells. Plugs are 13/16" long. Chassis units mount on 11/4" centers. Suffix "L" in type No. - long (13/16") "S" short (13/16").

E F G

Stk. No.	Type	Fig.	Cont.	1-49	50-99	100-249	250-499	500-999
39F080	91-MPF3L	E	3	.51	.44	.38	.34	.29
39F3000	91-MPF3S	E	3	.50	.43	.37	.33	.28
39F082	91-MPM3L	F	3	.42	.36	.32	.28	.24
39F3001	91-MPM3S	F	3	.42	.36	.32	.28	.24
39F081	91-MPF4L	E	4	.55	.47	.41	.36	.29
39F3002	91-MPF4S	E	4	.53	.46	.40	.35	.30
39F083	91-MPM4L	F	4	.47	.41	.35	.31	.27
39F084	91-MPM5L	F	5	.49	.42	.36	.32	.27
39F3003	91-MPM4S	F	4	.47	.41	.35	.31	.27
39F085	91-MPM6L	F	6	.48	.41	.36	.31	.27

Stk. No.	Type	Fig.	Pins	1-49	50-99	100-249	250-999	1000-2499
39F090	78-PCG3	G	3	.50	.41	.37	.286	.255
39F091	78-PCG4	G	4	.59	.50	.444	.344	.306
39F092	78-PCG5	G	5	.62	.52	.465	.361	.320
39F093	78-PCG6	G	6	.63	.53	.473	.366	.326

RECTANGULAR PLUGS AND SOCKETS

Molded of black bakelite with molded-in-mounting plate. Type 70-26 is plug; 77-26 is a socket. Wt., 3 oz.

Stk. No.	Type	Pins	1-49	50-99	100-249	250-999	1000-2499
39F165	70-26	4	.21	.17	.154	.12	.107
39F166	77-26	4	.33	.27	.245	.19	.164

2-POLE GROUNDING TYPE RECEPTACLES AND PLUGS

160-2 160-4 160-9

Rated 15 amps, 110 volts. Mtg. Ctr. A mount in 19/32" dia. center hole and two 5/32" holes on 11/2" to 155/64" centers. Mtg. Ctr. B. mount in 17/16" hole; two 5/32" screw holes on 13/4" centers. Mtg. Ctr. C. 7/16" I.D. grommet or clamp to 3/8" O.D. Mtg. Ctr. D meets MIL-M-14F req. Mount in 111/64" keyed hole. Wt. 3 oz. *w/Grommet.tw/Clamp.

Stk. No.	Type	Description	Mtg. Ctr.	1-49	50-99	100-249	250-499	500-999
39F1230	160-2-N	Fem. MIP	A	1.02	.88	.76	.67	.61
39F1231	160-3-N	Male MIP	A	1.41	1.21	1.06	.92	.84
39F1232	160-4-N	Fem. Flush Mtr.	B	1.19	1.02	.89	.78	.71
39F1233	160-5-N	Male Flush Mtr.	B	1.56	1.34	1.17	1.08	.93
39F1234	*160-6-N	Fem. Shl'd	C	1.07	.92	.81	.70	.64
39F1235	*160-7-N	Male Shl'd	C	1.35	1.16	1.01	.88	.80
39F1236	†160-8-N	Fem. Shl'd	C	1.14	.98	.86	.75	.68
39F1237	†160-9-N	Male Shl'd	C	1.43	1.22	1.06	.93	.84
39F1238	160-10-N	Fem. Insert	D	.95	.82	.71	.63	.57
39F1239	160-11-N	Male Insert	D	1.14	.98	.85	.78	.68

Amphenol Industrial Tube & Relay Sockets

TYPE S SOCKETS

Wire Wrap

Printed Circuit

"S"

Retainer ring sockets. For easy assembly to chassis or panel from 19 gauge (.044") to 16 gauge (.062") with tempered steel retainer ring. Black phenolic and *micafilled phenolic. Rotation feature permits lining up contacts. All mount in 1 11/64" to 1 7/32" hole. With retainer. Wt., 2 oz.

SOLDER TERMINALS

Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F810	78S4	4	.25	.21	.190	.144	.128
38F811	78S5	5	.27	.22	.20	.154	.137
38F812	78S6	6	.29	.24	.22	.169	.15
38F816	78S8	Octal	.25	.21	.19	.144	.13
39F1045	78S8T*	8	.29	.24	.22	.217	.15
38F817	78S9	9	.28	.21	.19	.144	.13
38F818	78S8L	Loktal	.40	.34	.30	.228	.204
38F821	78S11	11	.33	.27	.24	.19	.169
39F1046	78S11T*	11	.37	.31	.28	.277	.191

PRINTED CIRCUIT TYPES

Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
42F814	78S8W-0125	8	.31	.26	.234	.181	.161
42F815	78S9W-0125	9	.34	.28	.253	.196	.174
42F816	78S11W-0125	11	.34	.29	.26	.20	.183

WIRE WRAP TYPES

42F819	78S8W-0500	8	.36	.30	.268	.208	.185
42F820	78S9W-0500	9	.38	.32	.287	.224	.198
42F821	78S11W-0500	11	.39	.33	.293	.227	.226

TYPE RS SOCKETS

Molded bakelite replacement sockets. Removable adapter plate permits replacement of water sockets. Slotted mtg. holes to fit centers from 1½ to 1 7/8". Shpg. wt., 2 oz.

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F800	78RS4	4	.31	.26	.23	.177	.158
38F801	78RS5	5	.33	.28	.25	.192	.171
38F802	78RS6	6	.35	.30	.26	.204	.183
38F806	78RS8	Octal	.34	.28	.25	.194	.173
38F808	78RS9	9	.37	.309	.28	.214	.19
38F809	78RS11	11	.44	.37	.33	.255	.227

TYPE RSS STEATITE SOCKETS

Low-loss steatite for high frequency transmitters, amplifiers and power supplies. Ideal for use in high temperatures. Mtg. hole, 1 3/16". Universal removable mounting plate with slotted holes. Shpg. wt., 3 oz.

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F860	49RSS4	4	.95	.80	.71	.552	.493
38F865	49RSS8	Octal	1.05	.87	.78	.605	.541

TYPE 147 & 59 MINIATURE SOCKETS

A

B

147 series mount in 5/8" chassis hole and have 7/8" mounting centers with 1/8" screw holes. 59 series mount in 3/4" chassis hole and have 1 1/8" mounting centers with .095" rivet holes. All are Bottom-Mounting Type-Fig. A except those with * which are Top-Mounting Type-Fig. B. (Tube Shield Base included) Shpg. wt. 2 oz.

Stock No.	Type	Insul.	Pins	1-49	50-99	100-249	250-999	1000-2499
38F870	147-500	Bakelite	7	.38	.32	.283	.22	.196
38F872	147-505	Mica	7	.39	.33	.293	.227	.202
38F875	*147-905	Bakelite	7	.46	.38	.344	.267	.238
38F877	*147-913	Mica	7	.46	.38	.343	.266	.237
38F873	59-409	Bakelite	9	.44	.37	.333	.257	.23
38F874	59-410	Mica	9	1.03	.86	.766	.593	.53
38F878	*59-407	Bakelite	9	.51	.43	.383	.297	.265
38F879	*59-406	Mica	9	.53	.44	.393	.305	.272

MINIATURE RETAINER RING SOCKETS

For installation in compact electronic equipment. Black molded bakelite bodies. Mount in 5/8" round or "D" shaped hole with ring provided. Wt., 2 oz.

Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F825	78-S3S	3	.15	.12	.111	.086	.076
38F826	78-S4S	4	.22	.19	.167	.13	.115
38F827	78-S5S	5	.23	.20	.175	.136	.121
38F828	78-S6S	6	.24	.20	.178	.138	.123

TYPE MIP SOCKETS

Wire Wrap

Solder

Printed Circuit

High dielectric bakelite body with molded in steel plate. *Requires 1 3/16" hole for mounting. All others mount in 1 5/32" hole. †Micafilled phenolic socket. Shpg. wt., 2 oz. **Floating socket requires 1 3/16" hole.

SOLDER TYPES 77M1P8FK

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F840	77MIP4	4	.24	.20	.181	.14	.125
42F822	†77MIP4T	4	.27	.22	.20	.155	.138
42F823	†77MIP5Tm	5	.41	.34	.308	.239	.216
38F841	77MIP5	5	.27	.22	.20	.154	.137
38F842	77MIP6	6	.29	.24	.22	.169	.151
42F824	†77MIP6T	6	.33	.28	.25	.193	.173
38F843	77MIP7S	7S	.31	.26	.234	.181	.162
38F845	77MIP8	Octal	.26	.22	.20	.152	.136
38F839	†77MIP8T	Octal	.28	.24	.211	.165	.145
38F846	*88-8	Octal	.29	.24	.220	.170	.150
38F847	*88-8X	Loktal	.44	.37	.330	.254	.226
38F848	77MIP9	9	.30	.25	.226	.175	.156
38F849	77MIP11	11	.31	.26	.232	.180	.160
38F1244	†77MIP11T	11	.37	.31	.280	.216	.192
38F850	77MIP12	12	.36	.30	.269	.208	.185
39F149	77MIP20	20	.70	.59	.527	.410	.363

PRINTED CIRCUIT TYPES

Stock No.	Type	Prongs	1-49	50-249	250-499	500-999	1000-2499
42F825	77M1P8W-0125	8	.33	.27	.245	.19	.169
42F826	77M1P9W-0125	9	.37	.31	.274	.212	.190
42F827	77M1P11W-0125	11	.39	.33	.294	.228	.203

WIRE WRAP TYPES

42F828	77M1P8W-0500	8	.37	.31	.274	.212	.188
42F829	77M1P9W-0500	9	.41	.34	.303	.235	.209
42F830	77M1P11W-0500	11	.46	.38	.34	.264	.235

RELAY SOCKETS

146-817

146-103, 146-104

Type 146-817. 11 contact socket with 4 molded-in threaded inserts. 600 VRMS. 10 Amps. Type 146-103. 8 contact standard socket without tie point inserts top mounted. Molded in one piece of Melamine. Removable contacts. 1250 V. RMS, 5 amps. Type 146-104. 8 contact socket with 4 molded-in treaded inserts for tie points. Top mounted. Molded in one piece of Melamine. Removable contacts.

Type 146-203. Same as 146-103 above except bottom mounted.

Type 146-204. Same as 146-104 above except bottom mounted.

Stk. No.	Type	Wt.	1-49	50-99	100-249	250-999	1000-2499
38F930	146-103	8 oz.	1.64	1.45	1.27	.94	.86
38F931	146-104	8 oz.	2.04	1.71	1.53	1.18	1.06
38F933	146-203	8 oz.	1.64	1.45	1.27	.94	.86
38F934	146-204	8 oz.	2.04	1.71	1.53	1.18	1.06
39F1247	146-817	10 oz.	3.53	2.95	2.65	2.00	1.83

MINIATURE TUBE SHIELDS

For 7 and 9 pin miniature sockets above. Steel shell, cadmium plated. Shpg. wt., 2 oz.

Stock No.	Type	Height	For	1-49	50-249	250-499	500-999	1000-2499
38F881	5-402	1¾"	7 pin	.22	.181	.152	.130	.115
38F883	5-408	1 15/16"	9 pin	.25	.211	.177	.151	.134
38F884	5-409	2 3/16"	9 pin	.31	.256	.215	.184	.163

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MD 308 SUBMINIATURE RECTANGULAR CONNECTORS

NUMBER SYSTEM

MD308 G — 25 P 1

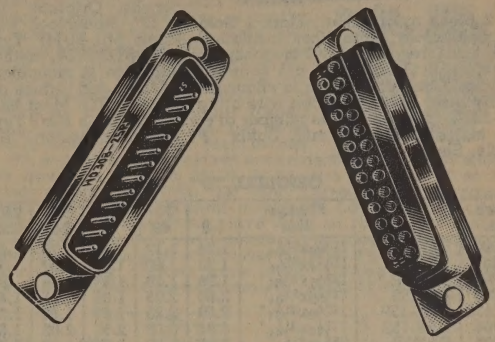
Type of contact.
1 designates solder.
2 designates crimp.

Mating half of connector.
P designates with pin contacts.
S designates with socket contacts.

Contact arrangement and model.
09 for 9 contact model.
15 for 15 contact model.
25 for 25 contact model.
37 for 37 contact model.
50 for 50 contact model.

Class designation.
G for general purpose connectors with steel shells.
N for non-magnetic connectors with gold plated brass shells and Beryllium Copper socket contact sleeves.
H for hermetic connectors with solid glass inserts with solder contacts fused in place.

Series prefix.



CONTACTS

Military	Matrix	100-4999	5000-24999	25000-UP
M24308/10-1	5100-014-020	.155	.14	.115
M24308/11-1	5000-007-020	.230	.20	.160

Meet MIL-C-24308. Rated at 1000 VAC and 7.5 amps. May be crimped to wire size 20, 22 or 24 with standard MS tools. Features crimp contacts that are inserted, released and removed from the rear. All connectors are available with non-removable solder contacts fabricated to meet MIL-C-24308 or float mount on special order.

Crimp connectors shipped with contacts and removal tool when ordered by MIL number.

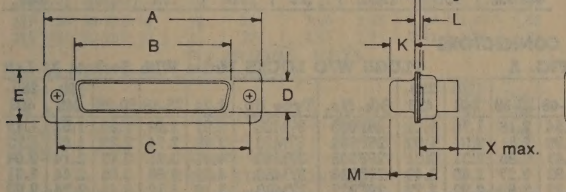
GENERAL PURPOSE

Military	Matrix	1-9	10-49	50-99	100-249	250-499
M24308/1-1	MD308G-9S1	3.37	3.00	2.44	1.91	1.76
M24308/1-2	MD308G-15S1	5.00	4.43	3.51	2.86	2.61
M24308/1-3	MD308G-25S1	7.70	6.85	5.55	4.39	4.03
M24308/1-4	MD308G-37S1	10.96	9.78	7.91	6.26	5.74
M24308/1-5	MD308G-50S1	14.39	12.83	10.38	8.22	7.54
M24308/2-1	MD308G-9S2	6.52	5.81	4.70	3.73	3.41
M24308/2-2	MD308G-15S2	9.07	8.09	6.54	5.19	4.75
M24308/2-3	MD308G-25S2	13.07	11.76	9.52	7.54	6.91
M24308/2-4	MD308G-37S2	18.10	16.14	13.07	10.34	9.48
M24308/2-5	MD308G-50S2	23.37	20.83	16.87	13.36	12.24
M24308/3-1	MD308G-9P1	2.43	2.17	1.75	1.40	1.28
M24308/3-2	MD308G-15P1	3.52	3.13	2.54	2.01	1.84
M24308/3-3	MD308G-25P1	5.19	4.62	3.75	2.96	2.72
M24308/3-4	MD308G-37P1	7.23	6.46	5.13	4.14	3.79
M24308/3-5	MD308G-50P1	9.39	8.36	6.77	5.37	4.91
M24308/4-1	MD308G-9P2	6.33	5.65	4.58	3.61	3.32
M24308/4-2	MD308G-15P2	8.06	7.19	5.81	4.61	4.22
M24308/4-3	MD308G-25P2	10.83	9.65	7.81	6.18	5.67
M24308/4-4	MD308G-37P2	14.14	12.62	10.20	8.09	7.41
M24308/4-5	MD308G-50P2	17.68	15.77	12.76	10.10	9.26

NON-MAGNETIC

Military	Matrix	1-9	10-49	50-99	100-249	250-499
M24308/5-1	MD308N-9S1-026	4.87	4.50	3.94	3.41	3.26
M24308/5-2	MD308N-15S1-026	6.50	5.93	5.01	4.36	4.01
M24308/5-3	MD308N-25S1-026	9.20	8.35	7.05	5.89	5.53
M24308/5-4	MD308N-37S1-026	12.46	11.28	9.41	7.76	7.24
M24308/5-5	MD308N-50S1-026	15.89	14.33	11.88	9.72	9.04
M24308/6-1	MD308N-9S2-026	8.02	7.31	6.20	5.23	4.91
M24308/6-2	MD308N-15S2-026	10.57	9.59	8.04	6.69	6.25
M24308/6-3	MD308N-25S2-026	14.57	13.26	11.02	9.04	8.41
M24308/6-4	MD308N-37S2-026	18.60	17.64	14.57	11.84	10.98
M24308/6-5	MD308N-50S2-026	24.87	22.33	18.37	14.86	13.74
M24308/7-1	MD308N-9P1-026	3.93	3.67	3.25	2.90	2.78
M24308/7-2	MD308N-15P1-026	5.02	4.63	4.04	3.51	3.34
M24308/7-3	MD308N-25S1-026	6.69	6.12	5.25	4.46	4.22
M24308/7-4	MD308N-37S1-026	8.73	7.96	6.63	5.64	5.29
M24308/7-5	MD308N-50S1-026	10.89	9.86	8.27	6.87	6.41
M24308/8-1	MD308N-9P2-026	7.83	7.15	6.08	5.11	4.82
M24308/8-2	MD308N-15P2-026	9.56	8.69	7.31	6.11	5.72
M24308/8-3	MD308N-25P2-026	12.33	11.15	9.31	7.68	6.17
M24308/8-4	MD308N-37P2-026	15.64	14.12	11.70	9.59	8.91
M24308/8-5	MD308N-50P2-026	19.18	17.22	14.26	11.60	10.76

SHELL DIMENSIONS



Note: contact dimensions & materials per MS18281

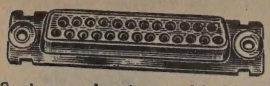
PLATING: per QQ-P-416, Type II, Class 2

PLATING: .000050 gold over copper strike (std.)

PART NUMBER	A ±.015	B ±.010	C ±.005	D ±.010	E ±.015	G ±.010	H ±.010	J ±.010	K ±.010	L ±.010	M ±.010	X MAX.
MD308-9P	1.213	.697	.984	.360	.494	.759	.422	.030	.236	.045	.422	.375
MD308-9S	1.213	.640	.984	.308	.494	.759	.422	.030	.243	.045	.429	.375
MD308-15P	1.541	1.025	1.312	.360	.494	1.083	.422	.030	.236	.045	.422	.375
MD308-15S	1.541	.968	1.312	.308	.494	1.083	.422	.030	.243	.045	.429	.375
MD308-25P	2.088	1.583	1.852	.378	.494	1.625	.422	.039	.231	.060	.426	.375
MD308-25S	2.088	1.508	1.852	.308	.494	1.625	.422	.030	.243	.045	.429	.375
MD308-37P	2.729	2.231	2.500	.378	.494	2.272	.422	.039	.231	.060	.426	.375
MD308-37S	2.729	2.156	2.500	.308	.494	2.272	.422	.030	.243	.045	.429	.375
MD308-50P	2.635	2.127	2.406	.484	.605	2.178	.534	.039	.231	.060	.426	.375
MD308-50S	2.635	2.062	2.406	.420	.605	2.178	.534	.030	.243	.045	.429	.375

Cinch-Jones Connectors

SUBMINIATURE "D" CONNECTORS



Have pin and socket insert, gold-plated copper alloy contacts, cadmium-plated steel shells. Original "D" has 2 piece nylon insert. Mark I Golden "D"; monoblock with diallylphthalate glass fiber insulation. Meets MIL-M-14F Type SDG. Insul. res., over 5000 megohms, per MIL-STD-202A, method 302. Mark II Golden "D" are snap-in crimp type in monoblock insulator. Contacts snap-in to eliminate soldering and reduce assembly time. Takes stranded wire of up to #20 AWG. Meet MIL-STD-202A. *Digits indicate number of contacts. "F" in Mfr's Type No., indicates floating mfg. Suffix "P", male connector; "S", female. Shpg. wt., 2 oz.

ORIGINAL "D"

Stock No.	Type	Flange Size	1-9	10-49	50-99	100-249	250-499
43F200	DE-9P	$1\frac{13}{64}$x$\frac{31}{64}$"	1.24	1.12	.95	.75	.69
43F201	DE-9S	$1\frac{13}{64}$x$\frac{31}{64}$"	1.79	1.60	1.34	1.07	.98
43F202	DA-15P	$1\frac{17}{32}$x$\frac{31}{64}$"	1.76	1.58	1.33	1.06	.97
43F203	DA-15S	$1\frac{17}{32}$x$\frac{31}{64}$"	2.60	2.35	1.95	1.55	1.43
29F1150	DAF-15P	$1\frac{17}{32}$x$\frac{31}{64}$"	2.50	2.25	1.87	1.49	1.37
43F204	DAF-15S	$1\frac{17}{32}$x$\frac{31}{64}$"	3.34	3.00	2.51	2.02	1.84
43F205	DB-25P	$2\frac{5}{64}$x$\frac{31}{64}$"	2.55	2.29	1.91	1.52	1.40
43F206	DB-25S	$2\frac{5}{64}$x$\frac{31}{64}$"	3.99	3.59	2.99	2.40	2.19
29F1151	DBF-25P	$2\frac{5}{64}$x$\frac{31}{64}$"	3.36	3.02	2.53	2.03	1.85
43F207	DBF-25S	$2\frac{5}{64}$x$\frac{31}{64}$"	4.80	4.33	3.60	2.89	2.64
43F208	DC-37P	$2\frac{23}{32}$x$\frac{31}{64}$"	3.47	3.12	2.59	2.09	1.91
43F209	DC-37S	$2\frac{23}{32}$x$\frac{31}{64}$"	5.66	5.09	4.24	3.39	3.12
43F210	DD-50P	$2\frac{5}{8}$x$\frac{39}{64}$"	4.52	4.06	3.38	2.72	2.49
43F211	DD-50S	$2\frac{5}{8}$x$\frac{31}{64}$"	7.46	6.71	5.60	4.46	4.10

MARK I GOLDEN "D"

43F233	DEM-9P	$1\frac{13}{64}$x$\frac{31}{64}$"	2.47	2.22	1.85	1.48	1.35
43F234	DEM-9S	$1\frac{13}{64}$x$\frac{31}{64}$"	3.40	3.06	2.56	2.06	1.88
43F235	DAM-15P	$1\frac{17}{32}$x$\frac{31}{64}$"	3.56	3.20	2.66	2.13	1.95
43F236	DAM-15S	$1\frac{17}{32}$x$\frac{31}{64}$"	5.05	4.55	3.79	3.02	2.78
43F238	DBM-25P	$2\frac{5}{64}$x$\frac{31}{64}$"	5.24	4.71	3.94	3.15	2.89
43F233	DBM-25S	$2\frac{5}{64}$x$\frac{31}{64}$"	7.78	6.99	5.84	4.66	4.27
43F241	DCM-37P	$2\frac{23}{32}$x$\frac{31}{64}$"	7.32	6.58	5.49	4.39	4.02
43F242	DCM-37S	$2\frac{23}{32}$x$\frac{31}{64}$"	11.08	9.98	8.31	6.64	6.10
43F243	DDM-50P	$2\frac{5}{8}$x$\frac{39}{64}$"	9.48	8.54	7.11	5.70	5.21
43F244	DDM-50S	$2\frac{5}{8}$x$\frac{39}{64}$"	14.53	13.08	10.90	8.72	7.99

MARK II GOLDEN "D"

29F1152	DESM-9P	$1\frac{17}{32}$x$\frac{31}{64}$"	3.50	3.29	2.92	2.61	2.33
29F1153	DESM-9S	$1\frac{17}{32}$x$\frac{31}{64}$"	4.13	3.79	3.45	3.11	2.76
29F1154	DESMF-9P	$1\frac{17}{32}$x$\frac{31}{64}$"	4.21	3.94	3.47	3.05	2.73
29F1155	DESMF-9S	$1\frac{17}{32}$x$\frac{31}{64}$"	4.84	4.43	3.98	3.54	3.15
29F1156	DASM-15P	$1\frac{35}{64}$x$\frac{31}{64}$"	5.33	4.88	4.44	4.00	3.55
29F1157	DASM-15S	$1\frac{35}{64}$x$\frac{31}{64}$"	6.47	5.93	5.40	4.85	4.32
29F1158	DASMF-15P	$1\frac{35}{64}$x$\frac{31}{64}$"	6.05	5.52	4.99	4.43	3.94
29F1159	DASMF-15S	$1\frac{35}{64}$x$\frac{31}{64}$"	7.18	6.58	5.93	5.29	4.70
29F1160	DBSM-25P	$2\frac{23}{32}$x$\frac{31}{64}$"	8.10	7.07	6.44	5.45	4.88
29F1161	DBSM-25S	$2\frac{23}{32}$x$\frac{31}{64}$"	9.77	8.95	8.15	6.63	5.88
29F1162	DBSMF-25P	$2\frac{23}{32}$x$\frac{31}{64}$"	8.81	7.71	6.97	5.88	5.27
29F1163	DBSMF-25S	$2\frac{23}{32}$x$\frac{31}{64}$"	10.48	9.60	8.68	7.07	6.27
29F1164	DCSM-37P	$2\frac{47}{64}$x$\frac{31}{64}$"	9.41	8.62	7.88	7.07	6.27
29F1165	DCSM-37S	$2\frac{47}{64}$x$\frac{31}{64}$"	13.43	12.32	11.19	9.59	8.79
29F1166	DCSMF-37P	$2\frac{47}{64}$x$\frac{31}{64}$"	10.12	9.27	8.41	7.50	6.66
29F1167	DCSMF-37S	$2\frac{47}{64}$x$\frac{31}{64}$"	14.14	12.97	11.74	10.02	9.18
29F1168	DDSM-50P	$2\frac{41}{64}$x$\frac{39}{64}$"	14.55	13.31	11.93	9.37	8.59
29F1169	DDSM-50S	$2\frac{41}{64}$x$\frac{39}{64}$"	18.11	16.60	15.10	12.50	11.36
29F1170	DDSMF-50S	$2\frac{41}{64}$x$\frac{39}{64}$"	18.83	17.25	15.63	12.93	11.75

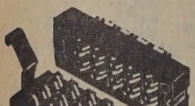


Fig. A

Fig. B

Maximum number of contacts in minimum of space. Easily engaged and disengaged. Locking device insures positive contact. Type 37 plugs and sockets are black Bake-lite type CFG. All 1⅛" wide.

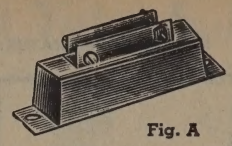


Fig. A

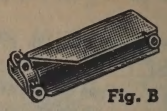


Fig. B

Fig. C

STRAIGHT CLAMP TYPE JUNCTION SHELLS — Fig. A

Stk. No.	Description	DWG Number	1-9	10-49	50-99	100-249	250-499
43F212	(DA-19678-1)	019678-0001	1.09	.99	.82	.66	.60
43F213	(DB-19678-2)	019678-0002	1.29	1.16	.98	.78	.71
43F214	(DC-19678-3)	019678-0003	1.53	1.39	1.16	.92	.84
43F215	(DD-19678-4)	019678-0004	1.69	1.51	1.25	1.01	.92

RIGHT ANGLE TYPE JUNCTION SHELLS — Fig. B

43F216	(DA-19977-1)	019977-0001	1.42	1.27	1.06	.84	.78
43F217	(DB-19977-2)	019977-0002	1.55	1.41	1.17	.93	.85
43F218	(DC-19977-3)	019977-0003	1.65	1.48	1.23	.99	.89
43F219	(DD-19977-4)	019977-0004	1.79	1.60	1.34	1.07	.98
43F220	(DE-19977-5)	019977-0005	1.81	1.63	1.37	1.08	.99

MOLDED HOODS FOR ABOVE PLUGS OR SOCKETS — Fig. C

Stk. No.	Description	DWG No.	1-9	10-49	50-99	100-249	250-499
43F252	DA-51225-1 for 15 cont.	239-13-99-069	1.42	1.27	1.02	.93	.85
43F253	DB-51226-1 for 25 cont.	239-13-99-070	1.56	1.32	1.05	.96	.87

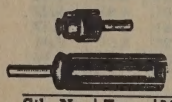
SCREW LOCK ASSEMBLIES *Male †Female

43F230	D20418-2†	020418-0002	.47	.38	.33	.26	.24
43F231	D20419*	020419-0000	.26	.24	.20	.16	.15
43F232	D20420*	020420-0000	.39	.36	.29	.24	.22

DATAPHONE CONNECTORS & HOODS

Stock No.	Description	DWG No.	1-9	10-49	50-99	100-249	250-499
43F246	DA-19603-404 15-cont. socket	230-15-61-099	6.35	5.83	5.30	4.77	4.24
43F247	DB-19604-433 25-cont. socket	230-25-61-099	9.95	9.11	8.28	7.46	6.63
43F249	DA-19603-403 15-pin plug	231-15-61-133	2.82	2.64	2.38	2.12	2.04
43F250	DB-19604-432 25-pin plug	231-25-61-125	3.89	3.63	3.26	2.87	2.75

PLUGS



13A. Phono plug. Use with 81A and 81B phono jacks. Shpg. wt. 3 oz.

13B. Motorola antenna plug. Use with 81C or 81F connector. Shpg. wt. 4 oz.

Stk. No.	Type	Mfr. No.	1-24	25-49	50-99	100-249	250-499
39F796	13A	1336	.10	.09	.08	.064	.054
39F396	13B	1320	.18	.15	.13	.107	.097

Fig. A—HINGE CONNECTORS

SOCKETS WITH LOCKS—FIG. A							PLUGS W/O LOCKS Mates With Sockets At Left						
Stk. No.	Type No.	1-24	25-49	50-99	100-249	250-499	Stk. No.	Type No.	1-24	25-49	50-99	100-249	250-499
29F906	37F20L	3.19	2.54	2.16	1.70	1.61	29F933	37M20	2.87	2.29	1.92	1.52	1.45
29F907	37F30L	3.77	2.99	2.51	2.01	1.92	29F934	37M30	3.43	2.74	2.29	1.83	1.73
29F908	37F40L	4.34	3.47	2.88	2.31	2.21	29F935	37M40	4.01	3.21	2.67	2.14	2.04
29F909	37F50L	4.91	3.92	3.27	2.63	2.49	29F936	37M50	4.58	3.66	3.05	2.44	2.31
29F910	37F60L	5.47	4.37	3.65	2.92	2.77	29F937	37M60	5.16	4.12	3.43	2.74	2.60
29F912	37F80L	6.62	5.28	4.40	3.54	3.36	29F939	37M80	6.30	5.04	4.19	3.36	3.20
29F914	37F100L	7.76	6.21	5.18	4.14	3.93	29F941	37M100	7.43	5.95	4.96	3.96	3.77
SOCKETS W/O LOCKS—FIG. A							PLUGS WITH LOCKS Mates With Sockets At Left						
29F915	37F20	2.87	2.29	1.92	1.52	1.45	29F924	37M20L	3.19	2.54	2.12	1.70	1.61
29F916	37F30	3.43	2.74	2.29	1.83	1.73	29F925	37M30L	3.77	2.99	2.51	2.01	1.92
29F917	37F40	4.01	3.21	2.67	2.14	2.04	29F926	37M40L	4.34	3.47	2.88	2.31	2.21
29F920	37F70	5.72	4.58	3.81	3.05	2.89	29F929	37M70L	6.05	4.83	4.03	3.23	3.07
29F923	37F100	7.43	5.95	4.96	3.96	3.77	29F932	37M100L	7.76	6.21	5.18	4.14	3.93

Fig. B—CAPS TO FIT HINGE CONNECTORS LISTED ABOVE

Stk. No.	Type	For Types	Hole Size	1-24	25-49	50-99	100-249	250-499
29F942	37C20	M/F20	¾"	4.43	3.55	2.96	2.37	2.26
29F943	37C30	M/F30	$1\frac{3}{16}$x1"	4.48	3.58	2.98	2.39	2.28
29F944	37C40	M/F40	$1\frac{3}{16}$x1"	4.53	3.62	3.01	2.42	2.30
29F945	37C50	M/F50	$1\frac{3}{16}$x1"	4.58	3.66	3.05	2.44	2.31
29F946	37C60	M/F60	$1\frac{3}{16}$x1½"	4.62	3.70	3.09	2.46	2.34
29F947	37C70	M/F70	$1\frac{3}{16}$x1½"	4.68	3.73	3.11	2.50	2.37
29F948	37C80	M/F80	$1\frac{3}{16}$x1½"	4.71	3.78	3.13	2.52	2.39
29F950	37C100	M/F100	$1\frac{3}{16}$x1½"	4.82	3.84	3.22	2.56	2.44

STANDARD EDGE CONNECTORS FOR 1/16" PRINTED CIRCUIT BOARDS

Bifurcated contacts provide added contact reliability where vibration and irregularities are involved. Insulation is glass-filled diallyl phthalate, type SDG-F per MIL-M-14. Contacts are phosphor bronze with 30 micro-inches gold. Two types of polarizing keys available—see listing below.

SINGLE READOUT WITH SOLDER TAB CONTACTS

Stk.No.	Type	Cont. Pos.	Cont.	1-24	25-49	50-99	100-249	250-499
29F952	50-6A-20	6	6	1.29	1.03	.87	.69	.65
29F953	50-10A-20	10	10	1.73	1.39	1.15	.93	.89
29F954	50-12A-20	12	12	1.96	1.64	1.30	1.04	.99
29F955	50-15A-20	15	15	2.29	1.82	1.53	1.22	1.15
29F956	50-18A-20	18	18	2.62	2.09	1.74	1.39	1.33
29F957	50-22A-20	22	22	3.06	2.45	2.04	1.62	1.55
29F978	50-25A-20	25	25	3.65	2.91	2.43	1.95	1.85

DOUBLE READOUT WITH SOLDER TAB CONTACTS

(Contact positions have two contacts)

29F958	50-12A-30	6	12	1.29	1.03	.87	.69	.65
29F959	50-20A-30	10	20	1.73	1.39	1.15	.93	.89
29F960	50-24A-30	12	24	1.96	1.64	1.30	1.04	.99
29F961	50-30A-30	15	30	2.29	1.82	1.53	1.22	1.15
29F962	50-36A-30	18	36	2.62	2.09	1.74	1.39	1.33
29F963	50-44A-30	22	44	3.06	2.45	2.04	1.62	1.55
29F979	50-50A-30	25	50	3.65	2.91	2.43	1.95	1.85

MIL SPEC. EDGE CONNECTORS

Meets Military Specification MIL-C-21097B. These date-coded connectors have beryllium copper contacts with 50 micro-inches gold.

SINGLE READOUT WITH SOLDER TAB CONTACTS

Stk.No.	Type	MIL No.	1-24	25-99	50-99	100-249	250-499
28F1112	50-6A-20M	M21097/1-001	1.66	1.33	1.10	.88	.84
28F1113	50-10A-20M	M21097/1-037	2.32	1.85	1.55	1.24	1.17
28F1114	50-15A-20M	M21097/1-073	3.14	2.52	2.10	1.68	1.60
28F1115	50-18A-20M	M21097/1-109	3.65	2.91	2.43	1.95	1.85
28F1116	50-22A-20M	M21097/1-145	4.31	3.45	2.86	2.29	2.18

DOUBLE READOUT WITH SOLDER TAB CONTACTS

28F1117	50-12A-30M	M21097/1-019	1.66	1.33	1.10	.88	.84
28F1118	50-20A-30M	M21097/1-055	2.32	1.85	1.55	1.24	1.17
28F1119	50-30A-30M	M21097/1-091	3.14	2.51	2.10	1.68	1.60
28F1120	50-36A-30M	M21097/1-127	3.65	2.91	2.43	1.95	1.85
28F1121	50-44A-30M	M21097/1-163	4.31	3.45	2.86	2.30	2.18

DOUBLE READOUT WITH DIP SOLDER CONTACTS

Stk.No.	Type	Cont. Pos.	Cont.	1-24	25-49	50-99	100-249	250-499
29F964	50-12B-10	6	12	1.29	1.03	.87	.69	.65
29F965	50-20B-10	10	20	1.73	1.39	1.15	.93	.89
29F966	50-24B-10	12	24	1.96	1.64	1.30	1.04	.99
29F967	50-30B-10	15	30	2.29	1.82	1.53	1.22	1.15
29F968	50-36B-10	18	36	2.62	2.09	1.74	1.39	1.33
29F969	50-44B-10	22	44	3.06	2.45	2.04	1.62	1.55

SINGLE READOUT WITH DIP SOLDER CONTACTS

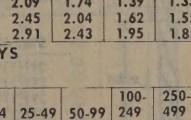
28F1151	50- 6B-10	6	6	1.29	1.03	.87	.69	.65
28F1152	50-10B-10	10	10	1.73	1.39	1.15	.93	.89
28F1153	50-15B-10	15	15	2.29	1.82	1.53	1.22	1.15
28F1154	50-18B-10	18	18	2.62	2.09	1.74	1.39	1.33
28F1155	50-22B-10	22	22	3.06	2.45	2.04	1.62	1.55
28F1156	50-25B-10	25	25	3.65	2.91	2.43	1.95	1.85

POLARIZING KEYS

For use with above edge connectors

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499
28F1157	50-PK-1	in-contact	.07	.05	.04	.033	.032
28F1158	50-PK-2	between-contact	.06	.05	.04	.031	.029

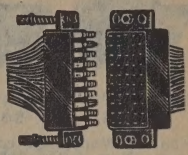
TYKON EDGE CONNECTORS



Outstanding high density (.050" centers) edge connectors for .062" printed circuit boards. Potential applications include diode on insulating substrates, memory planes (standard and thin film types) and almost any type of modular plug-in unit. Tykon connectors are furnished with conventional wiring tails suitable for welding or soldering. Highly rated electrical and mechanical performances.

Stock No.	Type No.	Description	1-24	25-49	50-99	100-249	250-499
29F980	50,12A-40	6 dbl. row contacts	3.52	2.81	2.34	1.87	1.78
29F981	50-20A-40	10 dbl. row contacts	4.34	3.47	2.89	2.31	2.19
29F982	50-30A-40	15 dbl. row contacts	5.36	4.30	3.58	2.85	2.72
29F983	50-40A-40	20 dbl. row contacts	6.39	5.11	4.25	3.40	3.23
29F984	50-50A-40	25 dbl. row contacts	7.41	5.92	4.93	3.96	3.75
29F985	50-MC	Mounting Clip	.21	.15	.13	.12	.11
29F986	50-PK	Polarizing Key	.17	.14	.13	.12	.11

MINI-JONES CRIMP-ON, SNAP-IN CONNECTORS



"MINI-JONES" is a light-duty, multiple-contact connector, consisting of casting and bulk pins or contacts to make complete unit of your choice. No insertion tool needed. Applications include computers, communications systems and automatic vending equipment. Contact density of 25 contacts per square inch results in space saving. Can be used for rack and panel, cable-to-cable mounting or cable-to-chassis. Pin and contact terminations accommodate following stranded wire sizes: one AWG 18, 20, 22, or 24; also two AWG 22 or 24. Voltage rating: 830 VRMS, 1230 VDC; Current rating 4.0 amps; Contact resistance: .0065 ohms maximum; Low level contact resistance; current flow at 0.1 micro volts, no variation of contact res. at 6.5 ma and 16.25 ma; Insulation resistance; 1000 megohms. Contacts are of Phosphor and Bronze material. Polarizing pins and lock nuts—brass: Locking screw—steel: Locking spring—music wire. MJP-2/MJS-2 series have provision for MJ-SL screw locks.

Stock No.	Mfg. No.	Pins or Contacts Supplied	1-24	25-49	50-99	100-249	250-499
28F1124	MJP-39	39	3.47	2.77	2.30	1.84	1.74
28F1127	MJP-68	68	4.73	3.78	3.15	2.52	2.40
28F1128	MJP-2-19	19	3.64	2.91	2.43	1.94	1.84
28F1129	MJP-2-29	29	4.11	3.28	2.73	2.18	2.07
28F1130	MJP-2-39	39	4.56	3.64	3.03	2.43	2.30
28F1131	MJP-2-48	48	4.91	3.93	3.28	2.63	2.49
28F1132	MJP-2-58	58	5.37	4.28	3.58	2.87	2.71
28F1133	MJP-2-68	68	5.82	4.65	3.89	3.11	2.94
28F1136	MJS-39	39	2.91	2.33	1.94	1.55	1.48
28F1137	MJS-48	48	3.14	2.51	2.10	1.68	1.59
29F1139	MJS-68	68	3.77	3.02	2.52	2.02	1.92
28F1140	MJS-2-19	19	3.37	2.69	2.25	1.80	1.71
28F1141	MJS-2-29	29	3.69	2.94	2.46	1.96	1.86
28F1142	MJS-2-39	39	4.00	3.20	2.67	2.14	2.03
28F1143	MJS-2-48	48	4.23	3.38	2.82	2.26	2.15
28F1144	MJS-2-58	58	4.56	3.64	3.03	2.43	2.30
28F1145	MJS-2-68	68	4.86	3.90	3.26	2.59	2.46

SCREW LOCK AND SPRING

Type MJ-SL. Spring-loaded stud-lock which fits MJP-2/MJS-2 series plugs and sockets interchangeably to complete lock.

Stock No.	Type	1-24	25-49	50-99	100-249
23F1146	MJ-SL	.91	.72	.61	.48

PLUG PINS AND SOCKET CONTACTS

Type MJP-P. Extra plug pins available for the Cinch Mini-Jones crimp-on, snap-in connector series. 100 plug pins per bag.
Type MJS-C. Extra socket contacts available for the Cinch Mini-Jones crimp-on, snap-in connector series. 100 per bag.

Stock No.	Type	1-24	25-49	50-99	100-249
28F1147	MJP-P	.12	.09	.05	.037
28F1148	MJS-C	.12	.09	.05	.037

CRIMPING TOOL

Type CT-5B. Versatile, manually operated tool for crimping wire to "MINI-JONES" plug or receptacle contacts. Cycle controlled to assure correct crimping operation.
28F1149. NET **126.00**

PIN REMOVAL TOOL

Type CT-5A. Special nylon hand tool with separate tips for removing contacts from "MINI-JONES" plug or receptacle.
28F1150. NET **1.05**

PLUG BUTTONS

Used to cover holes in metal, wood, fibre, etc. Nickel plated steel. Av. Shpg. wt. 2 oz.
*Screen Type for 1" diam. (Bright zinc plated)

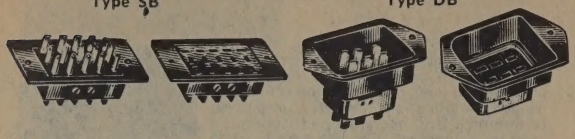
Stk. No.	Type	Mfg.No.	Hole Dia.	1-24	25-49	50-99	100-249	250-499
29F633	41A	463 99 22 094 201	1/4"	.07	.06	.05	.04	.03
29F634	41B	463 99 22 098 201	3/8"	.07	.06	.05	.04	.03
29F635	41C	463 99 22 095 201	1/2"	.07	.06	.05	.04	.03
29F636	41D	463 99 22 097 201	5/8"	.07	.06	.05	.04	.03
29F637	41E	463 99 22 100 201	3/4"	.08	.07	.06	.05	.04
29F638	41F	463 99 22 096 201	7/8"	.08	.07	.06	.05	.04
29F639	41G	463 99 22 093 201	1"	.09	.08	.07	.06	.05
29F640	41H	463 99 22 099 201	1 1/4"	.17	.15	.12	.10	.09
29F641	41V*	463 99 11 109 501	1"	.32	.24	.21	.20	.18

CINCH "Jones" Plugs and Sockets

DIVISION OF UNITED-CARR

300 SERIES PLUGS AND SOCKETS

Type SB — Type DB



P-315-SB S-315-SB P-306-DB S-306-DB

Feature Monoblock construction. Eliminate internal moisture traps. Plugs and sockets are compatible with old two piece types.

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
28F1092	P-302-DB	2	.80	.65	.53	.42	.41
28F1093	P-303-DB	3	.81	.65	.56	.43	.41
28F1094	P-304-DB	4	.85	.69	.58	.45	.43
28F1095	P-306-DB	6	.97	.76	.64	.50	.47
28F1096	P-308-DB	8	1.03	.83	.69	.56	.51
28F1097	P-312-DB	12	1.18	.96	.79	.63	.61
28F1098	P-315-DB	15	1.45	1.16	.98	.77	.74
28F1099	P-318-DB	18	1.73	1.39	1.16	.94	.87
28F1100	P-321-DB	21	2.08	1.67	1.39	1.10	1.05
28F1101	P-324-DB	24	2.44	1.94	1.63	1.30	1.23
28F1102	P-327-DB	27	2.79	2.23	1.86	1.48	1.42
28F1103	P-330-DB	30	3.13	2.51	2.10	1.68	1.59
28F1104	P-333-DB	33	3.48	2.79	2.31	1.85	1.76

PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

28F1105	P-315-SB	15	1.45	1.16	.98	.77	.74
28F1106	P-318-SB	18	1.73	1.39	1.16	.94	.87
28F1107	P-321-SB	21	2.08	1.67	1.39	1.10	1.05
28F1108	P-324-SB	24	2.44	1.94	1.63	1.30	1.23
28F1109	P-327-SB	27	2.79	2.23	1.86	1.48	1.42
28F1110	P-330-SB	30	3.13	2.51	2.10	1.68	1.59
28F1111	P-333-SB	33	3.48	2.79	2.31	1.85	1.76

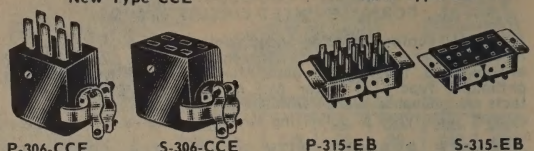
PLUGS WITH CABLE CLAMP IN END

29F1008	P-306-CCE	6	.93	.75	.63	.48	.46
29F1009	P-308-CCE	8	1.01	.80	.67	.53	.50
29F1010	P-310-CCE	10	1.10	.87	.74	.60	.57
29F1011	P-312-CCE	12	1.19	.96	.79	.64	.61
29F1012	P-315-CCE	15	1.56	1.25	1.05	.83	.79
29F1013	P-318-CCE	18	1.83	1.46	1.21	.98	.93
29F1014	P-321-CCE	21	2.44	1.94	1.63	1.29	1.23
29F1015	P-324-CCE	24	2.54	2.04	1.70	1.37	1.30
29F1016	P-327-CCE	27	2.90	2.31	1.93	1.54	1.47
29F1017	P-330-CCE	30	3.27	2.60	2.17	1.74	1.65
29F1018	P-333-CCE	33	3.61	2.89	2.42	1.92	1.83

PLUGS WITH END BRACKETS

29F1064	P-315-EB	15	1.03	.81	.68	.56	.50
29F1065	P-318-EB	18	1.22	.99	.81	.65	.63
29F1066	P-321-EB	21	1.52	1.21	1.02	.81	.77
29F1067	P-324-EB	24	1.84	1.47	1.22	.99	.95
29F1068	P-327-EB	27	2.15	1.72	1.44	1.14	1.09
29F1069	P-330-EB	30	2.47	1.95	1.64	1.32	1.24
29F1070	P-333-EB	33	2.76	2.21	1.84	1.47	1.40

New Type CCE — New Type EB



P-306-CCE S-306-CCE P-315-EB S-315-EB

Formed metal housing with black wrinkle finish. Molded insulator. Phosphor bronze plated contact. Rated voltage 730 volts rms.

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTINGS

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F873	S-302-DB	2	.82	.66	.57	.44	.42
29F874	S-303-DB	3	.82	.66	.57	.44	.42
29F875	S-304-DB	4	.87	.70	.60	.46	.44
20F876	S-306-DB	6	1.00	.79	.66	.51	.49
29F877	S-308-DB	8	1.10	.87	.74	.60	.56
29F878	S-312-DB	12	1.37	1.08	.92	.72	.69
29F879	S-315-DB	15	1.61	1.30	1.08	.85	.81
29F880	S-318-DB	18	1.87	1.49	1.24	1.01	.96
29F881	S-321-DB	21	2.23	1.79	1.48	1.18	1.12
29F882	S-324-DB	24	2.58	2.07	1.73	1.39	1.31
29F883	S-327-DB	27	2.93	2.33	1.94	1.55	1.48
29F884	S-330-DB	30	3.30	2.64	2.21	1.76	1.68
29F885	S-333-DB	33	3.64	2.92	2.44	1.93	1.85

SOCKETS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

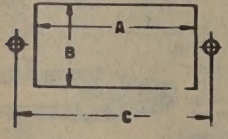
29F886	S-315-SB	15	1.61	1.30	1.08	.85	.81
29F887	S-318-SB	18	1.87	1.49	1.24	1.01	.96
29F888	S-321-SB	21	2.23	1.79	1.48	1.18	1.12
29F889	S-324-SB	24	2.58	2.07	1.73	1.39	1.31
29F890	S-327-SB	27	2.93	2.33	1.94	1.55	1.48
29F891	S-330-SB	30	3.30	2.64	2.21	1.76	1.68
29F892	S-333-SB	33	3.64	2.92	2.44	1.93	1.85

SOCKET WITH CABLE CLAMP IN END

29F1019	S-306 CCE	6	.97	.77	.65	.50	.48
29F1020	S-308-CCE	8	1.08	.85	.72	.59	.56
29F1021	S-310-CCE	10	1.21	.98	.82	.65	.62
29F1022	S-312-CCE	12	1.37	1.09	.92	.72	.69
29F1023	S-315-CCE	15	1.74	1.40	1.16	.93	.87
29F1024	S-318-CCE	18	1.95	1.56	1.32	1.05	1.00
29F1025	S-321-CCE	21	2.32	1.86	1.54	1.23	1.18
29F1026	S-324-CCE	24	2.68	2.15	1.80	1.43	1.37
29F1027	S-327-CCE	27	3.03	2.44	2.04	1.68	1.53
29F1062	S-330-CCE	30	3.41	2.73	2.28	1.83	1.73
29F1063	S-333-CCE	33	3.77	3.01	2.52	2.02	1.91

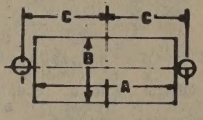
SOCKETS WITH END BRACKETS

29F1071	S-315-EB	15	1.18	.96	.79	.63	.61
29F1072	S-318-EB	18	1.90	1.09	.92	.72	.69
29F1073	S-321-EB	21	1.68	1.34	1.11	.88	.84
29F1074	S-324-EB	24	1.97	1.58	1.33	1.06	1.01
29F1075	S-327-EB	27	2.29	1.84	1.52	1.22	1.16
29F1076	S-330-EB	30	2.63	2.10	1.75	1.41	1.33
29F1077	S-333-EB	33	2.93	2.33	1.94	1.55	1.48



FLUSH PLATE MOUNTING DIMENSIONS

Type	A	B	C
303FP	.953	.566	1.750
304FP	.703	.766	1.750
306FP	.953	.766	1.750
308FP	1.203	.766	2.250
310FP	1.516	.766	2.250
312FP	1.203	1.616	2.250



DEEP BRACKET MOUNTING DIMENSIONS

Type	A	B	C
302-312DB	1.375	1.0628	.625
315DB	2.000	1.438	1.188
318DB	2.313	1.438	1.344
321DB	2.625	1.438	1.500
324DB	2.938	1.438	1.656
327DB	3.250	1.438	1.813
330DB	3.562	1.438	1.969
333DB	3.875	1.438	2.125

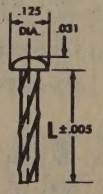
SHALLOW BRACKET MOUNTING DIMENSIONS

Type	A	B	C
315SB	1.750	1.156	1.063
318SB	2.063	1.156	1.219
321SB	2.375	1.156	1.375
324SB	2.688	1.166	1.531
327SB	3.000	1.156	1.688
330SB	3.313	1.156	1.844
333SB	3.625	1.066	2.000

END BRACKET MOUNTING DIMENSIONS

Type	A	B	C
315EB	1.6411	1.016	2.000
318EB	1.953	1.016	2.313
321EB	2.266	1.016	2.625
324EB	2.578	1.016	2.938
327EB	2.891	1.016	3.250
330EB	3.203	1.016	3.603
333EB	3.516	1.016	3.372

REPLACEMENT DRIVE PINS FOR 300 SERIES CAP TYPE PLUGS AND SOCKETS



Type 300 Series. 10 and 15 thru 33 contact sizes require 2 pins per unit. Other sizes require one.

Stk. No.	Type	25-49	50-99	100-249	250-499
29F1195	302-R	.09	.07	.061	.048
29F1196	303-R	.09	.07	.061	.048
29F1197	304-R	.09	.07	.061	.048
29F1198	312-R	.09	.07	.061	.048
29F1199	333-R	.09	.07	.061	.048

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Jones Plugs and Sockets

CINCH DIVISION OF UNITED-CARR

"300 Series"

AB

FP

CCT-L

CCT-K

RP

CCT

Compact connectors with phosphor-bronze "knife switch" type socket contacts. Black crystal-finished metal caps cover bakelite body. Rated: .730 volts rms at 10 amps. 2-contact types are round, all others are rectangular. Shpg. wt., 3 oz.

PLUGS WITH ANGLE BRACKETS

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F200	P-302-AB	2	.33	.26	.23	.19	.18
39F201	P-303-AB	3	.37	.29	.25	.21	.20
39F202	P-304-AB	4	.41	.33	.28	.23	.22
39F203	P-306-AB	6	.50	.41	.35	.27	.26
39F204	P-308-AB	8	.59	.46	.39	.32	.30
39F205	P-310-AB	10	.66	.51	.44	.36	.34
39F206	P-312-AB	12	.74	.60	.48	.39	.37
39F207	P-315-AB	15	1.00	.79	.66	.51	.49
39F208	P-318-AB	18	1.19	.96	.79	.64	.61
39F209	P-321-AB	21	1.49	1.19	1.00	.79	.76
39F210	P-324-AB	24	1.81	1.45	1.20	.97	.92
39F211	P-327-AB	27	2.12	1.70	1.42	1.12	1.07
39F212	P-330-AB	30	2.44	1.93	1.61	1.30	1.22
39F213	P-333-AB	33	2.73	2.18	1.82	1.45	1.39

SOCKETS WITH ANGLE BRACKETS

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F220	S-302-AB	2	.35	.28	.24	.20	.19
39F221	S-303-AB	3	.39	.32	.26	.22	.21
39F222	S-304-AB	4	.43	.35	.29	.24	.23
39F223	S-306-AB	6	.56	.43	.37	.29	.28
39F224	S-308-AB	8	.66	.52	.44	.36	.34
39F225	S-310-AB	10	.77	.62	.51	.41	.38
39F226	S-312-AB	12	.92	.72	.62	.48	.45
39F227	S-315-AB	15	1.16	.93	.77	.62	.59
39F228	S-318-AB	18	1.33	1.06	.88	.71	.67
39F229	S-321-AB	21	1.64	1.32	1.09	.86	.83
39F230	S-324-AB	24	1.94	1.55	1.31	1.03	1.00
39F231	S-327-AB	27	2.26	1.81	1.50	1.20	1.14
39F232	S-330-AB	30	2.59	2.08	1.73	1.39	1.32
39F233	S-333-AB	33	2.90	2.31	1.92	1.53	1.47

PLUGS WITH FLUSH PLATE

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F240	P-302-FP	2	.56	.43	.37	.29	.28
39F241	P-303-FP	3	.59	.46	.39	.32	.29
39F242	P-304-FP	4	.63	.48	.41	.34	.32
39F243	P-306-FP	6	.72	.59	.47	.38	.37
39F244	P-308-FP	8	.79	.64	.53	.42	.40
39F245	P-310-FP	10	.86	.69	.59	.46	.44
39F246	P-312-FP	12	.96	.76	.64	.49	.47

SOCKETS WITH FLUSH PLATE

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F250	S-302-FP	2	.58	.45	.38	.30	.28
39F251	S-303-FP	3	.60	.47	.40	.32	.30
39F252	S-304-FP	4	.65	.50	.43	.35	.33
39F253	S-306-FP	6	.76	.61	.49	.40	.38
39F254	S-308-FP	8	.86	.69	.59	.46	.44
39F255	S-310-FP	10	.99	.78	.66	.51	.49
39F256	S-312-FP	12	1.11	.88	.75	.61	.58

PLUGS WITH CABLE CLAMP IN TOP

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F280	P-302-CCT	2	.67	.53	.44	.36	.34
39F281	P-303-CCT	3	.74	.60	.48	.39	.37
39F282	P-304-CCT	4	.78	.63	.51	.41	.39
39F283	P-306-CCT	6	.88	.71	.60	.46	.44
39F284	P-308-CCT	8	.97	.77	.65	.50	.48
39F285	P-310-CCT	10	1.06	.84	.71	.58	.53
39F286	P-312-CCT	12	1.14	.92	.77	.62	.59
39F287	P-315-CCT	15	1.52	1.22	1.03	.81	.78
39F288	P-318-CCT	18	1.79	1.43	1.19	.96	.89
39F289	P-321-CCT	21	2.13	1.71	1.43	1.13	1.08
39F290	P-324-CCT	24	2.50	2.00	1.68	1.34	1.27
39F291	P-327-CCT	27	2.87	2.28	1.90	1.52	1.45
39F292	P-330-CCT	30	3.22	2.57	2.15	1.72	1.63
39F293	P-333-CCT	33	3.57	2.86	2.38	1.90	1.81

SOCKETS WITH CABLE CLAMP IN TOP

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F300	S-302-CCT	2	.69	.57	.46	.37	.36
39F301	S-303-CCT	3	.76	.61	.49	.40	.38
39F302	S-304-CCT	4	.80	.65	.53	.42	.41
39F303	S-306-CCT	6	.93	.74	.62	.48	.46
39F304	S-308-CCT	8	1.04	.82	.69	.57	.51
39F305	S-310-CCT	10	1.17	.95	.78	.63	.60
39F306	S-312-CCT	12	1.33	1.06	.87	.70	.67
39F307	S-315-CCT	15	1.70	1.37	1.13	.89	.85
39F308	S-318-CCT	18	1.92	1.53	1.29	1.03	.98
39F209	S-321-CCT	21	2.28	1.83	1.52	1.21	1.16
39F310	S-324-CCT	24	2.64	2.12	1.76	1.41	1.34
39F311	S-327-CCT	27	2.99	2.40	2.01	1.60	1.51
39F312	S-330-CCT	30	3.38	2.71	2.26	1.81	1.72
39F313	S-333-CCT	33	3.73	2.98	2.50	2.00	1.89

PLUGS WITH RECESSED PLATE

Stk. No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F260	P-302-RP	2	.63	.49	.42	.34	.33
39F261	P-303-RP	3	.66	.51	.44	.36	.34
39F262	P-304-RP	4	.70	.57	.46	.38	.36
39F263	P-306-RP	6	.81	.65	.50	.42	.41
39F264	P-308-RP	8	.93	.74	.62	.48	.46
39F265	P-310-RP	10	1.07	.82	.69	.57	.51
39F266	P-312-RP	12	1.16	.93	.77	.62	.59

SOCKETS WITH RECESSED PLATE

Stk. No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F270	S-302-RP	2	.66	.51	.43	.35	.34
39F271	S-303-RP	3	.68	.56	.45	.36	.35
39F272	S-304-RP	4	.72	.59	.48	.39	.37
39F273	S-306-RP	6	.83	.67	.57	.44	.42
39F274	S-308-RP	8	1.00	.79	.67	.53	.49
39F275	S-310-RP	10	1.16	.93	.77	.62	.59
39F276	S-312-RP	12	1.33	1.06	.88	.71	.67

PLUGS—CABLE CLAMP IN TOP WITH LATCHES

Stk. No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
29F859	P-302-CCT-L	2	.83	.67	.57	.44	.42
29F860	P-303-CCT-L	3	.89	.72	.61	.47	.45
29F861	P-304-CCT-L	4	.96	.76	.64	.49	.47
29F862	P-306-CCT-L	6	1.06	.84	.70	.57	.53
29F863	P-308-CCT-L	8	1.12	.89	.76	.61	.58
29F864	P-310-CCT-L	10	1.22	.99	.82	.66	.63
29F865	P-312-CCT-L	12	1.32	1.05	.87	.70	.67
29F1028	P-315-CCT-L	15	1.70	1.37	1.13	.89	.85
29F1029	P-318-CCT-L	18	1.94	1.55	1.31	1.04	1.00
29F1030	P-321-CCT-L	21	2.29	1.84	1.53	1.22	1.17
29F1031	P-324-CCT-L	24	2.66	2.13	1.79	1.43	1.35
29F1032	P-327-CCT-L‡	27	3.02	2.43	2.02	1.61	1.53
29F1033	P-330-CCT-L‡	30	3.38	2.71	2.26	1.81	1.72
29F1034	P-333-CCT-L‡	33	3.73	2.98	2.50	2.00	1.89

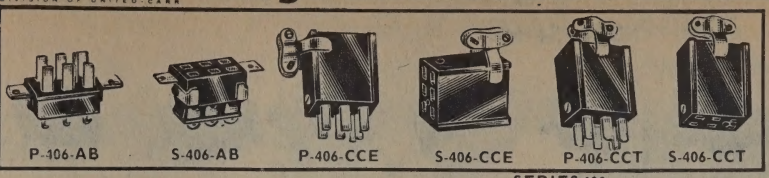
(‡) Locks are centered on each side, not on each end as shown.

SOCKETS—CABLE CLAMP IN TOP WITH KEEPERS

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
29F866	S-302-CCT-K	2	.85	.69	.59	.45	.43
29F867	S-303-CCT-K	3	.93	.74	.62	.48	.46
29F868	S-304-CCT-K	4	.98	.78	.65	.50	.48
29F869	S-306-CCT-K	6	1.09	.86	.72	.59	.56
29F870	S-308-CCT-K	8	1.20	.97	.80	.65	.62
29F871	S-310-CCT-K	10	1.34	1.07	.88	.71	.68
29F872	S-312-CCT-K	12	1.49	1.19	1.00	.79	.76
29F1035	S-315-CCT-K	15	1.86	1.49	1.24	1.00	.95
29F1036	S-318-CCT-K	18	2.10	1.68	1.40	1.11	1.06
29F1037	S-321-CCT-K	21	2.46	1.95	1.64	1.31	1.23
29F1038	S-324-CCT-K	24	2.81	2.25	1.87	1.49	1.43
29F1039	S-327-CCT-K‡	27	3.17	2.53	2.12	1.70	1.60
29F1040	S-330-CCT-K‡	30	3.56	2.85	2.37	1.89	1.81
29F1041	S-333-CCT-K‡	33	3.90	3.12	2.60	2.09	1.97

(‡) Keepers are centered on each side, not on each end as shown.

CINCH DIVISION OF UNITED-CARR — Plugs and Sockets



Series 400 plugs and sockets are made in 2,4,6,8,10 and 12 contacts. Phosphor bronze knife switch type socket contacts engage both sides of plug. Plug prongs are of heavy brass ¼" wide x 1/16" thick. Caps are finished in black crystal and equipped with fibre lining. Body of Molded Bakelite. Rated at 1100 RMS volts at 15 amps.

SERIES 400

PLUGS WITH ANGLE BRACKETS

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F320	P-402-AB	2	.81	.65	.54	.43	.41
39F321	P-404-AB	4	1.00	.80	.66	.51	.49
39F322	P-406-AB	6	1.17	.93	.79	.63	.60
39F323	P-408-AB	8	1.35	1.08	.89	.71	.68
39F324	P-410-AB	10	1.52	1.22	1.03	.82	.78
39F325	P-412-AB	12	1.71	1.37	1.13	.90	.86

PLUGS WITH CABLE CLAMP ON TOP

39F340	P-402-CCT	2	1.35	1.08	.89	.71	.68
39F341	P-404-CCT	4	1.53	1.23	1.03	.82	.78
39F342	P-406-CCT	6	1.76	1.41	1.18	.95	.89
39F343	P-408-CCT	8	1.95	1.55	1.30	1.05	1.00
39F344	P-410-CCT	10	2.25	1.80	1.50	1.20	1.13
39F345	P-412-CCT	12	2.46	1.96	1.63	1.31	1.24

•NEW PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F514	P-402-DB	2	1.08	.86	.71	.58	.54
29F515	P-404-DB	4	1.31	1.05	.87	.69	.66
29F516	P-406-DB	6	1.53	1.23	1.03	.82	.78
29F517	P-408-DB	8	1.76	1.41	1.18	.95	.89
29F518	P-410-DB	10	2.00	1.59	1.33	1.07	1.02
29F519	P-412-DB	12	2.23	1.79	1.49	1.18	1.12

•NEW PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

29F1054	P-402-SB	2	1.04	.83	.69	.54	.51
29F1055	P-404-SB	4	1.26	1.02	.84	.67	.64
29F1056	P-406-SB	6	1.49	1.19	1.01	.80	.76
29F1057	P-408-SB	8	1.73	1.38	1.14	.91	.87
29F1058	P-410-SB	10	1.95	1.55	1.31	1.05	1.00
29F1059	P-412-SB	12	2.18	1.75	1.46	1.16	1.10

PLUGS WITH CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1060	P-402-CCE	2	1.39	1.11	.93	.74	.70
29F1061	P-404-CCE	4	1.58	1.26	1.06	.84	.80
29F1078	P-406-CCE	6	1.81	1.45	1.20	.97	.91
29F1079	P-408-CCE	8	2.01	1.60	1.33	1.07	1.02
29F1080	P-410-CCE	10	2.29	1.83	1.53	1.23	1.16
29F1081	P-412-CCE	12	2.50	2.00	1.67	1.33	1.26

SOCKETS WITH ANGLE BRACKETS

Stock No.	Mfr. No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F330	S-402-AB	2	.95	.75	.63	.49	.47
39F331	S-404-AB	4	1.22	.97	.81	.65	.62
39F332	S-406-AB	6	1.49	1.19	1.01	.80	.76
39F333	S-408-AB	8	1.76	1.41	1.17	.94	.88
39F334	S-410-AB	10	2.03	1.62	1.35	1.08	1.03
39F335	S-412-AB	12	2.30	1.84	1.53	1.23	1.17

SOCKETS WITH CABLE CLAMP ON TOP

39F346	S-402-CCT	2	1.52	1.22	1.02	.81	.78
39F347	S-404-CCT	4	1.82	1.46	1.22	.97	.91
39F348	S-406-CCT	6	2.12	1.70	1.41	1.12	1.07
39F349	S-408-CCT	8	2.40	1.93	1.61	1.28	1.23
39F350	S-412-CCT	10	2.71	2.17	1.82	1.48	1.38
39F351	S-410-CCT	12	3.02	2.40	2.01	1.61	1.53

•NEW SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1048	S-402-DB	2	1.22	.97	.81	.65	.62
29F1049	S-404-DB	4	1.53	1.23	1.03	.82	.78
29F1050	S-406-DB	6	1.86	1.49	1.25	1.01	.95
29F1051	S-408-DB	8	2.18	1.75	1.46	1.16	1.10
29F1052	S-410-DB	10	2.51	2.00	1.67	1.34	1.27
29F1053	S-412-DB	12	2.84	2.26	1.89	1.51	1.44

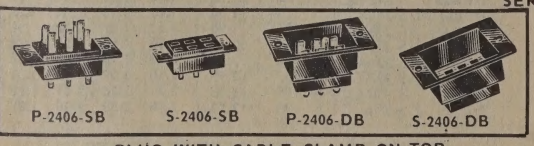
• NEW SOCKETS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

39F380	S-402-SB	2	1.17	.93	.79	.63	.60
39F381	S-404-SB	4	1.49	1.19	1.01	.80	.76
39F382	S-406-SB	6	1.82	1.46	1.22	.97	.91
39F383	S-408-SB	8	2.14	1.72	1.44	1.13	1.08
39F384	S-410-SB	10	2.47	1.96	1.64	1.32	1.25
39F385	S-412-SB	12	2.78	2.23	1.86	1.49	1.41

SOCKETS WITH CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1088	S-402-CCE	2	1.56	1.25	1.05	.84	.80
29F1089	S-404-CCE	4	1.86	1.49	1.25	1.00	.95
29F1090	S-406-CCE	6	2.17	1.73	1.45	1.16	1.10
29F1091	S-408-CCE	8	2.47	1.96	1.64	1.31	1.25
29F1092	S-410-CCE	10	2.76	2.21	1.84	1.48	1.40
29F1093	S-412-CCE	12	3.06	2.44	2.04	1.63	1.54

SERIES 2400



Series 2400 sockets and plugs are designed for high electrical and mechanical efficiency. They are similar to the 400 series except that their design increases the creepage distance and can take higher voltages. They are interchangeable with the 400 series. Rated at 1700 RMS Volts at 15 amps. Shpg. wt., 5 oz.

PLUG WITH CABLE CLAMP ON TOP

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F523	P-2402-CCT	2	1.42	1.13	.95	.75	.71
29F524	P-2404-CCT	4	1.61	1.28	1.08	.86	.82
29F525	P-2406-CCT	6	1.81	1.45	1.20	.97	.91
29F526	P-2408-CCT	8	2.00	1.60	1.34	1.07	1.02
29F527	P-2410-CCT	10	2.21	1.76	1.47	1.17	1.11
29F528	P-2412-CCT	12	2.30	1.85	1.54	1.23	1.16

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F1094	P-2402-DB	2	1.11	.88	.74	.60	.57
29F1095	P-2404-DB	4	1.29	1.00	.86	.69	.66
29F1096	P-2406-DB	6	1.49	1.18	1.00	.80	.75
29F1097	P-2408-DB	8	1.67	1.34	1.11	.88	.85
29F1098	P-2410-DB	10	1.86	1.49	1.24	1.00	.95
29F1099	P-2412 DB	12	2.04	1.63	1.37	1.09	1.04

PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

29F1106	P-2402-SB	2	1.03	.82	.68	.54	.51
29F1107	P-2404-SB	4	1.22	.97	.81	.65	.62
29F1108	P-2406-SB	6	1.40	1.11	.93	.75	.70
29F1109	P-2408-SB	8	1.59	1.27	1.06	.84	.81
29F1110	P-2410-SB	10	1.77	1.42	1.18	.95	.89
29F1111	P-2412-SB	12	1.98	1.56	1.31	1.05	1.00

PLUGS, WITH CABLE CLAMPS IN END

29F1112	P-2402-CCE	2	1.46	1.17	.98	.78	.74
29F1113	P-2404-CCE	4	1.66	1.32	1.10	.88	.84
29F1114	P-2406-CCE	6	1.85	1.48	1.24	1.00	.95
29F1115	P-2408-CCE	8	2.04	1.63	1.37	1.09	1.04
29F1116	P-2410-CCE	10	2.24	1.80	1.50	1.19	1.13
29F1117	P-2412-CCE	12	2.45	1.95	1.62	1.29	1.24

SOCKET WITH CABLE CLAMP ON TOP

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F529	S-2402-CCT	2	1.54	1.24	1.04	.82	.79
29F530	S-2404-CCT	4	1.71	1.37	1.13	.90	.86
29F531	S-2406-CCT	6	1.91	1.52	1.27	1.03	.97
29F532	S-2408-CCT	8	2.12	1.70	1.41	1.12	1.07
29F533	S-2410-CCT	10	2.32	1.85	1.54	1.24	1.17
29F534	S-2412-CCT	12	2.52	2.02	1.68	1.34	1.28

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F900	S-2402-DB	2	1.19	.96	.80	.64	.61
29F901	S-2404-DB	4	1.39	1.11	.93	.74	.70
29F902	S-2406-DB	6	1.59	1.27	1.06	.84	.81
29F903	S-2408-DB	8	1.79	1.42	1.19	.96	.89
29F904	S-2410-DB	10	1.97	1.58	1.31	1.06	1.01
29F905	S-2412-DB	12	2.17	1.74	1.46	1.16	1.10

SOCKETS WITH SHALLOW BRACKET FOR FLUSH MOUNTING

29F535	S-2402-SB	2	1.11	.88	.74	.60	.57
29F536	S-2404-SB	4	1.30	1.05	.87	.69	.66
29F537	S-2406-SB	6	1.50	1.20	1.01	.80	.76
29F538	S-2408-SB	8	1.70	1.35	1.13	.90	.86
29F539	S-2410-SB	10	1.90	1.51	1.26	1.02	.96
29F540	S-1412-SB	12	2.10	1.67	1.40	1.11	1.06

SOCKETS WITH CABLE CLAMPS IN END

29F1124	S-2402-CCE	2	1.59	1.27	1.06	.84	.81
29F1125	S-2404-CCE	4	1.75	1.40	1.17	.93	.88
29F1126	S-2406-CCE	6	1.95	1.55	1.31	1.05	1.00
29F1127	S-2408-CCE	8	2.16	1.73	1.45	1.14	1.09
29F1128	S-2410-CCE	10	2.36	1.89	1.58	1.26	1.19
29F1129	S-2412-CCE	12	2.57	2.05	1.72	1.37	1.29

Barrier Terminal Blocks & Accessories

CINCH
DIVISION OF UNITED-CARR

SERIES 140 AND 140-Y BARRIER TERMINAL BLOCKS

140

Series 140. Base: ⅞" W x 13/32" H molded bakelite. Eyelets and binder head screws are brass, nickel plated. 5-40 x 3/16" screws. Leakage path ½". Shpg. wt., 3 oz.

140-Y

Series 140-Y. Same as Series 140 but with Thru-panel solder lugs.

SERIES 140

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F700	2-140	2	.24	.20	.17	.14	.13
28F701	3-140	3	.28	.23	.19	.16	.15
28F702	4-140	4	.36	.28	.24	.20	.19
28F703	5-140	5	.44	.35	.29	.25	.24
28F704	6-140	6	.51	.41	.35	.28	.27
28F705	7-140	7	.60	.47	.40	.32	.30
28F706	8-140	8	.68	.55	.45	.36	.35
28F707	9-140	9	.76	.61	.49	.40	.38
28F708	10-140	10	.83	.67	.57	.44	.42
28F709	11-140	11	.89	.72	.61	.47	.45
28F710	12-140	12	1.00	.79	.66	.51	.49
28F869	13-140	13	1.06	.84	.71	.58	.53
28F870	14-140	14	1.14	.91	.77	.62	.59
28F871	15-140	15	1.22	.99	.81	.65	.63
28F872	16-140	16	1.29	1.04	.86	.69	.66
28F873	17-140	17	1.38	1.09	.91	.74	.69
28F874	18-140	18	1.45	1.16	.98	.77	.74
28F875	19-140	19	1.52	1.21	1.02	.81	.77
28F876	20-140	20	1.59	1.28	1.07	.84	.81
28F877	21-140	21	1.69	1.35	1.12	.88	.84
29F1000	22-140	22	1.73	1.39	1.17	.95	.88
29F1001	23-140	23	1.82	1.46	1.22	.99	.92
29F1002	24-140	24	1.93	1.54	1.29	1.03	.99
29F1003	25-140	25	2.02	1.62	1.34	1.07	1.02

SERIES 140-Y

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F749	2-140-Y	2	.30	.24	.21	.17	.16
29F750	3-140-Y	3	.37	.30	.25	.23	.21
29F751	4-140-Y	4	.50	.41	.35	.27	.26
29F752	5-140-Y	5	.63	.49	.42	.34	.33
29F753	6-140-Y	6	.77	.62	.50	.41	.37
29F754	7-140-Y	7	.84	.68	.58	.44	.42
29F755	8-140-Y	8	.97	.77	.65	.50	.48
29F756	9-140-Y	9	1.08	.85	.72	.59	.55
29F757	10-140-Y	10	1.19	.97	.80	.64	.61
29F758	11-140-Y	11	1.29	1.04	.86	.69	.66
29F759	12-140-Y	12	1.42	1.12	.96	.76	.71
29F760	13-140-Y	13	1.52	1.22	1.03	.81	.78
29F761	14-140-Y	14	1.65	1.32	1.10	.87	.83
29F762	15-140-Y	15	1.76	1.41	1.17	.95	.88
29F763	16-140-Y	16	1.86	1.49	1.24	1.00	.96
29F764	17-140-Y	17	1.97	1.58	1.33	1.06	1.01
29F765	18-140-Y	18	2.10	1.68	1.40	1.11	1.06
29F766	19-140-Y	19	2.19	1.76	1.47	1.17	1.11
29F767	20-140-Y	20	2.30	1.85	1.53	1.22	1.17
29F768	21-140-Y	21	2.44	1.94	1.63	1.29	1.23
29F1004	22-140-Y	22	2.53	3.03	1.70	1.37	1.29
29F1005	23-140-Y	23	2.65	2.12	1.77	1.42	1.35
29F1006	24-140-Y	24	2.80	2.25	1.86	1.49	1.42
29F1007	25-140-Y	25	2.92	2.33	1.93	1.54	1.47

IMPRINTED MARKER STRIPS FOR USE WITH SERIES 140 AND SERIES 140-Y

Strips are of 1/32" black fibre and have same mounting holes as barrier strips. Shpg. wt., 2 oz.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F804	MS- 2-140	2	.13	.10	.09	.08	.07
29F805	MS- 3-140	3	.13	.10	.09	.08	.07
29F806	MS- 4-140	4	.13	.10	.09	.08	.07
29F807	MS- 5-140	5	.13	.10	.09	.08	.07
29F808	MS- 6-140	6	.13	.10	.09	.08	.07
29F809	MS- 7-140	7	.15	.12	.10	.09	.08
29F810	MS- 8-140	8	.15	.12	.10	.09	.08
29F811	MS- 9-140	9	.15	.12	.10	.09	.08
29F812	MS-10-140	10	.17	.13	.11	.10	.09
29F813	MS-11-140	11	.17	.13	.11	.10	.09
29F814	MS-12-140	12	.17	.13	.11	.10	.09
29F815	MS-13-140	13	.19	.15	.13	.11	.10
29F816	MS-14-140	14	.19	.15	.13	.11	.10
29F817	MS-15-140	15	.19	.15	.13	.11	.10
29F818	MS-16-140	16	.21	.17	.14	.12	.11
29F819	MS-17-140	17	.21	.17	.14	.12	.11
29F820	MS-18-140	18	.21	.17	.14	.12	.11
29F821	MS-19-140	19	.23	.19	.16	.13	.12
29F822	MS-20-140	20	.23	.19	.16	.13	.12
29F823	MS-21-140	21	.23	.19	.16	.13	.12
29F1252	MS- 2-140-Y	2	.15	.12	.10	.09	.08
29F1252	MS- 3-140-Y	3	.15	.12	.10	.09	.08
29F1253	MS- 4-140-Y	4	.15	.12	.10	.09	.08
29F1254	MS- 5-140-Y	5	.17	.13	.11	.10	.09
29F1255	MS- 6-140-Y	6	.17	.13	.11	.10	.09
29F1256	MS- 7-140-Y	7	.17	.13	.11	.10	.09
29F1257	MS- 8-140-Y	8	.17	.13	.11	.10	.09
29F1258	MS- 9-140-Y	9	.17	.13	.11	.10	.09
29F1259	MS-10-140-Y	10	.19	.15	.13	.11	.10
29F1260	MS-11-140-Y	11	.19	.15	.13	.11	.10
29F1261	MS-12-140-Y	12	.19	.15	.13	.11	.10
29F1262	MS-13-140-Y	13	.21	.17	.14	.12	.11
29F1263	MS-14-140-Y	14	.21	.17	.14	.12	.11
29F1264	MS-15-140-Y	15	.21	.17	.14	.12	.11
29F1265	MS-16-140-Y	16	.23	.19	.16	.13	.12
29F1266	MS-17-140-Y	17	.23	.19	.16	.13	.12
29F1267	MS-18-140-Y	18	.23	.19	.16	.13	.12
29F1268	MS-19-140-Y	19	.26	.20	.17	.14	.13
29F1269	MS-20-140-Y	20	.26	.20	.17	.14	.13

JUMPERS FOR 140 BARRIER BLOCK SERIES

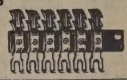
Units are used for making permanent connections between adjacent barrier block terminals for Barrier block series 140.

Stock No.	Type No.	1-24	25-49	50-99	100-249	250-499
28F833	140J-1	.11	.09	.08	.067	.053

SOLDER TERMINALS FOR USE WITH SERIES 140

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
28F791	¾W-140	.12	.11	.10	.09	.08
28F797	W-140	.12	.11	.10	.09	.08
28F794	Y-140	.12	.11	.10	.09	.08

SERIES 160 FANNING STRIPS



Fits 140 Series Barrier. Strips. Brass, cadmium plated .032" terminals are mounted on 3/32" bakelite, ½" wide and on ⅜" centers. Wt., 3 oz. Mounting hole on left.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F750	2-160-L	2	.27	.22	.19	.16	.15
28F751	3-160-L	3	.33	.27	.23	.19	.17
28F752	4-160-L	4	.41	.33	.28	.23	.22
28F753	5-160-L	5	.48	.39	.33	.26	.25
28F754	6-160-L	6	.55	.44	.37	.28	.27
28F755	7-160-L	7	.63	.50	.41	.33	.32
28F756	8-160-L	8	.69	.55	.46	.38	.35
28F757	9-160-L	9	.79	.63	.54	.41	.40
28F758	10-160-L	10	.87	.70	.59	.46	.42
28F759	11-160-L	11	.97	.76	.65	.51	.48
28F760	12-160-L	12	1.08	.86	.72	.58	.55
29F1250	20-160-L	1	1.65	1.32	1.11	.87	.84
Mounting hole on right.							
28F800	2-160-R	2	.27	.22	.19	.16	.15
28F801	3-160-R	3	.33	.27	.23	.19	.17
28F802	4-160-R	4	.41	.33	.28	.23	.22
28F803	5-160-R	5	.48	.39	.33	.26	.25
28F804	6-160-R	6	.55	.44	.37	.28	.27
28F805	7-160-R	7	.63	.44	.41	.33	.32
28F806	8-160-R	8	.69	.50	.46	.38	.35
28F807	9-160-R	9	.79	.63	.54	.41	.40
28F808	10-160-R	10	.87	.70	.59	.46	.42
28F809	11-160-R	11	.97	.76	.65	.51	.48
28F810	12-160-R	12	1.08	.86	.72	.58	.55
29F1270	20-160-R	20	1.65	1.32	1.11	.87	.84

SERIES 164 TERMINAL BLOCKS

Same as Series 140 except has 6-32 binder head screws instead of 5-40. Maximum volts r.m.s. without marker strip; 1100; with marker strip: 1200. Max. current in amps: 15. Max. watts per terminal: 3750.

Stock No.	Type No.	Contacts	1-24	25-49	50-99	100-249	250-499
28F840	2-164	2	.27	.21	.18	.15	.14
28F841	3-164	3	.34	.26	.22	.18	.17
28F842	4-164	4	.43	.35	.29	.23	.22
28F843	5-164	5	.51	.42	.36	.28	.27
28F844	6-164	6	.63	.48	.41	.34	.32
28F845	7-164	7	.70	.57	.46	.38	.36
28F846	8-164	8	.79	.64	.53	.42	.40
28F847	9-164	9	.86	.70	.60	.46	.44
28F848	10-164	10	.98	.78	.65	.50	.48
28F849	11-164	11	1.06	.84	.70	.57	.53
28F891	12-164	12	1.14	.91	.77	.62	.59
28F892	13-164	13	1.23	1.00	.82	.66	.63
28F893	14-164	14	1.34	1.07	.88	.71	.68
28F894	15-164	15	1.44	1.13	.96	.76	.72
28F895	16-164	16	1.52	1.21	1.02	.81	.77
28F896	17-164	17	1.59	1.28	1.07	.84	.81
28F897	18-164	18	1.70	1.37	1.13	.89	.85
28F898	19-164	19	1.79	1.43	1.19	.96	.89
28F899	20-164	20	1.88	1.50	1.25	1.01	.97
28F900	21-164	21	1.96	1.58	1.32	1.05	1.01

Terminal Blocks and Accessories

SERIES 141 AND 141-Y BARRIER TYPE TERMINAL BLOCKS

141

141-Y

increased insulation barriers placed between each terminal. Long leakage path prevents direct shorts from frayed wire at terminal. Base: 1⅛"W x ½"H, molded bakelite. Series 141-Y has thru panel solder lugs. 6-32x¼" screw. Use with Series 161 Fanning Strips. Shp. Wt. 3 oz.

SERIES 141

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F711	2-141	2	.27	.21	.18	.15	.14
28F712	3-141	3	.36	.28	.24	.19	.18
28F713	4-141	4	.47	.38	.32	.26	.25
28F714	5-141	5	.60	.45	.39	.32	.29
28F715	6-141	6	.66	.51	.44	.36	.34
28F716	7-141	7	.78	.63	.51	.41	.39
28F717	8-141	8	.86	.69	.59	.46	.44
28F718	9-141	9	.97	.77	.65	.50	.48
28F719	10-141	10	1.07	.85	.71	.58	.55
28F720	11-141	11	1.16	.92	.78	.63	.60
28F721	12-141	12	1.25	1.01	.83	.67	.64
28F878	13-141	13	1.37	1.08	.89	.72	.69
28F879	14-141	14	1.46	1.16	.98	.78	.74
28F880	15-141	15	1.54	1.23	1.04	.82	.78
28F881	16-141	16	1.65	1.32	1.10	.87	.83
28F882	17-141	17	1.75	1.40	1.17	.95	.87
28F883	18-141	18	1.85	1.48	1.23	.99	.95
28F884	19-141	19	1.94	1.55	1.31	1.04	1.00
28F885	20-141	20	2.06	1.64	1.38	1.09	1.04

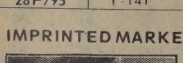
SERIES 141-Y

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F769	2-141-Y	2	.37	.29	.24	.22	.21
29F770	3-141-Y	3	.51	.41	.35	.27	.26
29F771	4-141-Y	4	.68	.55	.45	.36	.35
29F772	5-141-Y	5	.82	.66	.55	.43	.41
29F773	6-141-Y	6	.96	.76	.64	.49	.47
29F774	7-141-Y	7	1.11	.88	.75	.60	.58
29F775	8-141-Y	8	1.24	1.00	.83	.67	.64
29F776	9-141-Y	9	1.39	1.10	.92	.74	.70
29F777	10-141-Y	10	1.53	1.22	1.03	.82	.78
29F778	11-141-Y	11	1.69	1.35	1.12	.88	.84
29F779	12-141-Y	12	1.83	1.46	1.21	.98	.92
29F780	13-141-Y	13	1.97	1.58	1.33	1.06	1.01
29F781	14-141-Y	14	2.13	1.71	1.43	1.13	1.08
29F782	15-141-Y	15	2.27	1.82	1.51	1.21	1.14
29F783	16-141-Y	16	2.44	1.94	1.63	1.29	1.23
29F784	17-141-Y	17	2.58	2.07	1.73	1.39	1.31
29F785	18-141-Y	18	2.73	2.18	1.83	1.46	1.39
29F786	19-141-Y	19	2.90	2.31	1.92	1.53	1.47
29F787	20-141-Y	20	3.03	2.44	2.03	1.63	1.53

SOLDER TERMINALS FOR SERIES 141 BARRIER STRIPS

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
28F792	¾W-141	.12	.11	.10	.09	.08
28F798	W-141	.12	.11	.10	.09	.08
28F795	Y-141	.12	.11	.10	.09	.08

IMPRINTED MARKER STRIPS FOR USE WITH SERIES 141



Strips are of 1/32" black fibre and have same mounting holes as barrier strips. Serves as an insulator on metal.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F824	MS-2-141	2	.13	.10	.09	.08	.07
29F825	MS-3-141	3	.13	.10	.09	.08	.07
29F826	MS-4-141	4	.13	.10	.09	.08	.07
29F827	MS-5-141	5	.15	.12	.10	.09	.08
29F828	MS-6-141	6	.15	.12	.10	.09	.08
29F829	MS-7-141	7	.15	.12	.10	.09	.08
29F830	MS-8-141	8	.17	.13	.11	.10	.09
29F831	MS-9-141	9	.17	.13	.11	.10	.09
29F832	MS-10-141	10	.17	.13	.11	.10	.09
29F833	MS-11-141	11	.19	.15	.13	.11	.10
29F834	MS-12-141	12	.19	.15	.13	.11	.10
29F835	MS-13-141	13	.21	.17	.14	.12	.11
29F836	MS-14-141	14	.21	.17	.14	.12	.11
29F837	MS-15-141	15	.23	.19	.16	.13	.12
29F838	MS-16-141	16	.23	.19	.16	.13	.12
29F839	MS-17-141	17	.26	.20	.17	.14	.13
29F840	MS-18-141	18	.26	.20	.17	.14	.13
29F842	MS-20-141	20	.27	.22	.18	.15	.14

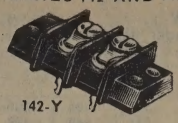
Type 141-J. JUMPER for Series 140 and 141 Terminal Blocks.

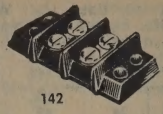
Stock No.	Type	1-24	25-49	50-99	100-249	250-499
28F790	141-J	.11	.09	.08	.067	.053

Type QC-1. QUICK CLAMP TERMINAL for Series 141 and 541.

28F740	QC-1	.17	.13	.12	.11	.10

SERIES 142 AND 142-Y BARRIER TYPE TERMINAL BLOCKS


142-Y


142

Series 142. Base: 1 5/16" W x 5/8" H. molded bakelite. Eyelets and binder head screws are brass, nickel plated. 8-32 x 5/16" screw. Use with Series 162 Fanning Strips.

Series 142

Stock No.	Type No.	Cont.	1-24	25-49	50-.99	100-249	250-499
28F722	2-142	2	.32	.25	.21	.17	.16
28F723	3-142	3	.43	.34	.28	.23	.22
28F724	4-142	4	.58	.45	.38	.30	.29
28F725	5-142	5	.69	.55	.45	.37	.35
28F726	6-142	6	.81	.65	.55	.43	.41
28F727	7-142	7	.95	.75	.63	.49	.47
28F728	8-142	8	1.06	.84	.70	.57	.53
28F729	9-142	9	1.17	.95	.78	.63	.60
28F730	10-142	10	1.31	1.05	.86	.69	.66
28F731	11-142	11	1.43	1.13	.96	.76	.72
28F732	12-142	12	1.54	1.23	1.04	.81	.78
28F886	13-142	13	1.68	1.34	1.11	.88	.84
28F887	14-142	14	1.80	1.44	1.20	.97	.91
28F888	15-142	15	1.92	1.53	1.28	1.03	.98
28F889	16-142	16	2.06	1.64	1.38	1.09	1.04
28F890	17-142	17	2.17	1.74	1.45	1.16	1.10

Series 142-Y Same as above but with Thru-panel solder lugs.

29F788	2-142-Y	2	.44	.36	.29	.25	.24
29F789	3-142-Y	3	.62	.49	.41	.31	.30
29F790	4-142-Y	4	.82	.66	.55	.43	.41
29F791	5-142-Y	5	1.00	.79	.67	.53	.49
29F792	6-142-Y	6	1.19	.96	.79	.64	.61
29F793	7-142-Y	7	1.38	1.09	.91	.74	.69
29F794	8-142-Y	8	1.54	1.23	1.04	.81	.78
29F795	9-142-Y	9	1.73	1.39	1.14	.91	.86
29F796	10-142Y	10	1.92	1.53	1.28	1.03	.98
29F797	11-142-Y	11	2.10	1.69	1.41	1.11	1.06
29F798	12-142-Y	12	2.28	1.83	1.52	1.21	1.16
29F799	13-142-Y	13	2.48	1.97	1.65	1.32	1.25
29F800	14-142-Y	14	2.65	2.12	1.77	1.42	1.35
29F801	15-142-Y	15	2.85	2.27	1.89	1.51	1.44
29F802	16-142-Y	16	3.02	2.44	2.03	1.61	1.53
29F803	17-142-Y	17	3.21	2.56	2.14	1.72	1.63

SOLDER TERMINALS FOR SERIES 142 TERMINAL BLOCKS

Stock No.	Mfg. No.	For Use With	1-24	25-49	50-99	100-249	250-499
28F793	¾W-142	142	.14	.12	.11	.10	.09
28F799	W-142	142	.14	.12	.11	.10	.09
28F796	Y-142	142	.14	.12	.11	.10	.09

QUICK CLAMP TERMINALS

For use with 142 Barrier Block Series. For wire gauge 8-16.

Stock No.	Type No.	1-24	25-49	50-99	100-249	250-499
28F741	QC-2	.17	.13	.12	.11	.10

SERIES 161 FANNING STRIPS

Series 161. Fit Series 141 Barrier Strips. Brass, cadmium plated .032" terminals are mounted on 3/32" bakelite, 5/8" wide and on 7/16" ctrs. Ave. Shpg. wt. 3 oz. Mounting holes on left.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F761	2-161-L	2	.29	.25	.20	.17	.16
28F762	3-161-L	3	.38	.28	.25	.20	.19
28F763	4-161-L	4	.41	.33	.28	.23	.22
28F764	5-161-L	5	.50	.40	.35	.27	.26
28F765	6-161-L	6	.58	.46	.39	.29	.28
28F766	7-161-L	7	.66	.54	.45	.35	.33
28F767	8-161-L	8	.72	.58	.48	.39	.38
28F768	9-161-L	9	.79	.63	.54	.41	.40
28F769	10-161-L	10	.89	.72	.60	.48	.45
28F770	11-161-L	11	1.02	.83	.69	.55	.51
28F771	12-161-L	12	1.11	.88	.75	.59	.57

SERIES 162 FANNING STRIPS

Series 162. (Fit 142 Series Barrier Strips. Brass, cadmium plated .432" terminals mounted on 3/32" bakelite, 5/8" wide on 9/16" mtg. centers. Ave. shpg. wt., 3 oz. Mounting hole on left.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F772	2-162-L	2	.33	.27	.23	.19	.17
28F773	3-162-L	3	.39	.32	.26	.22	.20
28F774	4-162-L	4	.48	.39	.33	.26	.25
28F775	5-162-L	5	.55	.44	.37	.28	.27
28F776	6-162-L	6	.63	.55	.46	.38	.35
28F777	7-162-L	7	.64	.55	.46	.38	.35
28F778	8-162-L	8	.79	.63	.54	.41	.40
28F779	9-162-L	9	.85	.67	.57	.45	.44
28F780	10-162-L	10	.95	.75	.63	.50	.48
28F781	11-162-L	11	1.04	.84	.70	.57	.54
28F782	12-162-L	12	1.17	.95	.79	.63	.60

Terminal Blocks

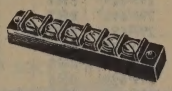
CINCH
DIVISION OF UNITED-CARR

SERIES 150

Fits std. 50 amp. solder lug for 6 Ga. stranded wire. Base: 1 13/16" W. x 25/32"H. Molded bakelite. Screws: 10-32x5/16" brass, burnished nickel plate. 11/16" mtg. ctr.

Stk. No.	Type	Cont	1-24	25-49	50-99	100-249	250-499
29F731	2-150	2	.83	.67	.57	.44	.42
29F732	3-150	3	1.17	.95	.78	.63	.60
29F733	4-150	4	1.51	1.21	1.02	.80	.77
29F734	5-150	5	1.86	1.48	1.23	1.00	.95
29F735	6-150	6	2.19	1.76	1.47	1.17	1.11
29F736	7-150	7	2.54	2.03	1.70	1.35	1.29
29F737	8-150	8	2.89	2.30	1.92	1.53	1.46
29F739	10-150	10	3.57	2.86	2.38	1.90	1.81

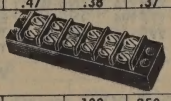
SERIES 171



Miniature 1 3/32" W. x 5/16" H. Single Screw Terminals. 2-56x1/4" binder head screws. 1/8" Dia. Mtg. Holes, 1/4" Mtg. Centers.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F901	2-171	2	.28	.23	.19	.15	.14
28F902	3-171	3	.36	.28	.24	.19	.18
28F903	4-171	4	.43	.35	.29	.23	.22
28F904	5-171	5	.50	.41	.35	.27	.26
28F905	6-171	6	.60	.46	.39	.32	.30
28F906	7-171	7	.66	.51	.43	.35	.34
28F907	8-171	8	.71	.59	.47	.38	.37

SERIES 172



Double screw terminals. 5/8" W. x 5/16" H. Mtg. on 1/4" centers. 2-56x1/4" binder head screws. 1/8" Dia. Mtg. holes.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F909	2-172	2	.51	.41	.35	.28	.27
28F910	3-172	3	.66	.51	.44	.36	.34
28F911	4-172	4	.80	.65	.53	.42	.41
28F912	5-172	5	.95	.75	.63	.49	.47
28F913	6-172	6	1.08	.85	.72	.59	.55
28F914	7-172	7	1.22	.99	.81	.65	.63
28F915	8-172	8	1.37	1.08	.89	.72	.69
28F916	9-172	9	1.49	1.19	1.01	.80	.76
28F917	10-172	10	1.64	1.32	1.09	.86	.83
28F919	12-172	12	1.91	1.52	1.28	1.03	.98
28F921	14-172	14	2.19	1.75	1.46	1.17	1.11

SERIES 173

Single screw terminals. 3/8" Wx1/2"H. Mtg. on 3/8" centers. 4-40x5/32". Sems type Binder head screws. 5/32" Dia. Mtg. Holes.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F923	2-173	2	.29	.23	.20	.16	.15
28F924	3-173	3	.40	.32	.26	.22	.21
28F925	4-173	4	.51	.42	.36	.28	.27
28F926	5-173	5	.64	.50	.42	.34	.33
28F927	6-173	6	.75	.60	.49	.40	.38
28F928	7-173	7	.85	.68	.58	.45	.43
28F929	8-173	8	.97	.76	.64	.50	.47
28F930	9-173	9	1.06	.84	.71	.58	.53
28F931	10-173	10	1.17	.95	.78	.63	.60

IMPRINTED MARKER STRIPS FOR USE WITH SERIES 142 BARRIER TERMINAL BLOCKS

Type MS-142. 1/32" black fibre. Have same mounting holes as barrier strips. Serve as an insulator on metal. Wt., 2 oz.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-500
29F843	MS- 2-142	2	.13	.10	.09	.08	.07
29F844	MS- 3-142	3	.13	.10	.09	.08	.07
29F845	MS- 4-142	4	.15	.12	.10	.09	.08
29F846	MS- 5-142	5	.15	.12	.10	.09	.08
29F847	MS- 6-142	6	.15	.12	.10	.09	.08
29F848	MS- 7-142	7	.17	.13	.11	.10	.09
29F849	MS- 8-142	8	.17	.13	.11	.10	.09
29F850	MS- 9-142	9	.19	.15	.13	.11	.10
29F851	MS-10-142	10	.21	.17	.14	.12	.11
29F852	MS-11-142	11	.21	.17	.14	.12	.11
29F853	MS-12-142	12	.23	.19	.16	.13	.12
29F854	MS-13-142	13	.23	.19	.16	.13	.12
29F855	MS-14-142	14	.26	.20	.17	.14	.13
29F856	MS-15-142	15	.26	.20	.17	.14	.13
29F857	MS-16-142	16	.29	.23	.20	.16	.15
29F858	MS-17-142	17	.32	.25	.21	.17	.16

JUMPERS FOR SERIES 142 BARRIER TERMINAL

Stk. No.	Type	1-24	25-49	50-99	100- 249	250-500
28F789	95B	.21	.16	.13	.12	.109
28F742	142J-1	.12	.11	.09	.081	.067
28F743	142J-2	.11	.09	.08	.067	.053

500 SERIES BARRIER TERMINAL BLOCKS

For especially critical electrical and mechanical performance requirements. Enclosed bottoms; Knock-outs molded into base for Y terminals. Heavy construction adds strength to block, minimizing warpage and shrinkage. Screws and terminals are brass-nickel plated. Material of the block is general purpose black bakelite.

Series 540. 2 to 31 contacts. Base: 1 1/8" wide, barrier: 1 1/8" wide by 5/8" high, body 19/32" wide by 5/16" high. Web at base, 5/64" thick. 5-40x3/16" screw. Wt., 5 oz.

Stk. No.	Type	Terms.	1-24	25-49	50-99	100-249	250-499
28F1000	2-540	2	.57	.44	.38	.30	.29
28F1001	3-540	3	.77	.62	.50	.41	.39
28F1002	4-540	4	.95	.75	.63	.49	.47
28F1003	5-540	5	.99	.78	.66	.51	.49
28F1004	6-540	6	1.11	.88	.75	.60	.58
28F1005	7-540	7	1.22	1.01	.83	.67	.64
28F1006	8-540	8	1.40	1.11	.95	.75	.71
28F1008	10-540	10	1.68	1.34	1.11	.88	.84
28F1009	11-540	11	1.82	1.45	1.21	.98	.92
28F1010	12-540	12	1.94	1.55	1.31	1.04	1.00
28F1011	13-540	13	2.10	1.68	1.40	1.11	1.06
28F1012	14-540	14	2.23	1.79	1.49	1.19	1.13
28F1013	15-540	15	2.36	1.89	1.58	1.25	1.20
28F1014	16-540	16	2.51	2.01	1.68	1.34	1.27
28F1016	18-540	18	2.79	2.23	1.86	1.48	1.42
28F1018	20-540	20	3.06	2.46	2.06	1.64	1.55
28F1019	21-540	21	3.20	2.56	2.13	1.71	1.63
28F1066	24-540	24	3.62	2.90	2.43	1.92	1.84
28F1067	25-540	25	3.76	3.00	2.51	2.01	1.90
28F1068	26-540	26	3.91	3.12	2.60	2.09	1.97
28F1072	30-540	30	4.45	3.57	2.97	2.37	2.26
28F1073	31-540	31	4.60	3.68	3.06	2.46	2.32

Series 541. 2 to 30 contacts. Base: 1 3/8" wide. Barrier: 1 3/8" by 1 1/16" high. Body 3/4" wide by 3/8" high. Web 7/64" thick at base. 6-32x1/4" screw. Shpg. wt. 5 oz.

28F1020	2-541	2	.69	.57	.46	.37	.36
28F1021	3-541	3	.83	.67	.56	.44	.42
28F1022	4-541	4	.99	.78	.66	.51	.49
28F1023	5-541	5	1.11	.88	.75	.60	.58
28F1024	6-541	6	1.25	1.01	.83	.67	.64
28F1025	7-541	7	1.43	1.13	.96	.76	.72
28F1026	8-541	8	1.55	1.24	1.04	.82	.79
28F1028	10-541	10	1.84	1.47	1.22	.99	.95
28F1029	11-541	11	1.96	1.58	1.32	1.05	1.01
28F1030	12-541	12	2.16	1.72	1.43	1.13	1.08
28F1031	13-541	13	2.27	1.82	1.51	1.21	1.14
28F1032	14-541	14	2.43	1.92	1.61	1.29	1.22
28F1033	15-541	15	2.56	2.06	1.71	1.37	1.29
28F1034	16-541	16	2.69	2.15	1.80	1.44	1.37
28F1036	18-541	18	2.98	2.38	2.00	1.59	1.51
28F1038	20-541	20	3.28	2.61	2.18	1.75	1.66
28F1074	21-541	21	3.40	2.73	2.27	1.82	1.73
28F1077	24-541	24	3.85	3.09	2.57	2.06	1.94
28F1078	25-541	25	4.00	3.20	2.66	2.13	2.03
28F1079	26-541	26	4.13	3.31	2.76	2.21	2.10
28F1083	30-541	30	4.71	3.76	3.14	2.52	2.38

Series 542. 2 to 20 contacts. Base: 1 5/16" wide. Barrier: 1 5/16" wide by 7/8" high. Body 7/8" wide by 1/2" high. Shpg. wt., 5 oz.

28F1039	2-542	2	.75	.60	.49	.40	.38
28F1040	3-542	3	.92	.75	.63	.48	.46
28F1041	4-542	4	1.11	.88	.75	.60	.58
28F1042	5-542	5	1.29	1.04	.86	.69	.66
28F1043	6-542	6	1.48	1.18	1.00	.79	.75
28F1044	7-542	7	1.68	1.34	1.11	.88	.84
28F1045	8-542	8	1.86	1.48	1.23	1.00	.95
28F1046	9-542	9	2.04	1.63	1.37	1.09	1.04
28F1047	10-542	10	2.23	1.79	1.48	1.18	1.12
28F1048	11-542	11	2.43	1.92	1.61	1.29	1.22
28F1049	12-542	12	2.59	2.08	1.73	1.39	1.32
28F1050	13-542	13	2.79	2.23	1.86	1.48	1.42
28F1051	14-542	14	2.96	2.37	1.97	1.58	1.50
28F1052	15-542	15	3.14	2.52	2.11	1.69	1.58
28F1053	16-542	16	3.34	2.67	2.23	1.79	1.70
28F1054	17-542	17	3.54	2.82	2.35	1.88	1.79
28F1057	20-542	20	4.08	3.27	2.73	2.18	2.08

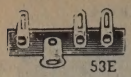
JUMPERS FOR 500 SERIES

Stock No.	Type No.	For Use With	1-24	25-49	50-99	100-249	250-499
28F744	540-J	540	.36	.32	.27	.23	.22
28F745	541-J	541	.45	.35	.29	.24	.23
28F746	542-J	542	.48	.37	.32	.25	.24

QUICK CLAMP TERMINALS

Stock No.	Type No.	For Use With	For A.W.G.	1-24	25-49	50-99	100-249	250-499
28F740	QC-1	141,541	14-22	.17	.13	.12	.11	.10
28F741	QC-2	142,542	8-16	.17	.13	.12	.11	.10

CINCH DIVISION OF UNITED-CARR Terminal Strips & Sockets


53E

LUG TYPE TERMINAL STRIPS

Solder coated steel lugs on 3/8" centers with .140 mtg. holes. Bakelite strips 1/16" thick and 3/8" wide. Shpg. wt., 1 oz.

Stock No.	Type No.	Description	Mtg. Ctr.	1-24	25-49	50-99	100-249	250-499
28F650	51	1 Lug	·····	.07	.06	.05	.035	.023
29F567	51A	2 Lugs; 1 Gnd.	·····	.07	.06	.05	.035	.023
29F568	51B	1 Lug	·····	.07	.06	.05	.035	.023
29F569	51C	2 Lugs; 1 Gnd.	·····	.07	.06	.05	.035	.023
29F570	51F	1 Lug	·····	.07	.06	.05	.035	.023
28F651	52	2 Lugs	·····	.07	.06	.05	.035	.023
29F574	52A	3 Lugs; 1 Gnd.	·····	.07	.06	.05	.035	.023
29F575	52B	2 Lugs	·····	.07	.06	.05	.035	.023
29F576	52C	3 Lugs; 1 Gnd.	·····	.07	.06	.05	.035	.023
28F652	53	3 Lugs	1 1/2"	.08	.07	.06	.046	.035
29F582	53E	3 Lugs	·····	.08	.07	.06	.046	.035
29F583	53F	4 Lugs; 1 Gnd.	·····	.08	.07	.06	.046	.035
28F653	54	4 Lugs	1 7/8"	.08	.07	.06	.046	.035
29F585	54A	6 Lugs; 2 Gnd.	1 7/8"	.08	.07	.06	.046	.035
29F586	54B	4 Lugs	·····	.08	.07	.06	.046	.035
29F587	54C	5 Lugs; 1 Gnd.	·····	.08	.07	.06	.046	.035
28F654	55	5 Lugs	2 1/4"	.09	.08	.07	.058	.046
29F588	55A	7 Lugs; 2 Gnd.	2 1/4"	.09	.08	.07	.058	.046
29F590	55C	7 Lugs; 2 Gnd.	1 1/2"	.09	.08	.07	.058	.046
28F655	56	6 Lugs	2 5/8"	.09	.08	.07	.058	.046
29F591	56A	8 Lugs; 2 Gnd.	2 5/8"	.09	.08	.07	.058	.046
29F593	56C	8 Lugs; 2 Gnd.	1 7/8"	.09	.08	.07	.058	.046

SCREW TYPE TERMINAL STRIPS

Ideal for breadboard layouts. Solder coated brass term. .136" dia. mtg. holes. 1-6 lug strips 1/16" bakelite, 7-10 lug strips, 3/32" bakelite. Screws are captive to prevent removal. Terminals spaced on 7/16" centers.

Stk.No.	Type	Term.	Mtg. Ctr.	1-24	25-49	50-99	100-249	250-499
29F551	17-1	1	7/8"	.11	.09	.08	.069	.058
29F552	17-2	2	1 5/16"	.12	.11	.09	.081	.069
29F553	17-3	3	1 3/4"	.14	.12	.11	.092	.081
29F554	17-4	4	2 3/16"	.19	.15	.13	.116	.105
29F555	17-5	5	2 5/8"	.21	.16	.14	.128	.116
29F556	17-6	6	3 1/2"	.25	.21	.17	.151	.139
29F557	17-7	7	3 1/2"	.31	.24	.21	.174	.162
29F558	17-8	8	3 15/16"	.32	.26	.22	.185	.174
29F559	17-9	9	4 3/8"	.40	.30	.25	.208	.197
29F560	17-10	10	4 13/16"	.42	.32	.28	.22	.208

JONES SERIES 2000 TERMINALS

Sakelite insulation with cadmium steel brackets. Terminals are made of .019" tinned brass on 5/16" centers. Wt., 3 oz.

Stk. No.	Type	Term.	1-24	25-49	50-99	100-249	250 499
28F680	2002	2	.11	.10	.09	.08	.07
28F681	2003	3	.13	.12	.10	.09	.08
28F682	2004	4	.14	.13	.11	.10	.09
28F683	2005	5	.14	.13	.11	.10	.09
28F684	2006	6	.16	.14	.12	.11	.10
28F685	2007	7	.16	.14	.12	.11	.10
28F686	2008	8	.19	.15	.13	.12	.11
28F687	2009	9	.20	.16	.14	.13	.12
28F688	2010	10	.20	.16	.14	.13	.12
28F689	2011	11	.22	.18	.16	.14	.13
28F690	2012	12	.22	.18	.16	.14	.13
28F691	2013	13	.25	.21	.18	.15	.14

SERIES 170 TERMINAL BLOCKS

.032" brass tin plated Solder Term. Black molded bakelite. Size: 5/8" W. x 1/4" H. Mtg. on 3/8" ctrs.

Stock No.	Type	Contact	1-24	25-49	50-99	100-249	250-499
29F740	2-170	2	.29	.24	.21	.19	.18
29F741	3-170	3	.40	.30	.26	.22	.21
29F742	4-170	4	.46	.38	.29	.24	.23
29F743	5-170	5	.51	.42	.36	.27	.26
29F744	6-170	6	.59	.46	.40	.30	.28
29F745	7-170	7	.66	.51	.44	.36	.32
29F746	8-170	8	.71	.57	.48	.40	.38
29F747	9-170	9	.79	.64	.51	.42	.41
29F748	10-170	10	.87	.68	.57	.46	.44

ADAPTER PLATE

Type 8AP. For use alone or in conjunction with above 8R1-8F6 Ring Mount Octal Sockets and 8R0 Retainer Ring.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
29F696	8AP	.13	.12	.11	.10	.09

MOLDED TUBE SOCKETS

Precision engineered for rugged use. All brass solder coated contacts. *Black, **Chassis thickness. †Mica.

8AB MOLDED OCTAL 1-3/16" MOUNTING CENTERS

Stk. No.	Type	Mtg. Hole	1-24	25-49	50-99	100-249	250-499
38F670*	8AB	.136 D.	.15	.12	.11	.10	.088
38F671†	8AM	.136 D.	.19	.14	.13	.12	.11

MOLDED OCTAL 1 1/2" MOUNTING CENTERS

38F672*	8EB	.143 D.	.15	.12	.11	.10	.088
38F673†	8EM	.140 D.	.19	.14	.13	.12	.11

RING MOUNT OCTAL

29F689*	8R1	1/16" **	.23	.19	.16	.14	.13
29F690*	8R2	1/8" **	.38	.30	.25	.21	.20
29F691†	8R3	1/16" **	.27	.23	.20	.16	.15
29F692*	8R4	3/32" **	.38	.30	.25	.21	.20
29F693†	8R5	3/32" **	.51	.42	.35	.27	.26
29F694†	8R6	1/8" **	.51	.42	.35	.27	.26
29F695	8R0	Retainer Ring	.12	.11	.10	.08	.07

NOVAR SOCKETS

Molded from high dielectric black bakelite or mica-filled low-loss bakelite. Cadmium plated brass contacts. 1 1/2" mounting centers.

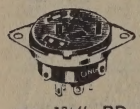
Stk.No	Type	Mtg.	Desc.	1-24	25-49	50-99	100-249	250-499
29F976	9NS-B	Bottom	Black	.17	.13	.12	.11	.10
29F994	9NS-M	Bottom	Mica	.19	.15	.13	.12	.11
29F995	9NS-B-1	Top	Black	.25	.21	.18	.15	.14
29F996	9NS-M-1	Top	Mica	.28	.22	.19	.16	.15

VIDICON SOCKETS

Type 7VT, 7 contact socket for RCA Vidicon Tube Nos. 6198 and 7038. Casting material is mica. Contacts are silver-plated phosphor bronze. JETEC No. E8-11.

Stk.No.	Type	1-24	25-49	50-99	100-249	250-499
29F997	7VT	2.73	2.17	1.82	1.46	1.39
29F999	8VT	2.73	2.17	1.82	1.46	1.39

CAPACITOR, "PLUG IN" SOCKETS



2C5. Designed for use with Mallory and Magnavox 1" FP type condensers. Molded black bakelite. Steel mounting saddle has 4 ground lugs. 1 1/2" mtg. ctr. Mtg. hole diam. .140". Shpg. Wt. 5 oz.

2C7. Designed for use with Mallory and Magnavox 1 3/8" PD type condensers. Molded black bakelite. Steel saddle has 1 27/32" mtg. ctr. Mtg. hole diam. .156". Shpg. wt., 5 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249	250 - 499
29F549	2C5	.58	.46	.39	.30	.29
29F550	2C7	.84	.67	.57	.45	.43

5NS

NUVISTOR SOCKETS

5NS fastens to chassis by two tabs. 5NS-1, conventional mtg., screws, eyelets, etc. 5NS-2 for P.C. circuits. 5NS-3, heat dissipating.

29F730	5NS	.19	.15	.13	.118	.107
29F992	5NS-1	.30	.23	.19	.161	.15
29F993	5NS-2	.48	.39	.32	.257	.235
29F991	5NS-3	.27	.21	.18	.15	.14

8PB 11PB 11RB

MOLDED CONNECTOR PLUGS AND SOCKETS

Stk. No.	Type	Mfr. No.	Contacts	1-24	25-49	50-99	100-249	250-499
29F701	8PB	54B16021	8 plugs	.26	.22	.19	.16	.15
29F702	11PB	54B13795	11 plugs	.35	.25	.22	.19	.17
29F703	11RB	54A13783	11 sockets	.35	.27	.23	.19	.18

CABLE CLAMPS

85A 85B 85C 85D 85E 85F

Stk. No.	Type	Mfg. No.	Dia. ofArc	1-24	25-49	50-99	100-249	250-499
29F627	85A	1065P24	1/8"	.11	.09	.08	.067	.053
29F628	85B	1051P24	5/16"	.11	.09	.08	.067	.053
29F629	85C	854P24	5/16"	.11	.09	.08	.067	.053
29F630	85D	8339P27	5/16"	.11	.09	.08	.067	.053
29F631	85E	8522P24	1/2"	.11	.09	.08	.067	.053
29F632	85F	292LP24	5/8"	.11	.09	.08	.067	.053

Sockets and Accessories

CINCH DIVISION OF UNITED-CARR

TRANSISTOR AND INTEGRATED CIRCUIT SOCKETS

INTEGRATED CIRCUIT SOCKETS

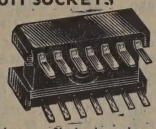
6-ICS. Newly designed sockets for interconnection of integrated circuits mounted in 6 lead, TO-5 case. Molded of diallyl phthalate, type SDC per MIL-M-18794. Gold plated, beryllium copper contacts.

8-ICS. Similar to above but with 8 pins.

10-ICS. Similar to above but with 10 pins.

Stock No.	Type	1-24	25-49	50-99	100-249	250-499
29F541	6-ICS	.58	.46	.39	.32	.30
29F542	8-ICS	.69	.56	.47	.37	.36
29F521	10-ICS	.77	.61	.51	.42	.39

DUAL-IN LINE INTEGRATED CIRCUIT SOCKETS



The unique bowed contact provides high contact forces yet permit easy insertion or removal of the D.I.P. Contact resistance is .006 ohms maximum. They will accept any standard 14 or 16 dualinline package with round or flat heads. The socket leads are on the same centers as the D.I.P. leads, so they can be used with PC boards that are designed for direct insertion. *Indicates Black Phenolic insulator, cadmium plated contacts. †Indicates Diallyl Pthalate insulator, gold plated contacts.

SOLDER TERMINALS

Stock No.	Type	No. Contacts	1-24	25-49	50-99	100-249	250-499
29F545	14-DIP*	14	.82	.65	.55	.436	.414
29F546	14-DIP-1†	14	1.07	.85	.71	.568	.54
29F547	16-DIP*	16	.91	.73	.61	.484	.46
29F548	16-DIP1†	16	1.17	.94	.78	.624	.593
29F650	24-DIP	24	1.36	1.09	.92	.738	.703
29F651	24-DIP-1	24	1.61	1.29	1.08	.87	.828

WIRE WRAP TERMINALS

28F1159	14-W-D1P	14	.80	.64	.54	.43	.41
28F1160	14-W-D1P-1	14	.80	.64	.54	.43	.41
28F1161	14-W-D1P-2	14	1.04	.83	.69	.55	.52
28F1162	14-W-D1P-3	14	1.04	.83	.69	.55	.52
28F1163	16-W-D1P	16	.98	.78	.65	.52	.49
28F1164	16-W-D1P-1	16	.98	.78	.65	.52	.49
28F1165	16-W-D1P-2	16	1.22	.98	.82	.65	.62
28F1166	16-W-D-P-3	16	1.22	.98	.82	.65	.62

GENERAL PURPOSE TRANSISTOR SOCKET

Type 2TS-4. Designed for triangular base layout. 2"x.1" (JETEC-30) contact centers, as well as three-contact-in-line (.048x.192 contact centers) Casing molded of general purpose Bakelite; contacts are of phosphor bronze, cadmiumplated.

Stock No.	Type	1-24	25-49	50-99	100-249	250-499
38F687	2TS-4	.17	.14	.12	.107	.097

TRANSISTOR SOCKET

2TS-1

2TS-2

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499
38F684	2TS-1	6-20 Threaded Mtg. Holes	.13	.11	.10	.086	.076
38F685	2TS-2	Unthreaded	.13	.11	.10	.086	.076

HEAT SINKS

2W-1

2W-2

2W-3

Stk. No.	Type	Mfr. No.	Description	1-24	25-49	50-99	100-249	250-499
29F654	2W1	294457	For Mot. 2N-179, 2N-176, 2N-554	.64	.64	.64	.64	.42
29F655	2W2	294665	For Delco 2N174	.59	.59	.59	.59	.37
29F656	2W3	294666	For Tex. Inst. 2N-389	1.08	1.08	1.08	1.08	.75

TUBE AND INTEGRATED SOCKETS

CONVENTIONAL STAND-OFF TYPE PRINTED CIRCUIT SOCKETS

7PC-B

7PC-B1

8PC-B

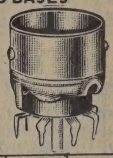
9PC-B

9PC-B1

Stand-off sockets resting on shoulder of contact tail providing air gap for cooling and eliminating moisture. Designed for 1/16" printed circuit boards having bottom circuitry. Center shield and tabs * or none.**

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
29F604	7 PC-B*	.13	.11	.10	.09	.08
29F605	7 PC-B1**	.11	.10	.09	.08	.07
29F607	9 PC-B*	.15	.12	.11	.10	.088
29F608	9 PC-B1**	.15	.12	.11	.10	.088
29F520	8 PC-B*	.15	.12	.11	.10	.088

PRINTED CIRCUIT SOCKETS WITH SHIELD BASES



These stand-off sockets have an attached bayonet-type shield base with ground tab. For use with 1/16" printed circuit boards. Castings are low loss mica-filled phenolic (MFE). Contacts are phosphor bronze with a hot-tinned finish. Center shield and ground tab are brass, hot-tinned, and base is brass, nickel-plated.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499
29F602	7PC-M2	7-pin Min.	1.04	.83	.69	.56	.54
29F603	9PC-M2	9-pin Min.	1.16	.92	.78	.62	.60

PRINTED CIRCUIT TUBE SOCKETS

Sockets have contact tails so they can be pressed into chassis holes. Provides mechanical retention prior to dip soldering in 1/16" printed circuit board. Center shield on B5 and M5 models made of brass, hot tin dipped. Insulator bodies available in (*) black phenolic or (†) mica-filled low loss phenolic.

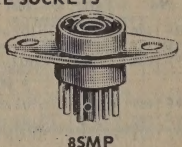
Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
29F594	7PC-B4*	.13	.11	.10	.09	.08
29F598	9PC-B4*	.15	.12	.11	.10	.09
29F599	9PC-M4†	.15	.12	.11	.10	.09
29F600	9PC-B5*	.15	.12	.11	.10	.09

MICA-FILLED SUB-MINIATURE SOCKETS

2H3

2H5

8SM



8SMP

*Mounting Ring included. (**) Mtg. ring for 8SM. †with mtg. plate.

Stk. No.	Type	Mfr. No.	Prongs	1-24	25-49	50-99	100-249	250-499
38F639	2H3*	46A20928	3	.29	.25	.21	.17	.16
38F630	2H5*	46A11953	5	.25	.20	.17	.15	.14
38F631	2H6*	46A11955	6	1.18	.93	.79	.63	.61
38F632	2H7*	46A11957	7	.44	.36	.29	.24	.23
38F629	8SM*	46A13886	8	.65	.53	.44	.36	.35
29F718	8SMP†	46B14513	8	.83	.65	.56	.44	.42
29F719	2MR**	20K13702		.09	.08	.07	.053	.04

110-250 VOLT 2 PRONG SOCKET

2R2. Rated at 15 amps 110V or 10 amps at 250V Molded from high dielectric black bakelite. Mounts in 25/64"x23/32" hole. .144 diam. mtg. holes on 1 1/8" centers. Shpg. wt. 4 oz.

Stk. No.	Type	Mfr. No.	1-24	25-49	50-99	100-249	250-499
39F394	2R2	54A12844	.22	.18	.16	.14	.13

COMPACTRON TUBE SOCKETS

Designed for use with Compactron tube. 12-contact type for normal use and 8-contact type for high voltage available. Molded from high dielectric (*) black phenolic of (**) mica-filled low loss phenolic. Contacts cadmium-plated brass. mtg. hole centers: 1 5/16", dia. .144".

Stock No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
39F386	8CS-B*	8	.48	.39	.32	.25	.24
39F387	8CS-M**	8	.50	.42	.36	.28	.26
39F388	12CS-B*	12	.17	.14	.12	.11	.10
39F389	12CS-M**	12	.65	.51	.43	.35	.34

Military Type And Special Purpose Sockets

MILITARY TYPE TUBE SOCKETS

Voltage Rating (absolute maximum): Sea Level and 50,000 ft. 500 V.AC r.m.s.; Current: 1 ampere; Operating Temperature: 100°C; Chassis Opening: 5/8" dia., 7-pin, 3/4" 9-pin; Insulation Resistance: 1,000 megohms, minimum; Withstanding Voltage: 2,000 V. AC minimum without breakdown of insulation or flashover; Individual Contact Retention: 3 ounces minimum; Average Initial Insertion Force: 12 lbs. max. 7-pin, 15 lbs. max. 9-pin; Individual Initial Insertion Force: 15 lbs. max. 7-pin, 20 lbs. 9-pin; Individual Initial Withdrawal Force: 4 lbs. to 12 lbs. 7-pin, 4 lbs. to 15 lbs. 9-pin. Mechanical Specifications- Insulators: Mica Filled Phenolic—Mil-M-14F, Type MFE; Steatite Ceramic Mil-1-10, Grade 14, Contacts: Phosphor Bronze—QQP-330, Beryllium copper—QQ-G-523; Saddles, Bases, Strap Nuts, Center Shields, Tube Shields Brass—QQ-B-626 or QQ-B-613; Tube Shield Springs: Stainless Steel—QQ-W-423; Finishes: Cadmium—QQ-P-416a, Silver—QQ-S-365, Nickel—QQ-N-290, Passivation—Mil-STD-171. Sub-miniature sockets are for use in equipment subject to high temperature, humidity or vibrations. Shields are made of brass as are strap nuts. Bronze contacts of Relay and Crystal sockets are silver-plated and dipped in hot tin.

7 PIN SOCKETS

Stk. No.	Type	MIL-S-12888A	CAST'G MAT'L *	1-24	25-49	50-99	100-249	250-499
29F1170	7JM-2	TS102P01	MFE S	.30	.23	.20	.16	.15
29F1171	7JC-2	TS102C01	Ceramic S	.41	.33	.27	.22	.21
29F1172	7JMN-1	TS102P02	MFE T	24	.20	.158	.137	.126
29F1173	7JMN-2	TS102P02	MFE T	24	.20	.158	.137	.126
29F1174	7JCN-2	TS102C02	Ceramic T	.39	.32	.26	.21	.20
29F1175	7JCN-1	TS102C02	Ceramic T	.39	.32	.26	.21	.20
29F1176	7JM-3	TS102P03	MFE B	.24	.20	.158	.137	.126
29F1177	7JC-3	TS102C03	Ceramic B	.39	.32	.26	.21	.20

9 PIN SOCKETS

29F1178	9JM-2	TS103P01	MFE S	.32	.25	.21	.18	.16
29F1179	9JC-2	TS103C01	Ceramic S	.44	.35	.29	.23	.22
29F1180	9JMN-2	TS103P02	MFE T	.30	.23	.20	.16	.15
29F1181	9JMN-1	TS103P02	MFE T	.30	.23	.20	.16	.15
29F1182	9JCN-1	TS103C02	Ceramic T	.46	.37	.32	.24	.23
29F1183	9JM-4	TS103P03	MFE B	.30	.23	.20	.16	.15
29F1184	9JM-3	TS103P03	MFE B	.30	.23	.20	.16	.15
29F1185	9JC-3	TS103C03	Ceramic B	.46	.37	.32	.24	.23

SHIELDS

Mil Shields are made of nickel-plated brass. Springs are non-magnetic stainless steel.

7 PIN MINIATURE SHIELDS

Stk. No.	Type	28A	DxL	1-24	25-49	50-99	100-249	250-499
29F1186	7SJ2-1	TS102μ01	.81x1 3/8"	.31	.25	.22	.17	.15
29F1187	7SJ3-1	TS102μ02	.81x1 3/4"	.35	.26	.23	.19	.17
29F1188	7SJ4-1	TS102μ03	.81x2 1/4"	.39	.31	.26	.22	.21

9 PIN NOVAL SHIELDS

29F1189	9SJ-1-1	TS103μ01	.95x1 1/2"	.36	.29	.24	.21	.19
29F1190	9SJ-2-1	TS103μ02	.95x1 15/16"	.43	.34	.28	.23	.22
29F1191	9SJ-3-1	TS103μ03	.95x2 3/8"	.45	.36	.31	.24	.23

STRAP NUTS

Strap Nuts are brass, cadmium-plated with hot solder dipped ground lugs. Mounting holes have 4-40 NC-2B tap after plating.

CRYSTAL SOCKETS

4 prong, 31/64 Mtg. Ctrs.

2KB

Stk. No.	Type	Mfg.	1-24	25-49	50-99	100-249	250-499
29F705	2KB	9827	.19	.15	.13	.12	.11
29F706	2KM	9816	.21	.17	.15	.13	.12

Type 2JKC. Casting material used in Steatite ceramic, grade L5 or better. Phosphor bronze contacts are silver-plated and tails are hot tin dipped.

Stock No.	Type	1-24	25-49	50-99	100-249	250-499
29F1193	2JKC	.43	.34	.28	.22	.21

BOTTOM MOUNTED SOCKETS

Beryllium copper, silver-plated contacts with hot tinned tails. Steel saddle. 1 5/16" mtg. centers. Casting of mica insulation.

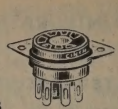
Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F710	14RS	14	.86	.69	.59	.46	.44
29F988	20RS-1	20	2.18	1.74	1.45	1.16	1.10
29F989	16RS-1	16	1.75	1.41	1.17	.93	.89
29F990	14RS-1	14	1.45	1.16	.97	.78	.74

MIL RELAY SOCKET

Type 14JRS. Casting material used is type MFE. Saddle of relay socket is made of brass, hot soldered coated. Phosphor bronze contacts are silver-plated and tails are hot tin dipped.

Stock No.	Type	1-24	25-49	50-99	100-249	250-499
29F1193	14JRS	1.27	1.01	.84	.67	.64

7AB1

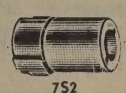


7EB

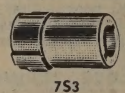
7JM-3

7 PIN MINIATURE SOCKETS-MOLDED SADDLE TOP MOUNT

Stk. No.	Type	Desc.	1-24	25-49	50-99	100-249	250-499
38F633	7AB1	Black	.15	.12	.11	.095	.084
38F634	7AM1	Mica	.18	.14	.12	.105	.095
		7 PIN—MOLDED SADDLE TYPE—BOTTOM MOUNT					
38F636	7EB	Black	.13	.11	.10	.084	.074
38F637	7EM	Mica-Filled	.15	.12	.11	.095	.084
		9 PIN MOLDED MIN. SOCKETS—SADDLE TYPE TOP MOUNT					
38F677	9AB	Black	.15	.12	.11	.095	.084
38F678	9AM	Mica-Filled	.18	.13	.12	.11	.10
		9 PIN MOLDED SADDLE TYPE BOTTOM MOUNT					
38F679	9EB	Black	.15	.12	.11	.095	.084
38F680	9EM	Mica-Filled	.18	.13	.12	.11	.10
		7 PIN—SHIELD BASE TYPE					
38F674	7XB1	Black	.19	.14	.12	.11	.10
38F675	7XM1	Mica-Filled	.22	.18	.15	.13	.12
38F676	7XC	Ceramic	.46	.37	.32	.24	.23
		9 PIN MINIATURE SOCKETS—SHIELD BASE TYPE					
38F681	9XB	Black	.22	.18	.15	.13	.12
38F682	9XM	Mica	.24	.20	.16	.14	.13
38F683	9XC	Ceramic	.37	.29	.24	.20	.19



7S2



7S3

7SB1

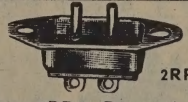
7 PIN—TUBE SHIELDS—"J" SLOTTYPE

Stk.No.	Type	Description	1-24	25-49	50-99	100-249	250-499
29F682	7S2	1 3/8" Long	.19	.14	.12	.11	.10
29F683	7S3	1 3/4" Long	.21	.15	.13	.12	.11
29F684	7S4	2 1/4" Long	.28	.23	.20	.15	.14

TUBE SHIELDS—"J" SLOT TYPE (JAN) S-28A)

Stk.No.	Type	Mil.No.	Description	1-24	25-49	50-99	100-249	250-499
29F673	7S12-1	TS102U01	7-pin 1 3/8" L.	.28	.23	.20	.15	.14
29F674	7S13-1	TS102U02	7-pin 1 3/4" L.	.32	.24	.21	.17	.15
29F675	7S14-1	TS102U03	7-pin 2 1/4" L.	.35	.28	.24	.20	.19
		7 PIN SHIELD BASES FOR "J" SLOT TYPE						
29F685	7SB1	...	5/8" H. Steel	.13	.11	.10	.09	.08
29F686	7SB2	...	5/8" H. Brass	.19	.14	.12	.11	.10
		TUBE SHIELDS WITH "J" SLOT						
29F697	9S1	...	1 1/2" Long	.39	.31	.25	.21	.20
29F698	9S2	...	1 15/16" Long	.25	.21	.17	.14	.13
29F699	9S3	...	2 3/8" Long	.48	.39	.33	.25	.24
		SHIELD BASE FOR 9 PIN WAFER OR SADDLE TYPE						
29F700	9SB1	...	1 1/8" mtg.	.14	.11	.10	.09	.08
		9 PIN TUBE SHIELD "J" SLOT (JAN-28A)						
29F676	9SJ1-1	TS103U01	1 1/2" L.	.33	.26	.22	.19	.17
29F677	9SJ2-1	TS103U02	1 15/16" L.	.39	.31	.25	.21	.20
29F678	9SJ3-1	TS103U03	2 3/8" L.	.41	.33	.28	.22	.21

TV PLUGS



2RP-1

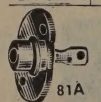
2FP

Type 2RP-1. Recessed sub-panel mounting type plug. UL approved for 125 volts 7 amps. 1 1/4" mtg. centers. Length 1 5/8", width 5/8", depth 5/16". Shpg wt. 4 oz.

Type 2FP connector plug. Two prongs mounted on 1/16" Bakelite. 1 5/8" x 3/4". .135" mounting holes are on 1 1/4" centers.

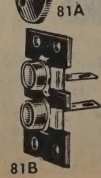
Stk. No.	Type	Mfr. No.	1-24	25-49	50-99	25-49	250-499
36F881	2RP-1	15M14684	.22	.11	.10	.084	.074
29F619	2FP	15M17982	.20	.10	.09	.08	.07

PHONO JACKS



81A

81A. Single prong positive grip phono jack mounted on 1/16" chocolate bakelite disc with 1 1/16" mtg. centers. Use 13A phono plug with this jack. Shpg. wt. 4 oz.



81B

81B. Two positive grip phono jacks mtg. on 1/16" bakelite panel with 13/16 mtg. centers. Jacks are spaced on 7/16" centers. Panel size: 1 1/2"x1". Use 13A phono plug with this jack. Shpg. wt. 4 oz.

Stk. No.	Type	Mfr. No.	1-24	25-49	50-99	100-249	250-499
39F797	81A	14H20604	.22	.11	.10	.09	.08
39F795	81B	8113	.30	.15	.13	.11	.10

Plugs, Jacks, Switches and Trimmers

CINCH-JONES UNICITE

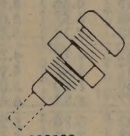
PRINTED CIRCUIT TEST JACK

Designed for permanent, soldered assembly to printed circuit boards. Gold over silverplated contacts. Contacts provide low resistance for insertions of .080 Dia. probes. Nylon bodies. 5 amps max. 3000 volts peak for test voltage.

Stk. No.	Type	Color	1-49	50-499	500-999	1000-4999	5000-Up
99F1725	119437-A	White	.20	.099	.088	.082	.077
99F1726	119437-B	Red	.20	.099	.088	.082	.077
99F1727	119437-C	Black	.20	.099	.088	.082	.077
99F1728	119437-D	Brown	.20	.099	.088	.082	.077
99F1729	119437-E	Green	.20	.099	.088	.082	.077
99F1730	119437-F	Orange	.20	.099	.088	.082	.077
99F1731	119437-G	Blue	.20	.099	.088	.082	.077
99F1732	119437-H	Yellow	.20	.099	.088	.082	.077
99F1733	119437-J	Grey	.20	.099	.088	.082	.077
99F1734	119437-K	Purple	.20	.099	.088	.082	.077
99F1735	119437-L	Natural	.20	.099	.088	.082	.077

NYLON BODIES

Designed with a threaded all nylon body, has silver plated heat treated beryllium copper contact which provides low contact resistance for insertions of standard .080 test probes. 5 amps @ 20 millivolts max. drop. Between 1/8" thick mounting, approx. 3.5 picofarads.



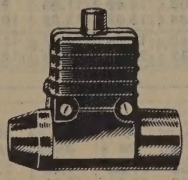
119193

119605

Stk. No.	Type	Color	1-49	50-499	500-999	1000-4999	5000-Up
99F1712	119193-B	Red	.26	.232	.206	.181	.151
99F1713	119193-C	Black	.26	.232	.206	.181	.151
99F1717	119605-B	Red	.15	.135	.118	.103	.089
99F1718	119605-C	Black	.15	.135	.118	.103	.089

JACK SWITCH ASSEMBLY

U-94A/U. 4 conductor switch jack, with molded nylon shell, beri-copper nickel-plated contacts. Switch has double break snap-action for momentary contact. It conforms to MIL-S-6743. Contacts are heavy duty coin-silver for long life. Heavy duty stainless steel alligator clip has broad jaws to reduce slipping, twisting, and a constant low pressure spring for free easy operation.



Stk. No.	Type	1-9	10-19	20-49	50-99	100-199	200-499	500-Up
99F1723	119552	8.59	7.74	6.87	6.01	5.57	5.41	5.14

MOISTURE PROOF SWITCHES

These contact switches have black anodized aluminum housings, moisture proofing seal on button. Meet military equipment requirements. Subjected to over 50G and vibration to 55CPS without contact transfer. Test reliable after 30 days at 95% humidity. Weight 1/4 ounce.

138972-A1L

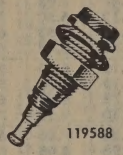
138964-A3L

138971-A7L

Stk. No.	Type	Color	1-24	25-49	50-99	100-499	200-499	500-Up
99F1736	138971-A3L	Black	5.35	4.83	4.28	3.75	3.50	3.38
99F1737	138971-A3L-E	Red	5.35	4.83	4.28	3.75	3.50	3.38
99F1738	138971-A7L	Black	5.35	4.83	4.28	3.75	3.50	3.38
99F1739	138964-A3L	Black	5.35	4.83	4.28	3.75	3.50	3.38
99F1740	138964-A7L-E	Red	5.35	4.83	4.28	3.75	3.50	3.38
99F1741	138972-A1L-E	Red	5.35	4.83	4.28	3.75	3.50	3.38
99F1742	138972-A3L	Black	5.35	4.83	4.28	3.75	3.50	3.38
99F1743	138865-A3L	Black	11.25	10.16	9.02	7.87	7.28	7.08

TEST JACKS PER MS-16108

Designed for Panel mounting. Heat treated contacts made of Beryllium copper, closed entry design that will not permit entry of probe .085" or more finished in gold. Insulation resistance of 5000 megohms min. per Method 302 of MIL-STD-202, 15 amperes R.M.S. current with less than 30°C heat rise.



119588

119589

Stk. No.	Type	Color	1-49	50-499	500-999	1000-4999	5000 Up
99F1700	119588-A	White	.30	.249	.237	.208	.199
99F1701	119588-B	Red	.30	.249	.237	.208	.199
99F1702	119588-C	Black	.30	.249	.237	.208	.199
99F1703	119588-D	Brown	.30	.249	.237	.208	.199
99F1704	119588-E	Green	.30	.249	.237	.208	.199
99F1705	119588-F	Orange	.30	.249	.237	.208	.199
99F1706	119588-G	Marina-Blue	.30	.249	.237	.208	.199
99F1707	119558-H	Yellow	.30	.249	.237	.208	.199
99F1708	119589-A	White	.33	.273	.26	.228	.219
99F1709	119589-B	Red	.33	.273	.26	.228	.219
99F1710	119589-E	Green	.33	.273	.26	.228	.219
99F1711	119589-G	Marina-Blue	.33	.273	.26	.228	.219

STANDARD PUSH-BUTTON SWITCHES

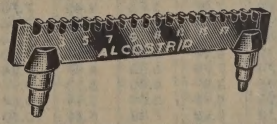
Panel mounting 15/32" -32 THd. x 11/32" Nickel plated brass bushing. Button 1/4" long. Solder type, stroke at 0.095" to 0.105".

Stk. No.	Type	Color	1-9	10-19	20-49	50-99	100-199	200-499	500-Up
99F1746	138187-E	Red	4.40	3.99	3.55	3.11	2.88	2.79	2.65

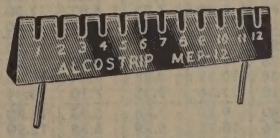
ALCO ELECTRONIC PRODUCTS

CERAMIC TERMINAL STRIPS

Silver plated and tinned to facilitate soldering of components and leads without harm to strip. Features permanent bond between metal and ceramic has tinned copper plate on silvered ceramic. Available in thread or snap mounting. Extra long stud can be cut to any desired length. Board ht. 0.590" (above studs) # board depth 0.119" at top, sloping to 0.276" at bottom. Depth of slots 0.197". Dielectric Strength: more than 10 seconds at 1500VDC between terminals. Insulated resistance: over 1,000 Megaohms at 500VDC megger. Materials: terminal strip steatite, bushing, polypropolyne.



Snap Mount



Threaded-Mount

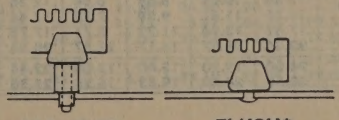
SNAP MOUNT TYPES

Stk. No.	Type	Terms.	Overall Width	Mtg. Ctrs.	1-24	25-99	100-499	500-999
61F924	MEP-NB-3	3	.600	.....	.48	.32	.288	.264
61F925	MEP-NB-5	5	.885	.490	.66	.44	.396	.363
61F926	MEP-NB-7	7	1.165	.490	.81	.54	.486	.446
61F927	MEP-NB-9	9	1.445	.750	.87	.58	.522	.479
61F928	MEP-NB-13	13	2.140	1.500	1.11	.74	.666	.611
61F929	MEP-NB-16	16	2.440	1.500	1.35	.90	.81	.743
61F930	MEP-NB-20	20	3.020	2.520	1.65	1.10	.99	.908

THREAD MOUNT TYPES

Stk. No.	Type	Terms.	Overall Width	Mtg. Ctrs.	1-24	25-99	100-499	500-999
61F931	MEP-2	2	.650	.....	.36	.24	.216	.198
61F932	MEP-4	4	1.161	.512	.45	.30	.27	.248
61F933	MEP-6	6	1.673	1.024	.60	.40	.36	.33
61F934	MEP-8	8	2.185	1.535	.75	.50	.45	.413
61F935	MEP-10	10	2.697	2.047	.87	.58	.522	.476
61F936	MEP-12	12	3.209	2.560	.99	.66	.594	.545

MOUNTING SUGGESTIONS



ELEVATED

FLUSH*

*Cut and fuse

SPECIAL AT 1/2 PRICE! MEP and MEP-NB SAMPLER KITS

- 2 each, MEP-NB Snap Mount Terminal Strips listed above—14 pcs. 61F945. NET 10.00
- 2 each, MEP Thread Mount Terminal Strips listed above—12 pcs. 61F946. NET 6.00

MS Connectors

MS Connectors

Shell Insert	MS-3110 E 1-9	10-24	25-49	50-249	MS-3112 E 1-9	10-24	25-49	50-249	MS-3114 E 1-9	10-24	25-49	50-249	MS-3116 E 1-9	10-24	25-49	50-249
8-3P	6.50	5.30	4.23	3.25	4.60	3.68	2.99	2.30	7.90	6.32	5.14	3.95	5.82	4.66	3.78	2.91
8-3S	5.82	4.66	3.78	2.91	4.48	3.58	2.91	2.24	7.70	6.16	5.01	3.85	6.02	4.82	3.91	3.01
8-4P	6.00	4.80	3.90	3.00	4.84	3.87	3.15	2.42	7.90	6.32	5.14	3.95	6.00	4.80	3.90	3.00
8-4S	5.90	4.72	3.84	2.95	4.72	3.78	3.07	2.36	7.70	6.16	5.01	3.85	6.22	4.98	4.04	3.11
10-6P	6.42	5.14	4.17	3.21	5.00	4.00	3.25	2.50	8.80	7.04	5.72	4.40	6.30	5.04	4.10	3.15
10-6S	7.00	5.60	4.55	3.50	5.12	4.10	3.33	2.56	8.80	7.04	5.72	4.40	6.64	5.31	4.32	3.32
12-3P	6.16	4.93	4.00	3.08	4.08	3.26	2.65	2.04	7.56	6.05	4.91	3.78	8.58	6.86	5.58	4.29
12-3S	6.50	5.20	4.23	3.25	4.20	3.36	2.73	2.10	7.76	6.21	5.04	3.88	7.00	5.60	4.55	3.50
12-10P	6.84	5.47	4.45	3.42	4.90	3.92	3.19	2.45	8.40	6.72	5.46	4.20	7.14	5.71	4.64	3.57
12-10S	7.08	5.66	4.60	3.54	5.30	4.24	3.45	2.65	8.60	6.88	5.59	4.30	7.76	6.21	5.04	3.88
14-5P	6.84	5.47	4.45	3.42	4.60	3.68	2.99	2.30	8.40	6.72	5.46	4.20	7.08	5.66	4.60	3.54
14-5S	7.16	5.73	4.65	3.58	4.80	3.84	3.12	2.40	8.60	6.88	5.59	4.30	7.64	6.11	4.97	3.82
14-12P	7.50	6.00	4.88	3.75	5.40	4.32	3.51	2.70	12.26	9.81	7.97	6.13	7.70	6.16	5.01	3.85
14-12S	8.46	6.77	5.50	4.23	6.20	4.96	4.03	3.10	13.00	10.40	8.45	6.50	8.70	6.96	5.66	4.35
14-15P	7.78	6.22	5.06	3.89	5.76	4.61	3.74	2.88	9.84	7.87	6.40	4.92	7.96	6.37	5.17	3.98
14-15S	8.70	6.96	5.66	4.35	6.42	5.14	4.17	3.21	10.56	8.45	6.86	5.28	8.90	7.12	5.79	4.45
14-19P	8.30	6.64	5.40	4.15	6.40	5.12	4.16	3.20	10.10	8.08	6.57	5.05	8.12	6.50	5.28	4.06
14-19S	9.04	7.23	5.88	4.52	7.20	5.76	4.68	3.60	11.04	8.83	7.18	5.52	9.50	7.60	6.18	4.75
16-8P	7.48	5.98	4.86	3.74	5.50	4.40	3.58	2.75	9.52	7.62	6.19	4.76	7.64	6.11	4.97	3.82
16-8S	8.12	6.50	5.28	4.06	5.98	4.78	3.89	2.99	9.96	7.97	6.47	4.98	8.32	6.66	5.41	4.16
16-26P	9.60	7.68	6.24	4.80	7.60	6.08	4.94	3.80	12.00	9.60	7.80	6.00	9.32	7.46	6.06	4.66
16-26S	10.60	8.48	6.89	5.30	8.40	6.72	5.46	4.20	12.84	10.27	8.35	6.42	10.76	8.61	6.99	5.38
18-11P	8.12	6.50	5.28	4.06	6.04	4.83	3.93	3.02	10.40	8.32	6.76	5.20	8.68	6.94	5.64	4.34
18-11S	9.12	7.30	5.93	4.56	6.92	5.54	4.50	3.46	11.34	9.07	7.37	5.67	10.00	8.00	6.50	5.00
18-32P	10.76	8.61	6.99	5.38	8.88	7.10	5.72	4.44	13.18	10.54	8.57	6.59	10.40	8.32	6.76	5.20
18-32S	12.10	9.68	7.87	6.05	10.20	8.16	6.63	5.10	14.56	11.65	9.46	7.28	12.26	9.81	7.97	6.13
20-16P	9.32	7.46	6.06	4.66	7.50	6.00	4.88	3.75	12.40	9.92	8.06	6.20	9.74	7.79	6.33	4.87
20-16S	10.56	8.45	6.86	5.28	8.70	6.96	5.66	4.35	13.80	11.04	8.97	6.80	10.92	8.74	7.10	5.46
20-39P	13.36	10.69	8.68	6.68	10.92	8.74	7.10	5.46	16.20	12.96	10.53	8.10	12.96	10.37	8.42	6.48
20-39S	15.04	12.03	9.78	7.52	12.40	9.92	8.06	6.20	18.10	14.48	11.77	9.05	14.80	11.84	9.62	7.40
20-41P	12.70	10.16	8.26	6.35	10.80	8.64	7.02	5.40	15.64	12.51	10.17	7.82	12.38	9.90	8.05	6.19
20-41S	14.50	11.60	9.43	7.25	12.60	10.08	8.19	6.30	17.36	13.89	11.28	8.68	14.46	11.57	9.40	7.23
22-21P	10.50	8.40	6.83	5.25	8.40	6.72	5.46	4.20	13.42	10.74	8.72	6.71	10.92	8.74	7.10	5.46
22-21S	12.20	9.76	7.93	6.10	10.36	8.29	6.73	5.18	15.36	12.29	9.98	7.68	12.66	10.13	8.23	6.33
22-55P	15.20	12.16	9.88	7.60	12.80	10.24	8.32	6.40	18.08	14.46	11.75	9.04	15.10	12.08	9.82	7.55
22-55S	18.00	14.40	11.70	9.00	15.60	12.48	10.14	7.80	20.84	16.67	13.55	10.42	17.94	14.35	11.66	8.97
24-61P	19.20	15.36	12.48	9.60	15.20	12.16	9.88	7.60	22.42	17.94	14.57	11.21	18.50	14.80	12.03	9.25
24-61S	22.00	17.60	14.30	11.00	19.40	15.52	12.61	9.70	25.12	20.10	16.33	12.50	21.50	17.20	13.98	10.78

Shell Insert	MS-3110 F 1-9	10-24	25-49	50-249	MS-3111 F 1-9	10-24	25-49	50-249	MS-3114 F 1-9	10-24	25-49	50-249	MS-3116 F 1-9	10-24	25-49	50-249
8-3P	9.32	7.46	6.06	4.66	7.20	5.76	4.68	3.60	14.50	11.60	9.43	7.25	7.96	6.37	5.17	3.98
8-3S	7.92	6.34	5.15	3.96	7.00	5.60	4.55	3.50	14.20	11.36	9.23	7.10	8.10	6.48	5.27	4.05
8-4P	8.06	6.44	5.24	4.03	7.20	5.76	4.68	3.60	14.50	11.60	9.43	7.25	8.02	6.42	5.21	4.01
8-4S	7.98	6.38	5.19	3.99	7.00	5.60	4.55	3.50	14.20	11.36	9.23	7.10	8.30	6.64	5.40	4.15
10-6P	8.00	6.40	5.20	4.00	7.74	6.19	5.03	3.87	12.20	9.76	7.93	6.10	8.10	6.48	5.26	4.05
10-6S	8.12	6.50	5.28	4.06	7.74	6.19	5.03	3.87	12.40	9.92	8.06	6.20	8.54	6.83	5.55	4.27
12-3P	8.32	6.66	5.41	4.16	7.32	5.86	4.76	3.66	14.22	11.38	9.24	7.11	8.70	6.96	5.66	4.35
12-3S	8.46	6.77	5.50	4.23	7.12	5.70	4.63	3.56	14.36	11.49	9.34	7.18	8.54	6.83	5.55	4.27
12-10P	8.90	7.12	5.79	4.45	7.86	6.29	5.11	3.93	14.92	11.94	9.70	7.46	9.24	7.39	6.01	4.62
12-10S	9.18	7.34	5.97	4.59	8.44	6.75	5.49	4.22	15.32	12.26	9.96	7.66	9.92	7.94	6.45	4.96
14-5P	8.84	7.07	5.75	4.42	7.70	6.16	5.01	3.85	15.12	12.10	9.83	7.56	9.02	7.22	5.86	4.51
14-5S	9.08	7.26	5.90	4.54	7.96	6.37	5.17	3.98	15.36	12.29	9.98	7.68	9.58	7.66	6.23	4.79
14-12P	9.46	7.57	6.15	4.73	8.44	6.75	5.49	4.22	16.00	12.80	10.40	8.00	9.64	7.71	6.27	4.82
14-12S	10.12	8.10	6.58	5.06	9.30	7.44	6.05	4.65	16.72	13.38	10.87	8.36	10.66	8.53	6.93	5.33
14-15P	9.74	7.79	6.33	4.87	9.24	7.39	6.01	4.62	16.60	13.28	10.79	8.30	9.86	7.89	6.41	4.93
14-15S	10.46	8.37	6.80	5.23	9.96	7.97	6.47	4.98	17.24	13.79	11.21	8.62	10.84	8.67	7.05	5.42
14-19P	10.22	8.18	6.64	5.11	9.84	7.87	6.40	4.92	16.44	13.15	10.69	8.22	10.36	8.29	6.73	5.18
14-19S	11.12	8.90	7.23	5.52	10.50	8.40	6.83	5.25	17.76	14.21	11.54	8.88	11.46	9.17	7.45	5.73
16-8P	9.80	7.84	6.37	4.90	8.76	7.01	5.69	4.38	14.44	11.55	9.39	7.22	9.98	7.98	6.49	4.99
16-8S	10.44	8.35	6.79	5.22	9.30	7.44	6.05	4.65	15.04	12.03	9.78	7.52	10.92	8.74	7.10	5.46
16-26P	11.62	9.30	7.55	5.81	11.50	9.20	7.48	5.75	16.12	12.90	10.48	8.06	11.68	9.34	7.59	5.84
16-26S	12.66	10.13	8.23	6.33	12.20	9.76	7.93	6.10	17.28	13.82	11.23	8.64	13.14	10.51	8.54	6.57
18-11P	10.38	8.30	6.75	5.19	10.20	8.16	6.63	5.10	17.22	13.78	11.19	8.61	10.90	8.72	7.09	5.45
18-11S	11.38	9.10	7.40	5.69	11.04	8.83	7.18	5.52	18.04	14.43	11.73	9.02	12.26	9.81	7.97	6.13
18-32P	12.88	10.30	8.37	6.44	12.96	10.37	8.42	6.48	19.80	15.84	12.87	9.90	12.80	10.24	8.32	6.40
18-32S	14.20	11.36	9.23	7.10	14.44	11.55	9.39	7.22	20.64	16.51	13.42	10.32	14.56	11.65	9.46	7.28
20-16P	11.90	9.52	7.74	5.95	11.70	9.36	7.61	5.85	19.64	15.71	12.77	9.82	12.26	9.81	7.97	6.13
20-16S	12.76	10.21	8.29	6.38	12.90	10.32	8.39	6.45	20.44	16.35	13.29	10.22	13.44	10.75	8.74	6.72
20-39P	15.56	12.45	10.11	7.78	15.80	12.64	10.27	7.90	23.24	18.59	15.11	11.62	15.20	12.16	9.88	7.60
20-39S	17.20	13.76	11.18	8.60	17.52	14.02	11.39	8.76	25.20	20.16	16.38	12.60	17.00	13.60	11.05	8.50
20-41P	14.80	11.84	9.62	7.40	12.60	10.08	8.19	6.30	22.44	17.95	14.59	11.22	14.82	11.86	9.63	7.41
20-41S	16.60	13.28	10.79	8.30	14.90	11.92	9.69	7.45	24.60	19.68	15.99	12.30	16.84	13.47	10.95	8.42
22-21P	13.36	10.69	8.68	6.68	12.36	9.89	8.03	6.18	17.84	13.98	11.36	8.74	13.74	10.99	8.93	6.87
22-21S	14.76	11.81	9.59	7.38	14.44	11.55	9.39	7.22	19.42	15.54	12.62	9.71	15.46	12.37	10.05	7.73
22-55P	17.42	13.94	11.32	8.71	17.76	14.21	11.54	8.88	22.00	17.60	14.30	11.00	17.98	14.38	11.69	8.99
22-55S	23.34	18.67	15.17	11.67	20.54	16.43	13.35	10.27	25.00	20.00	16.25	12.50	20.72	16.58	13.47	10.36
24-61P	24.00	19.20	15.60	12.00	22.44	17.95	14.59	11.22	28.20	22.56	18.33	14.10	28.00	22.40	18.20	14.00
24-61S	30.50	24.40	19.83	15.25	25.30	20.24	16.45	12.65	31.40	25.12	20.41	15.70	31.00	24.80	20.15	15.50

Our connector specialists can assist you in solving your connector problems.

Contact NEWARK to solve your problems.

MS Connectors (Continued)

SIZE & LAYOUT	MS-3110P				MS-3114P				MS-3116P				MS-3120P			
	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249
8-3P	5.00	4.00	3.25	2.50	6.40	5.12	4.16	3.20	4.84	3.87	3.15	2.42	.....	.....	.....	.....
8-3S	4.84	3.87	3.15	2.42	6.18	4.94	4.02	3.09	4.88	3.90	3.17	2.44	.....	.....	.....	.....
8-4P	5.20	4.16	3.38	2.60	6.60	5.28	4.29	3.30	5.00	4.00	3.25	2.50	.....	.....	.....	.....
8-4S	5.16	4.13	3.35	2.58	6.50	5.20	4.23	3.25	5.10	4.08	3.32	2.55	.....	.....	.....	.....
10-6P	5.70	4.56	3.71	2.85	7.00	5.60	4.55	3.50	5.50	4.40	3.58	2.75	10.80	9.00	7.20	6.00
10-6S	5.74	4.59	3.73	2.87	6.84	5.47	4.45	3.42	5.72	4.58	3.72	2.86	12.24	10.20	8.16	6.80
12-3P	5.40	4.32	3.51	2.70	6.00	4.80	3.90	3.00	5.90	4.72	3.84	2.95	10.26	8.55	6.84	5.70
12-3S	5.54	4.43	3.60	2.77	6.06	4.85	3.94	3.03	6.02	4.82	3.91	3.01	12.06	10.05	8.04	6.70
12-10P	5.68	4.54	3.69	2.84	6.94	5.55	4.51	3.47	6.10	4.88	3.97	3.05	11.70	9.75	7.80	6.50
12-10S	6.28	5.02	4.08	3.14	7.36	5.89	4.78	3.68	6.72	5.38	4.37	3.36	12.78	10.65	8.52	7.10
14-5P	5.90	4.72	3.84	2.95	6.76	5.41	4.39	3.38	5.82	4.66	3.78	2.91	10.98	9.15	7.32	6.10
14-5S	5.94	4.75	3.86	2.97	6.82	5.46	4.43	3.41	6.42	5.14	4.17	3.21	13.46	11.22	8.98	7.48
14-12P	6.58	5.26	4.28	3.29	7.56	6.05	4.91	3.78	7.00	5.60	4.55	3.50	13.82	11.52	9.22	7.68
14-12S	7.20	5.76	4.68	3.60	8.44	6.75	5.49	4.22	7.48	5.98	4.86	3.74	15.48	12.90	10.32	8.60
14-15P	6.84	5.47	4.45	3.42	7.82	6.26	5.08	3.91	6.76	5.41	4.39	3.38	14.58	12.15	9.72	8.10
14-15S	5.14	4.11	3.34	2.57	8.46	6.77	5.50	4.23	7.70	6.16	5.01	3.85	16.02	13.35	10.68	8.90
14-19P	7.12	5.70	4.63	3.56	8.44	6.75	5.49	4.22	7.14	5.71	4.64	3.57	14.58	12.15	9.72	8.10
14-19S	8.00	6.40	5.20	4.00	9.30	7.44	6.05	4.65	8.54	6.83	5.55	4.27	15.64	13.04	10.43	8.69
16-8P	7.76	6.21	5.04	3.88	8.06	6.45	5.24	4.03	6.64	5.31	4.32	3.32	12.96	10.80	8.64	7.20
16-8S	7.40	5.92	4.81	3.70	8.08	6.46	5.25	4.04	7.50	6.00	4.88	3.75	15.30	12.75	10.20	8.50
16-26P	8.40	6.72	5.46	4.20	9.64	7.71	6.27	4.82	8.38	6.70	5.45	4.19	18.32	15.27	12.22	10.18
16-26S	9.40	7.52	6.11	4.70	10.60	8.48	6.89	5.30	9.78	7.82	6.36	4.89	19.44	16.20	12.96	10.80
18-11P	7.30	5.84	4.75	3.65	8.74	6.99	5.68	4.37	7.74	6.19	5.03	3.87	.....	.....	.....	.....
18-11S	7.92	6.34	5.15	3.96	9.52	7.62	6.19	4.76	8.88	7.10	5.77	4.44	.....	.....	.....	.....
18-32P	9.94	7.95	6.46	4.97	11.12	8.90	7.23	5.56	9.92	7.94	6.45	4.96	19.80	16.50	13.20	11.00
18-32S	11.26	9.01	7.32	5.63	12.44	9.95	8.09	6.22	11.54	9.23	7.50	5.77	20.88	17.40	13.92	11.60
20-16P	8.40	6.72	5.46	4.20	10.40	8.32	6.76	5.20	8.84	7.07	5.75	4.42	16.38	13.65	10.92	9.10
20-16S	9.60	7.68	6.24	4.80	11.60	9.28	7.54	5.80	10.06	8.05	6.54	5.03	17.64	14.70	11.76	9.80
20-39P	11.64	9.31	7.57	5.82	13.62	10.90	8.85	6.81	12.50	10.00	8.13	6.25	23.85	19.88	15.90	13.25
20-39S	13.40	10.72	8.71	6.70	15.36	12.29	9.98	7.68	13.48	10.78	8.76	6.74	25.04	20.87	16.69	13.91
20-41P	11.80	9.44	7.67	5.90	13.64	10.91	8.87	6.82	11.60	9.28	7.54	5.80	24.12	20.10	16.08	13.40
20-41S	13.60	10.88	8.84	6.80	15.44	12.35	10.04	7.72	13.60	10.88	8.84	6.80	25.02	20.85	16.68	13.90
22-21P	9.30	7.44	6.05	4.65	11.40	9.12	7.41	5.70	9.58	7.66	6.23	4.79	18.90	15.75	12.60	10.50
22-21S	11.20	8.96	7.28	5.60	13.40	10.72	8.71	6.70	11.58	9.26	7.53	5.79	22.57	18.81	15.05	12.55
22-55P	13.80	11.04	8.97	6.90	16.00	12.80	10.40	8.00	14.02	11.22	9.11	7.01	28.64	23.87	19.09	15.91
22-55S	16.44	13.15	10.69	8.22	18.44	14.75	11.99	9.22	16.90	13.52	10.99	8.45	29.20	24.33	19.46	16.22
24-61P	16.40	13.12	10.66	8.20	20.40	16.32	13.26	10.20	16.40	13.12	10.66	8.20	32.40	27.00	21.60	18.00
24-61S	21.20	16.96	13.78	10.60	23.12	18.50	15.03	11.56	19.20	15.36	12.48	9.60	33.30	27.75	22.20	18.50

SIZE & LAYOUT	MS-3121E				MS-3122E				MS-3124E				MS-3126E			
	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249
8-33P	.....	.....	.....	.....	.....	.....	.....	.....	10.80	9.00	7.20	6.00	10.06	8.39	6.71	5.59
8-33S	.....	.....	.....	.....	.....	.....	.....	.....	11.70	9.75	7.80	6.50	10.06	8.39	6.71	5.59
10-6P	11.78	9.30	7.44	6.20	10.13	8.45	6.76	5.63	11.52	9.60	7.68	6.40	11.15	9.60	7.68	6.40
10-6S	12.64	10.53	8.42	7.02	11.43	9.53	7.62	6.35	13.12	10.94	8.75	7.29	12.96	10.80	8.64	7.20
12-3P	10.55	8.79	7.03	5.86	9.45	7.88	6.30	5.25	10.89	9.08	7.26	6.05	10.62	8.85	7.08	5.90
12-3S	14.15	11.79	9.43	7.86	11.16	9.30	7.44	6.20	12.78	10.65	8.52	7.10	12.46	10.38	8.30	6.92
12-10P	12.51	10.43	8.34	6.95	10.98	9.15	7.32	6.10	12.82	10.68	8.54	7.12	12.42	10.35	8.28	6.90
12-10S	13.30	11.09	8.87	7.39	12.02	10.02	8.02	6.65	14.08	11.73	9.38	7.82	13.64	11.37	9.10	7.58
14-5P	10.62	8.85	7.08	5.90	10.17	8.48	6.78	5.65	11.43	9.53	7.62	6.35	10.80	9.00	7.20	6.00
14-5S	12.96	10.80	8.64	7.20	12.42	10.35	8.28	6.90	13.86	11.55	9.24	7.70	13.28	11.07	8.86	7.38
14-12P	13.91	11.60	9.28	7.73	12.96	10.80	8.64	7.20	14.74	12.29	9.83	8.19	14.04	11.70	9.36	7.80
14-12S	15.66	13.05	10.44	8.70	14.58	12.15	9.72	8.10	16.54	13.79	11.03	9.19	15.84	13.20	10.56	8.80
14-15P	14.60	12.17	9.73	8.11	13.86	11.55	9.24	7.70	15.52	12.93	10.34	8.62	14.94	12.45	9.96	8.30
14-15S	16.02	13.35	10.68	8.90	15.12	12.60	10.08	8.40	16.92	14.10	11.28	9.40	16.38	13.65	10.92	9.10
14-19P	15.03	12.53	10.02	8.35	14.04	11.70	9.36	7.80	15.66	13.05	10.44	8.70	15.30	12.75	10.20	8.50
14-19S	15.84	13.20	10.56	8.80	14.85	12.38	9.90	8.25	16.92	14.10	11.28	9.40	16.20	13.50	10.80	9.00
16-8P	13.23	11.03	8.82	7.35	12.06	10.05	8.04	6.70	13.90	11.58	9.26	7.72	13.50	11.25	9.00	7.50
16-8S	15.66	13.05	10.44	8.70	14.40	12.00	9.60	8.00	16.56	13.80	11.04	9.20	16.02	13.35	10.68	8.90
16-26P	18.41	15.35	12.28	10.23	17.46	14.55	11.64	9.70	19.62	16.35	13.08	10.90	18.99	15.83	12.66	10.55
16-26S	19.80	16.50	13.20	11.00	18.36	15.30	12.24	10.20	20.70	17.25	13.80	11.50	22.00	18.33	14.66	12.22
18-11P	14.54	12.12	9.70	8.08	13.50	11.25	9.00	7.50	15.48	12.90	10.32	8.60	15.12	12.60	10.08	8.40
18-11S	17.46	14.55	11.64	9.70	16.20	13.50	10.80	9.00	18.36	15.30	12.24	10.20	18.05	15.05	12.04	10.03
18-32P	19.98	16.65	13.32	11.10	19.17	15.98	12.78	10.65	20.81	17.34	13.82	11.56	20.81	17.34	13.87	11.56
18-32S	21.24	17.70	14.16	11.80	19.80	16.50	13.20	11.00	22.18	18.48	14.78	12.32	23.94	19.95	15.96	13.30
20-16P	17.12	14.27	11.41	9.51	15.48	12.90	10.32	8.60	16.99	14.16	11.33	9.44	17.64	14.70	11.76	9.80
20-16S	20.61	17.18	13.74	11.45	18.61	15.51	12.41	10.34	21.60	18.00	14.40	12.00	21.24	17.70	14.16	11.80
20-39P	23.58	19.65	15.72	13.10	23.04	19.20	15.36	12.80	25.24	21.03	16.82	14.02	24.68	20.57	16.45	13.71
20-39S	25.56	21.30	17.04	14.20	24.12	20.10	16.08	13.40	26.82	22.35	17.88	14.90	26.03	21.69	17.35	14.46
20-41P	24.59	20.49	16.39	13.66	23.22	19.35	15.48	12.90	25.58	21.32	17.05	14.21	25.02	20.85	16.68	13.90
20-41S	25.20	21.00	16.80	14.00	23.94	19.95	15.96	13.30	29.93	24.95	19.96	16.63	26.01	21.68	17.34	14.45
22-21P	19.80	16.50	13.20	11.00	18.00	15.00	12.00	10.00	20.70	17.25	13.80	11.50	20.34	16.95	13.56	11.30
22-21S	23.63	19.70	15.76	13.13	19.80	16.50	13.20	11.00	24.84	20.70	16.56	13.80	24.30	20.25	16.20	13.50
22-55P	28.84	24.03	19.22	16.02	27.99	23.33	18.66	15.55	30.10	25.08	20.06	16.72	28.98	24.15	19.32	16.10
22-55S	29.36	24.47	19.57	16.31	28.35	23.63	18.90	15.75	30.64	25.53	20.42	17.02	39.74	24.78	19.82	16.52
24-61P	31.05	25.88	20.70	17.25	31.14	25.95	20.76	17.30	31.36	26.13	20.90	17.42	32.18	26.82	21.46	17.88
24-61S	32.04	26.70	21.36	17.80	31.86	26.55	21.24	17.70	33.50	27.92	22.33	18.61	33.10	27.59	22.07	18.39

Superior Service Makes Newark Your Best Choice

MS Connectors (Continued)

Shell Insert	MS-3120 F				MS-3121 F				MS-3124 F				MS-3126 F			
	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249
8-33P	11.57	9.65	7.72	6.43	.....	.....	.....	.....	12.87	10.73	8.58	7.15	11.81	9.84	7.87	6.56
8-33S	11.63	9.69	7.75	6.46	.....	.....	.....	.....	12.87	10.73	8.58	7.15	12.08	10.07	8.05	6.71
10-6P	12.24	10.20	8.16	6.80	12.60	10.50	8.40	7.00	12.94	10.79	8.63	7.19	12.71	10.59	8.47	7.06
10-6S	13.86	11.55	9.24	7.70	14.29	11.91	9.53	7.94	14.76	12.30	9.84	8.20	14.47	12.06	9.65	8.04
12-3P	11.43	9.53	7.62	6.35	11.95	9.96	7.97	6.64	11.92	9.93	7.94	6.62	11.99	9.99	7.99	6.66
12-3S	13.36	11.13	8.90	7.42	14.00	11.67	9.34	7.78	14.08	11.73	9.38	7.82	14.04	11.70	9.36	7.80
12-10P	13.32	11.10	8.88	7.40	13.93	11.61	9.29	7.74	14.18	11.82	9.46	7.88	13.68	11.40	9.12	7.60
12-10S	14.62	12.18	9.74	8.12	14.98	12.48	9.98	8.32	15.64	13.04	10.43	8.69	15.30	12.75	10.20	8.50
14-5P	11.92	9.93	7.94	6.62	12.24	10.20	8.16	6.80	13.34	11.12	8.89	7.41	12.28	10.23	8.18	6.82
14-5S	14.54	12.12	9.70	8.08	14.76	12.30	9.84	8.20	15.48	12.90	10.32	8.60	14.98	12.48	9.98	8.32
14-12P	15.32	12.77	10.21	8.51	15.44	12.87	10.30	8.58	16.20	13.50	10.80	9.00	15.48	12.90	10.32	8.60
14-12S	17.35	14.46	11.57	9.64	17.46	14.55	11.64	9.70	18.04	15.03	12.02	10.02	17.64	14.70	11.76	9.80
14-15P	16.02	13.35	10.68	8.90	16.20	13.50	10.80	9.00	16.92	14.10	11.28	9.40	16.38	13.65	10.92	9.10
14-15S	17.64	14.70	11.76	9.80	17.82	14.85	11.88	9.90	18.54	15.45	12.36	10.30	18.00	15.00	12.00	10.00
14-19P	16.29	13.58	10.86	9.05	16.43	13.70	10.96	9.13	16.96	14.13	11.30	9.42	16.84	14.04	11.12	9.36
14-19S	17.64	14.70	11.76	9.80	17.64	14.70	11.76	9.80	18.40	15.33	12.26	10.22	18.16	15.14	12.11	10.09
16-8P	14.60	12.17	9.73	8.11	14.76	12.30	9.84	8.20	15.48	12.90	10.32	8.60	14.80	12.33	9.86	8.22
16-8S	17.28	14.40	11.52	9.60	17.46	14.55	11.64	9.70	18.18	15.15	12.12	10.10	17.66	14.72	11.77	9.81
16-26P	19.82	16.52	13.21	11.01	20.02	16.68	13.34	11.12	20.66	17.22	13.78	11.48	20.52	17.10	13.68	11.40
16-26S	21.24	17.70	14.16	11.80	21.42	17.85	14.28	11.90	22.10	18.42	14.74	12.28	21.96	18.30	14.64	12.20
18-11P	16.20	13.50	10.80	9.00	16.24	13.53	10.82	9.02	17.06	14.22	11.38	9.48	16.74	13.95	11.16	9.30
18-11S	19.35	16.13	12.90	10.75	19.26	16.05	12.84	10.70	20.27	16.89	13.51	11.26	21.06	17.55	14.04	11.70
18-32P	21.60	18.00	14.40	12.00	21.78	18.15	14.52	12.10	22.68	18.90	15.12	12.60	22.54	18.78	15.02	12.52
18-32S	23.04	19.20	15.36	12.80	23.04	19.20	15.36	12.80	24.14	20.12	16.09	13.41	22.03	18.36	14.69	12.24
20-16P	18.72	15.60	12.48	10.40	18.81	15.68	12.54	10.45	19.80	16.50	13.20	11.00	19.08	15.90	12.72	10.60
20-16S	22.32	18.60	14.88	12.40	22.68	18.90	15.12	12.60	23.72	19.77	15.82	13.18	23.04	19.20	15.36	12.80
20-39P	25.83	21.53	17.22	14.35	25.42	21.18	16.94	14.12	27.00	22.50	18.00	15.00	26.50	22.08	17.66	14.72
20-39S	27.45	22.88	18.30	15.25	27.54	22.95	18.36	15.30	28.80	24.00	19.20	16.00	28.30	23.58	18.86	15.72
20-41P	26.10	21.75	17.40	14.50	26.12	21.77	17.41	14.51	27.47	22.89	18.31	15.26	26.71	22.26	17.81	14.84
20-41S	27.36	22.80	18.24	15.20	27.18	22.65	18.12	15.10	28.91	24.09	19.27	16.06	28.17	23.48	18.78	15.65
22-21P	21.56	17.97	14.38	11.98	21.60	18.00	14.40	12.00	22.68	18.90	15.12	12.60	22.18	18.48	14.78	12.32
22-21S	25.72	21.44	17.15	14.29	25.56	21.30	17.04	14.20	27.00	22.50	18.00	15.00	26.46	22.05	17.64	14.70
22-55P	30.60	25.50	20.40	17.00	30.74	25.62	20.50	17.08	31.36	26.13	20.90	17.42	31.28	26.07	20.86	17.38
22-55S	31.50	26.25	21.00	17.50	31.61	26.34	21.07	17.56	32.47	27.06	21.56	18.04	32.40	27.00	21.60	18.00
24-61P	33.12	27.60	22.08	18.40	34.02	28.35	22.68	18.90	34.38	28.65	22.92	19.10	35.46	29.55	23.64	19.70
24-61S	34.02	28.35	22.68	18.90	35.46	29.55	23.64	19.70	35.55	29.63	23.70	19.75	36.90	30.75	24.60	20.50

Shell Insert	MS-3120 P				MS-3126 P			
	1-9	10-24	25-49	50-249	1-9	10-24	25-49	50-249
8-33P	.....	.....	.....	.....	.....	.....	.....	.....
8-33S	.....	.....	.....	.....	.....	.....	.....	.....
10-6P	10.80	9.00	7.20	6.00	11.34	9.45	7.56	6.30
10-6S	12.24	10.20	8.16	6.80	12.78	10.65	8.52	7.10
12-3P	10.26	8.55	6.84	5.70	10.44	8.70	6.96	5.80
12-3S	12.06	10.05	8.04	6.70	12.26	10.22	8.17	6.81
12-10P	11.70	9.75	7.80	6.50	12.10	10.08	8.06	6.72
12-10S	12.78	10.65	8.52	7.10	13.18	10.98	8.78	7.32
14-5P	10.98	9.15	7.32	6.10	10.98	9.15	7.32	6.10
14-5S	13.46	11.22	8.98	7.48	13.50	11.25	9.00	7.50
14-12P	13.82	11.52	9.22	7.68	14.04	11.70	9.36	7.80
14-12S	15.48	12.90	10.32	8.60	15.84	13.20	10.56	8.80
14-15P	14.58	12.15	9.72	8.10	14.80	12.33	9.86	8.22
14-15S	16.02	13.35	10.68	8.90	16.27	13.56	10.85	9.04
14-19P	14.58	12.15	9.72	8.10	15.01	12.51	10.01	8.34
14-19S	15.64	13.04	10.43	8.69	15.84	13.20	10.56	8.80
16-8P	12.96	10.80	8.64	7.20	13.21	11.01	8.81	7.34
16-8S	15.30	12.75	10.20	8.50	15.70	13.08	10.46	8.72
16-26P	18.32	15.27	12.22	10.18	18.54	15.45	12.36	10.30
16-26S	19.44	16.20	12.96	10.80	19.62	16.35	13.08	10.90
18-11P	.....	.....	.....	.....	14.94	12.45	9.96	8.30
18-11S	.....	.....	.....	.....	17.78	14.82	11.86	9.88
18-32P	19.80	16.50	13.20	11.00	20.56	17.13	13.70	11.42
18-32S	20.88	17.40	13.92	11.60	21.64	18.03	14.42	12.02
20-16P	16.38	13.65	10.92	9.10	16.92	14.10	11.28	9.40
20-16S	17.64	14.70	11.76	9.80	20.32	16.94	13.55	11.29
20-39P	23.85	19.88	15.90	13.25	24.32	20.27	16.21	13.51
20-39S	25.04	20.87	16.69	13.91	25.92	21.60	17.28	14.40
20-41P	24.12	20.10	16.08	13.40	24.50	20.42	16.33	13.61
20-41S	25.02	20.85	16.68	13.90	25.60	21.33	17.06	14.22
22-21P	18.90	15.75	12.60	10.50	19.44	16.20	12.96	10.80
22-21S	22.57	18.81	15.05	12.54	23.22	19.35	15.48	12.90
22-55P	28.64	23.87	19.09	15.91	29.34	24.45	19.56	16.30
22-55S	29.20	24.33	19.46	16.22	30.06	25.05	20.04	16.70
24-61P	32.40	27.00	21.60	18.00	32.51	27.09	21.67	18.06
24-61S	33.30	27.75	22.20	18.50	33.98	28.32	22.66	18.88

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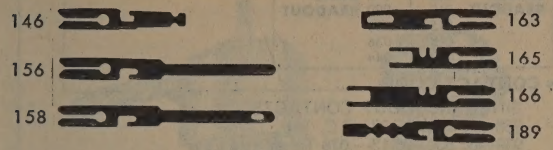
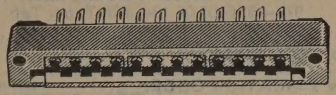
Elco Varicon® Receptacles and Plugs

VARICON CONTACT TYPES



SERIES 5007 .200″ RECEPTACLES



PC connectors have single row of contacts on .200″ spacing. Guides molded in section for mating. End sections have guides and mounting holes for direct mounting. Contact terminations: .098″ base with wire hole, termination for 3 wires. 10-amp rating. Phosphor bronze contacts, nickel plated, gold-flashed. Accept 1⁄16″ module card. **Specify type number of contact termination in place of ***.**

Type	Contacts	1-99	100-249	250-Up
00-5007-012-***-001	12	2.04	1.59	1.37
00-5007-013-***-001	13	2.16	1.68	1.44
00-5007-014-***-001	14	2.30	1.78	2.53
00-5007-015-***-001	15	2.48	1.93	1.65
00-5007-016-***-001	16	2.60	2.01	1.73
00-5007-017-***-001	17	2.73	2.12	1.83
00-5007-018-***-001	18	2.87	2.23	1.92
00-5007-019-***-001	19	3.02	2.34	2.00
00-5007-020-***-001	20	3.17	2.47	2.11
00-5007-021-***-001	21	3.29	2.55	2.19
00-5007-022-***-001	22	3.42	2.66	2.29
00-5007-023-***-001	23	3.54	2.76	2.37
00-5007-024-***-001	24	3.72	2.89	2.49
00-5007-025-***-001	25	4.36	3.39	2.91
00-5007-026-***-001	26	4.58	3.55	3.05

SERIES 5009 .200″ RECEPTACLES

Single row of contacts on .200″ spacing. Two .128″ mounting holes. Polarize without loss of contacts. Mate with series 5000 contact strips. Open-end card slot for any width, 1⁄16″ module card, except †3⁄32″. Position with polarizing tabs below. **Specify Type Number of contact termination in place of ***.**

Type	Contacts	1-99	100-249	250-Up
00-5009-012-***-001	12	2.08	1.62	1.39
00-5009-013-***-001	13	2.14	1.66	1.43
00-5009-014-***-001	14	2.28	1.77	1.52
00-5009-015-***-001	15	2.42	1.88	1.61
00-5009-016-***-001	16	2.60	2.01	1.75
00-5009-017-***-001	17	2.72	2.11	1.81
00-5009-018-***-001	18	2.87	2.23	1.92
00-5009-019-***-001	19	3.03	2.36	2.03
00-5009-020-***-001	20	3.15	2.45	2.10
00-5009-021-***-001	21	3.57	2.54	2.18
†00-5009-022-***-001	22	3.39	2.63	2.26
00-5009-023-***-001	23	3.56	2.77	2.38
00-5009-024-***-001	24	3.76	2.93	2.51
00-5009-025-***-001	25	4.20	3.27	2.80
00-5009-026-***-001	26	4.46	3.47	2.97
60-5006. 3414 Pol. Tab for 1⁄16″ Card		Pkg./50 for 1.00		
60-5006. 3424 Pol. Tab for 3⁄32″ Card		Pkg./10 for .20		

PLUGS FOR ALL SERIES 5000 RECEPTACLES

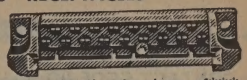
PC module card is punched or drilled; contacts staked in and soldered to form male part. Hole pattern for printed circuit on .200″ grid, held at ±.003 tol., non-accumulative, for hole locations. Hole dia. .052″, plus .000″ minus .004″. 10-amp rating.

Type	Contacts	Contact EACH
02-012-013-5200	12	.54
02-014-013-5200	14	.63
02-015-013-5200	15	.68
02-016-013-5200	16	.72
02-019-013-5200	19	.86
02-020-013-5200	20	.90
02-022-013-5200	22	.99
02-023-013-5200	23	1.04
02-024-013-5200	24	1.08
02-030-013-5200	30	1.35

HOW TO ORDER RECEPTACLES

To order receptacles, specify Newark Stock Number, then Manufacturer's Type Number. In place of ***, indicate Type Number of contact desired. Example: 00F0000 (Stock Number) —00-5007-012-146-001 (Type Number).

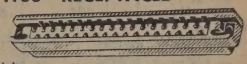
SERIES 7001/7008 .100″ RECEPTACLES



Double row of contacts, .125″ between rows, .200″ spacing. Mate with 7021/7022 .100″ plugs, or with 7000 contact strips. For 1⁄16″ module card. **Specify Type Number of contact termination in place of***.**

Type	Contacts	1-99	100-249	250-Up
00-7001/7008-017-***-001	17	3.74	2.51	2.08
00-7001/7008-023-***-001	23	4.32	2.88	2.40
00-7001/7008-029-***-001	29	4.72	3.15	2.65
00-7001/7008-035-***-001	35	5.35	3.57	2.98
00-7001/7008-041-***-001	41	5.94	3.96	3.30
00-7001/7008-047-***-001	47	6.61	4.46	3.67
60-5006, 3414 Polarizing Tab		Each .02		

SERIES 7024 MINIATURE .100″ RECEPTACLE



Double row of contacts. Mate with 7023. Polarized at even positions. Open ended 1⁄16″ card slot and guide socket. **Specify contacts for ***.**

Type	Contacts	1-99	100-249	250-Up
00-7024-017-***-001	17	3.55	2.49	2.14
00-7024-023-***-001	23	4.03	2.82	2.42
00-7024-029-***-001	29	4.54	3.17	2.73
00-7024-035-***-001	35	5.08	3.55	3.05
00-7024-041-***-001	41	5.60	3.93	3.36
60-5006, 3414 Polarizing Tab		Each .02		

SERIES 7015 .200″ RECEPTACLES

Two rows of contact on .200″ spacing with .125 spacing between rows. For 1⁄16″ module card. Position with polarizing tabs below. **Specify contacts for ***.**

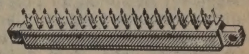
Type	Contacts	1-99	100-249	250-Up
00-7015-023-***-001	23	2.16	1.51	1.30
00-7015-029-***-001	29	2.29	1.61	1.38
00-7015-035-***-001	35	2.42	1.70	1.45
00-7015-041-***-001	41	2.55	1.78	1.53
00-7015-047-***-001	57	2.69	1.88	1.61
00-7015-059-***-001	59	3.38	2.33	2.01
60-5006, 3414 Polarizing Tab		Each .02		

SERIES 7038 MINIATURE .100″ RECEPTACLES

Same as Series 7024, except uses "Varilok" contacts for solderless wiring. **Specify Type Numbers of Contact Terminations desired in place of ***.**

Type	Contacts	1-99	100-249	250-Up
00-7038-017-000-001	17	1.83	1.29	1.10
00-7038-017-***-001	17	3.55	2.49	2.14
00-7038-023-000-001	23	1.94	1.36	1.17
00-7038-023-***-001	23	4.03	2.82	2.42
00-7038-029-000-001	29	2.07	1.45	1.24
00-7038-029-***-001	29	4.54	3.17	2.73
00-7038-035-000-001	35	2.18	1.53	1.31
00-7038-035-***-001	35	5.23	3.66	3.14
00-7038-041-000-001	41	2.31	1.61	1.39
00-7038-041-***-001	41	5.89	4.12	3.53
00-7038-047-000-001	47	2.44	1.71	1.46
00-7038-047-***-001	47	6.54	4.58	3.93
60-5006. 3414 Polarizing Tab		Each .02		

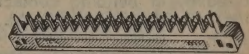
SERIES 7021/7022 .100″ PLUGS



Double-tier plugs with .100″ spacing. For circuit boards 1⁄16″ thick. Mate with 7000 receptacles w/o card guides. Rigid insulator maintains exact contact spacing.

Type	Contacts	1-99	100-249	250-Up
00-7021/7022-016-000-001	16	1.94	1.52	1.30
00-7021/7022-017-000-001	17	1.94	1.52	1.30
00-7021/7022-023-000-001	23	2.38	1.84	1.58
00-7021/7022-024-000-001	24	2.38	1.84	1.58
00-7021/7022-028-000-001	28	2.81	2.18	1.88
00-7021/7022-029-000-001	29	2.81	2.18	1.88
00-7021/7022-034-000-001	34	3.22	2.51	2.15
00-7021/7022-035-000-001	35	3.22	2.51	2.15
00-7021/7022-040-000-001	40	3.58	2.78	2.38
00-7021/7022-041-000-001	41	3.58	2.78	2.38
00-7021/7022-047-000-001	47	4.04	3.14	2.69

SERIES 7023 .100″ MINIATURE PLUGS



Mate with 7024 miniature receptacles. Mounting flanges have .128″ diameter holes. For 1⁄16″ PC card.

Type	Contacts	1-99	100-249	250-Up
00-7023-017-000-001	17	2.45	1.91	1.64
00-7023-023-000-001	23	2.85	2.21	1.90
00-7023-029-000-001	29	3.28	2.55	2.18
00-7023-035-000-001	35	3.69	2.87	2.46
00-7023-041-000-001	41	4.12	3.21	2.75
00-7023-047-000-001	47	4.56	3.54	3.03

Printed Circuit Connectors

7000 SERIES ORDERING CODE

Upper-Tier and Lower-Tier Contacts on Separate Strips

02 000 147 5 200

- **NUMBER OF CONTACTS:** 1 (001) to 63 (063)
- **CONTACT CODE NO:** See table

CONTACT	CONTACT CODE NO.	CONTACT PART NO.	SILHOUETTE
1/16" thick card			
Lower Tier	147	60 7001 15 13	
Lower Tier with Wire Hole	135	60 7001 04 13	
Upper Tier with Wire Hole	137	60 7001 05 13	
Lower Tier with Wire Hole	144	60 7001 11 13	
3/32" thick card			
Lower Tier with Wire Hole	136	60 7001 04 23	
Upper Tier with Wire Hole	138	60 7001 05 23	
Lower Tier	148	60 7001 15 23	

PRICING FOR SERIES 7000

Total Number of Contacts	Contact Types 137 and 138	All Other Contact Types
1—999	.05	.045
1,000— 24,999	.048	.043
25,000— 49,999	.045	.04
50,000—199,999	.04	.035

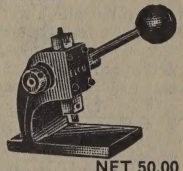
SERIES 7009

Permits mounting of adjacent receptacle on .600" centers. *Supplied without board guides. †Polarizing tab. For 7022 plugs or 7000 contact strips.

Manufacturer's Type	No. of Contacts	EACH 1-99	100-249	250-Up
00-7009-024-193-001	24	7.63	5.09	4.34
00-7009-034-193-001	34	8.42	5.55	4.63
00-7009-034-193-002*	34	8.32	5.55	4.63
00-7009-040-193-001	40	9.15	6.11	5.09
00-7009-040-193-002*	40	9.15	6.11	5.09

†60-5006. 3414 Pol. Tab..... Each .02

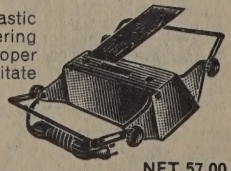
MODEL 06-1856-01 HAND STAKER



Specifically designed for proper staking of Varicon contacts. Contact retention, 45 lbs. after staking. For general laboratory and experimental uses. Ram dimensions, ½x ½x2½". Ram stroke, 13/16". Height of opening, 1⅛". Throate depth from center of ram, 1". Working surface, 2x2⅞". Rugged metal construction. Shpg. wt., 3 lbs.

EACH..... NET 50.00

MODEL 06-1751-02 HEATING PLATEN



Varicon PC contacts are supplied on plastic strips to facilitate staking and soldering operations. Heating platen supplies proper heat to melt plastic strips and facilitate removal after contacts have been staked and soldered to board, avoids possibility of bending contacts. 10" long. 110-120 V, AC or DC. Wt., 5 lbs.

EACH..... NET 57.00

Newark can supply the complete Varicon series from stock, including sizes not listed. Contact your man at Newark for complete price and delivery information.

6007 SERIES ORDERING CODE

- **NUMBER OF CONTACTS:** 00 - 6007 - 030 - 980 - 002

SINGLE-READOUT	006	012 DUAL-
	010	020 READOUT
	015	030
	018	036
	022	044

- **CONTACT CODE:**

SINGLE-READOUT CONTACTS:
938—60 6007 06 33—P.C. Tab
939—60 6007 06 13—.078 Taper Tab
940—60 6007 06 23—Wire Hole
DUAL READOUT CONTACTS:
979—60 6007 09 13—.078 Taper Tab
980—60 6007 09 23—Wire Hole
981—60 6007 09 33—P.C. Tab
989—60 6007 09 43—Wire Wrap

- **VARIATION CODE:**

002—.128" Dia. Mounting Holes
003—.116" I.D. Floating Eyelets
008—.4-40 Insert

- **POLARIZATION:** Order polarizing inserts separately by part no.:
Type B—60 6002 31 24—Located right of contact position
Type C—60 6007 33 14—Location is in contact position

Mfr's Type No.	Contacts	10-99	100-249	250-999	1000-4999
00-6007-006-***-002	.....	.73	.65	.58	.53
00-6007-010-***-002	.....	.87	.78	.70	.62
00-6007-012-***-002	.....	.84	.75	.67	.61
00-6007-012-989-002	989	.89	.81	.73	.66
00-6007-015-***-002	.....	.97	.87	.78	.71
00-6007-018-***-002	.....	1.15	1.04	.94	.85
00-6007-020-***-002	.....	1.01	.91	.82	.75
00-6007-020-989-002	989	1.11	1.01	.92	.84
00-6007-022-***-002	.....	1.26	1.14	1.03	.92
00-6007-030-***-002	.....	1.32	1.19	1.07	.96
00-6007-030-989-002	989	1.47	1.34	1.22	1.11
00-6007-036-***-022	.....	1.42	1.28	1.16	1.07
00-6007-036-989-002	989	1.61	1.46	1.33	1.21
00-6007-044-***-002	.....	1.59	1.44	1.30	1.18
00-6007-044-989-002	989	1.84	1.67	1.52	1.38

Specify Type No. of contact termination desired in place of ***

6022 SERIES ORDERING CODE

- **NUMBER OF CONTACTS:** 00 - 0022 - 064 - 980 - 001

SINGLE-READOUT 22 | 44 DUAL-READOUT

- **CONTACT CODE:** same as 6007 series
- **VARIATION:**

001—44 Dual-readout contacts
002—Single-readout contacts with tails in positions "1" to "22"
003—22 Single-readout contacts with tails in positions "A" to "Z"
004—22 Single-readout contacts with tails in positions 1-B-3-D-5 etc.
005—22 Single-readout contacts with tails in positions A-2-C-4-E etc.

- **POLARIZATION**

Type "B": Eliminates no contact; polar. loc. right of contact pos. Specify 60 6002 31 24. Type "C": Fits between facing noses; polar. loc. same as contact designation. Specify 60 6007 33 14.

Manufacturer's Type	Contacts	1-99	100-249	250-999
00-6022-022-940-022	22	1.63	1.47	1.47
00-6022-022-940-003	22	1.63	1.47	1.47
00-6022-022-980-001	22	2.06	1.85	1.85
00-6022-022-981-001	22	2.06	1.85	1.85
00-6022-022-989-001	22	2.27	2.07	2.07

6309 SERIES ORDERING CODE CHASSIS MTG. VERSION

- **NUMBER OF CONTACTS** 00 - 6309 - 036 - 397 - 002

025, 036, 050 (Single row)
050, 072, 100 (Double row)

- **CONTACT CODE:**

397—.665" contact tail length

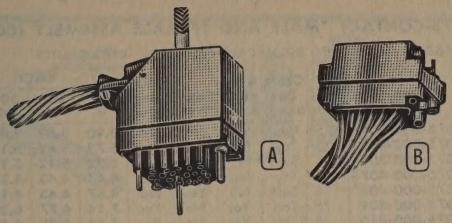
- **VARIATION CODE:**

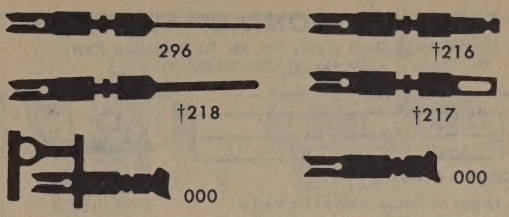
CODE	NO. OF CONTACTS	MOUNTING NUTS	CONTACT ROW
001	50, 72, 100	Yes	A & B
002	25, 36, 50	Yes	A
003	25, 36, 50	Yes	B
004	50, 72, 100	No	A & B
005	25, 36, 50	No	A
006	25, 36, 50	No	B

Manufacturer's Type	Contacts	1-99	100-999
00-6309-025-397-002	25	1.12	1.00
00-6309-025-397-005	25	1.01	.90
00-6309-036-397-002	36	1.61	1.44
00-6309-036-397-005	36	1.50	1.34
00-6309-050-397-001	50	2.13	1.90
00-6309-050-397-002	50	2.24	2.00
00-6309-050-397-004	50	2.02	1.80
00-6309-050-397-005	50	2.13	1.90
00-6309-072-397-001	72	3.08	2.75
00-6309-072-397-004	72	2.97	2.65
00-6309-100-397-001	100	4.26	3.80
00-6309-100-397-004	100	4.14	3.70

Rack and Panel Connectors

8016 MINIATURE RACK PANEL CONNECTORS





38 CONTACTS OR 56 CONTACTS

Type Con.	Variation Code No. Small Clamp	Variation Code No. Large Clamp	Cov. & Cable Entr.	Actuat. Screw	Lock. Nut	Type Con.	Variation Code No. Small Clamp	Variation Code No. Large Clamp	Cov. & Cable Entr.	Actuat. Screw	Lock. Nut
Plug	701	...	None	Yes	No	Recep.	707	...	None	No	Yes
	702	...	None	No	Yes		708	...	None	Yes	No
	703	719	Top	Yes	No		709	723	Top	Yes	No
	704	720	Side	Yes	No		710	724	Side	Yes	No
	705	721	Top	No	Yes		711	725	Top	No	Yes
	706	722	Side	No	Yes		712	726	Side	No	Yes

Cable clamp on cover available for top or side entrance. Can be polarized in 36 positions. Diallyl phthalate insulation. Contact rating 8.5 amps. FN, fixed nut; AS, actuating screw. *Indicates no. of contacts. Available with or without installed contacts. Specify 216, 217 or 218 in place of XXX in Mfr's Type for installed contacts. Order separate Varicon contacts or Varilok crimp-type contacts and insertion tool below, right. Average shipping weight, 8 ounces.

[A] RECEPTACLES (Less Contacts and Cover)

Mfr's Type 00-8016-	Lock	*	EACH 1-9	10-49	50-99	100-249	250-999
-020-000-707	FN	20	1.94	1.84	1.67	1.35	1.21
-020-000-708	AS	20	3.13	2.96	2.70	2.18	1.95
-038-000-707	FN	38	2.33	2.21	2.01	1.63	1.45
-038-000-708	AS	38	3.52	3.33	3.04	2.45	2.19
-056-000-707	FN	56	2.83	2.67	2.44	1.97	1.76
-056-000-708	AS	56	4.02	3.80	3.47	2.79	2.50
-090-000-707	FN	90	3.51	3.31	3.01	2.43	2.18
-090-000-708	AS	90	4.70	4.43	4.04	3.26	2.92
-120-000-707	FN	120	3.94	3.72	3.39	2.74	2.45
-120-000-708	AS	120	5.13	4.84	4.41	3.56	3.19

RECEPTACLES with installed Contact, Less Cover

-020-XXX-707	FN	20	3.52	3.33	3.04	2.45	2.19
-020-XXX-708	AS	20	4.71	4.45	4.06	3.28	2.94
-038-XXX-707	FN	38	5.37	5.07	4.62	3.73	3.35
-056-XXX-707	FN	56	7.27	6.86	6.26	5.05	4.52
-056-XXX-708	AS	56	8.46	7.99	7.28	5.87	5.26
-090-XXX-707	FN	90	10.64	10.04	9.15	7.38	6.61
-120-XXX-708	FN	120	13.44	12.69	11.57	9.34	8.36
-120-XXX-708	AS	120	14.63	13.82	12.60	10.16	9.11

COVER ASSEMBLIES (**Cable Clamp Mounting)

Mfr's Type	**	Size	EACH 1-9	10-49	50-99	100-249	250-999
30-8016-9890	Side	20	1.98	1.87	1.71	1.38	1.23
30-8016-9811	Top	20	1.98	1.87	1.71	1.38	1.23
30-8016-9810	Side	38	2.08	1.97	1.79	1.44	1.30
30-8016-9820	Top	38	2.08	1.97	1.79	1.44	1.30
30-8016-9830	Side	56	2.18	2.06	1.88	1.52	1.35
30-8016-9840	Top	56	2.18	2.06	1.88	1.52	1.35
30-8016-9812	Side	90	2.38	2.24	2.05	1.65	1.47
30-8016-9813	Top	90	2.38	2.24	2.05	1.65	1.47
30-8016-9814	Side	120	2.77	2.62	2.39	1.93	1.73
30-8016-9815	Top	120	2.77	2.62	2.39	1.93	1.73

VARILOK CRIMPING EQUIPMENT

Hand Insertion Tool

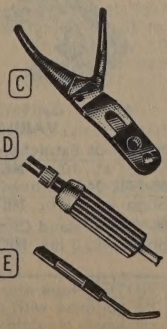
[C] **Type 06-7515-01.** Designed for Varilok contact #60-8017-0313 in lab, model shop and prototype applications.
Shpg. wt., 3 lbs. **55.00**

Hand Extraction Tool

[D] **Type 06-1877-04.** Designed to extract Varilok contacts from their insulator quickly and easily without damage to either contacts or insulator.
Shpg. wt., 10 oz. .....Each **10.00**

Hand Crimping Tool

[E] **Type 06-1742-04.** Provides positive method for inserting contacts into insulator by applying pressure on contacts directly at end of insulation crimp.
Shpg. wt., 10 oz. .....Each **3.60**



[B] PLUGS (Less Contacts and Cover Assembly)

Mfr's Type 00-8016-	Lock	*	EACH 1-9	10-49	50-99	100-249	250-999
-020-000-701	AS	20	2.93	2.77	2.52	2.04	1.83
-020-000-702	FN	20	1.74	1.65	1.50	1.21	1.09
-038-000-701	AS	38	3.32	3.15	2.86	2.31	2.07
-038-000-702	FN	38	2.14	2.03	1.84	1.49	1.33
-056-000-701	AS	56	3.82	3.61	3.29	2.65	2.38
-056-000-702	FN	56	2.63	2.49	2.27	1.83	1.64
-090-000-701	AS	90	4.50	4.25	3.87	3.12	2.79
-090-000-702	FN	90	3.31	3.12	2.85	2.30	2.06
-120-000-701	AS	120	4.93	4.65	4.25	3.42	3.07
-120-000-702	FN	120	3.74	3.53	3.22	2.60	2.33

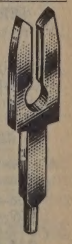
PLUGS with Installed Contact, Less Cover Assembly

-020-XXX-701	AS	20	4.51	4.27	3.88	3.14	2.81
-020-XXX-702	FN	20	3.32	3.15	2.86	2.31	2.07
-038-XXX-701	AS	38	6.34	5.99	5.46	4.40	3.94
-038-XXX-702	FN	38	5.15	4.86	4.43	3.58	3.20
-056-XXX-701	AS	56	8.26	7.80	7.11	5.73	5.14
-090-XXX-701	AS	90	11.62	10.98	10.01	8.07	7.23
-120-XXX-701	AS	120	14.43	13.63	12.43	10.02	8.93
-120-XXX-702	FN	120	13.24	15.51	11.41	9.20	8.24

LARGE WIRE CLAMP COVERS (**Cable Clamp Mounting)

Mfr's Type	**	Size	EACH 1-9	10-49	50-99	100-249	250-999
30-8016-9850	Side	38	2.08	1.97	1.79	1.44	1.30
30-8016-9860	Top	38	2.08	1.97	1.79	1.44	1.30
30-8016-9870	Side	56	2.18	2.06	1.88	1.52	1.35
30-8016-9880	Top	56	2.18	2.06	1.88	1.52	1.35

VARILOK CRIMPED-WIRING CONTACTS



Ingenious self-locking, crimp-type contacts. Make solderless connections between wire and contact by simply crimping wire directly to the contact. A portion of the crimped contact grips the wire insulation for strain relief. Designed to accommodate all sizes of wire from 18 gauge to 30 gauge. Can be crimped to the wire independently of other assembling procedures, then easily be inserted into any insulator hole location. When inserted, Varilok contacts lock into position using spring balance for permanence, and will not twist, turn, or bend out of alignment. Easily removed with extraction tool. 8.5 amp rating. Available loose in packages of 100 or on reels of 1800 contacts per reel.

Type 60-8017-0313. Wt., 2 oz. .....Per Pkg. **6.00**

Type 60-8017-0323. Wt., 4 lbs. .....Per Reel **117.00**

VARICON CONTACTS AND INSERTION TOOL

For Series 8016 and 8017 rack and panel connectors. Available in packages of 100. Av. shpg. wt. per package, 2 oz.

Model 216. Equipped with .078" taper tab term. Per Pkg. **4.50**

Model 217. Equip. with solder/.098" taper tab term. Per Pkg. **4.50**

Model 218. Manual wire wrap termination .....Per Pkg. **4.50**

Type 06-7638-01. Manual Contact Insertion Tool..Each **11.40**

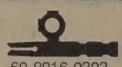
Plugs, Receptacles and Cable Clamps

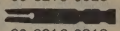
SERIES 8026 CONTACT ASSEMBLIES

To Complete 15-Digit Ass'y No. for Each Mating Part:
Assy. No. 00-8026-033-000-803

- **No. of Contacts:**

Spacing	.100"
Contacts	33, 75, 117


60-8216-0323


60-8216-0313

- **Contact Code:**
  Order contacts (below) by Part #
  Crimp (3000 - contact reel): Part #60-8216-0323
  Crimp (Loose contact): Part #60-8216-0313
- **Variation Code** (See charts below):

33-CONTACT *MALE AND †FEMALE ASSEMBLY

Mfr's Type 00-8026	Contacts	Actuating Screw	Fixed Nut	Polarizing Pins	Cover	EACH 1-9	10-49	50-99	100-249
*033-000-701	33	Yes	No	Yes	No	3.71	3.51	3.32	2.73
*033-000-702	33	Yes	No	No	No	2.66	2.52	2.38	1.96
*033-000-703	33	No	Yes	Yes	No	2.38	2.25	2.13	1.75
*033-000-704	33	No	Yes	No	No	1.33	1.26	1.19	.98
*033-000-725	33	Yes	No	Yes	Yes	5.99	5.67	5.36	4.41
*033-000-726	33	Yes	No	No	Yes	4.94	4.68	4.42	3.64
*033-000-727	33	No	Yes	Yes	Yes	4.56	4.32	4.08	3.36
*033-000-728	33	No	Yes	No	Yes	3.61	3.42	3.23	2.66
†033-000-801	33	No	Yes	Yes	No	2.57	2.43	2.30	1.89
†033-000-802	33	No	Yes	No	No	1.52	1.44	1.36	1.12
†033-000-803	33	Yes	No	Yes	No	3.90	3.69	3.49	2.87
†033-000-804	33	Yes	No	No	No	2.85	2.70	2.55	2.10
†033-000-825	33	No	Yes	Yes	Yes	4.85	4.59	4.34	3.57
†033-000-826	33	No	Yes	No	Yes	3.80	3.60	3.40	2.80
†033-000-827	33	Yes	No	Yes	Yes	6.18	5.85	5.53	4.55
†033-000-828	33	Yes	No	No	Yes	5.13	4.86	4.59	3.78

75-CONTACT *MALE AND †FEMALE ASSEMBLY

‡Less cover; §cover, small clamp; #cover, large clamp.

Mfr's Type 00-8026	Contacts	Cable Entrance	Actuating Screw	Fixed Nut	Polarizing Hdw.	EACH 1-9	10-49	50-99	100-249
‡*075-000-701	75	No	Yes	No	Yes	4.75	4.50	4.25	3.50
‡*075-000-702	75	No	Yes	No	No	3.71	3.51	3.32	2.73
‡*075-000-703	75	No	No	Yes	Yes	3.33	3.15	2.98	2.45
‡*075-000-704	75	No	No	Yes	No	2.28	2.16	2.04	1.68
§*075-000-705	75	Top	Yes	No	Yes	6.95	6.59	6.22	5.12
§*075-000-706	75	Side	Yes	No	Yes	6.95	6.59	6.22	5.12
§*075-000-707	75	Top	Yes	No	No	5.91	5.60	5.29	4.35
§*075-000-708	75	Side	Yes	No	No	5.91	5.60	5.29	4.35
§*075-000-709	75	Top	No	Yes	Yes	5.53	5.24	4.95	4.07
§*075-000-710	75	Side	No	Yes	Yes	5.53	5.24	4.95	4.07
§*075-000-711	75	Top	No	Yes	No	4.48	4.25	4.01	3.30
§*075-000-712	75	Side	No	Yes	No	4.48	4.25	4.01	3.30
#*075-000-713	75	Top	Yes	No	Yes	6.95	6.59	6.22	5.12
#*075-000-714	75	Side	Yes	No	Yes	6.95	6.59	6.22	5.12
#*075-000-715	75	Top	Yes	No	No	5.91	5.60	5.29	4.35
#*075-000-716	75	Side	Yes	No	No	5.91	5.60	5.29	4.35
#*075-000-717	75	Top	No	Yes	Yes	5.53	5.24	4.95	4.07
#*075-000-718	75	Side	No	Yes	Yes	5.53	5.24	4.95	4.07
#*075-000-719	75	Top	No	Yes	No	4.48	4.25	4.01	3.30
#*075-000-720	75	Side	No	Yes	No	4.48	4.25	4.01	3.30
‡†075-000-801	75	No	No	Yes	Yes	3.52	3.33	3.15	2.59
‡†075-000-802	75	No	No	Yes	No	2.47	2.34	2.21	1.82
‡†075-000-803	75	No	Yes	No	Yes	4.94	4.68	4.42	3.64

SERIES 8129 SUBMINIATURE VARICON™ CONNECTORS

For printed circuit, flexible cable, rack and panel substrate applications. 1-pc. phthalate insulator. Pin and socket arrangement for polarization. Single row of contacts on .100" spacing. 3 types: Type 603 (upright mtg.) and Type 610 (side mtg.) have printed circuit termination for cards to 3/32"; Type 605 (rack and panel) has wire-hole taper tab for .078" base tab. Tabes can be bent as installation requires. Wt., 2 oz.

Mfr's Type 00-8129-	Contact Type	Contacts	Brackets	EACH 1-99	100-249	250-Up
006-610-001	610	6	Side Mount	1.16	.93	.82
009-610-001	610	9		1.31	1.02	.90
012-610-001	610	12		1.34	1.10	.95
015-610-001	610	15		1.42	1.13	1.00
006-603-002	603	6	Up-right	1.16	.93	.82
009-603-002	603	8		1.31	1.02	.90
012-603-002	603	12		1.34	1.10	.95
015-603-002	603	15		1.42	1.13	1.00
006-603-003	603	6	None	.96	.76	.69
009-603-003	603	9		1.09	.86	.76
012-603-003	603	12		1.16	.93	.82
015-603-003	603	15		1.23	.98	.86
006-605-003	605	6	None	.96	.76	.69
009-605-003	605	9		1.09	.96	.76
012-605-003	605	12		1.16	.93	.82
015-605-003	605	15		1.23	.98	.86

Model 60-8129. 4311 Polarizing Pin. Takes up one contact position. (Pkg. of 10) ..... EACH .20

75-CONTACT *MALE AND †FEMALE ASSEMBLY (CONT.)

‡Less cover; §cover, small clamp; #cover, large clamp.

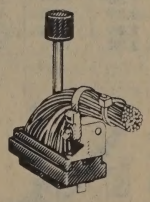
Mfr's Type 00-8026	Contacts	Cable Entrance	Actuating Screw	Fixed Nut	Polarizing Hdw.	EACH 1-9	10-49	50-99	100-249
‡†075-000-804	75	No	Yes	No	No	3.90	3.69	3.49	2.87
§†075-000-805	75	Top	No	Yes	Yes	5.72	5.42	5.12	4.21
§†075-000-806	75	Side	No	Yes	Yes	5.72	5.42	5.12	4.21
§†075-000-807	75	Top	No	Yes	No	4.67	4.43	4.18	3.44
§†075-000-808	75	Side	No	Yes	No	4.67	4.43	4.18	3.44
§†075-000-809	75	Top	Yes	No	Yes	7.14	6.77	6.39	5.26
§†075-000-810	75	Side	Yes	No	Yes	7.14	6.77	6.39	5.26
§†075-000-811	75	Top	Yes	No	No	6.10	5.78	5.46	4.49
§†075-000-812	75	Side	Yes	No	No	6.10	5.78	5.46	4.49
#†075-000-813	75	Top	No	Yes	Yes	5.72	5.42	5.12	4.21
#†075-000-814	75	Side	No	Yes	Yes	5.72	5.42	5.12	4.21
#†075-000-815	75	Top	No	Yes	No	4.67	4.43	4.18	3.44
#†075-000-816	75	Side	No	Yes	No	4.67	4.43	4.18	3.44
#†075-000-817	75	Top	Yes	No	Yes	7.14	6.77	6.39	5.26
#†075-000-818	75	Side	Yes	No	Yes	7.14	6.77	6.39	5.26
#†075-000-819	75	Top	Yes	No	No	6.10	5.78	5.46	4.49
#†075-000-820	75	Side	Yes	No	No	6.10	5.78	5.46	4.49

117-CONTACT *MALE AND †FEMALE ASSEMBLY

‡Less cover; §cover, small clamp; #cover, large clamp.

Mfr's Type 00-8026	Contacts	Cable Entrance	Actuating Screw	Fixed Nut	Polarizing Hdw.	EACH 1-9	10-49	50-99	100-249
*117-000-701	117	No	Yes	No	Yes	5.61	5.31	5.02	4.13
*117-000-702	117	No	Yes	No	No	5.38	4.32	4.08	3.36
*117-000-703	117	No	No	Yes	Yes	4.18	3.96	3.74	3.08
*117-000-704	117	No	No	Yes	No	3.14	2.97	2.81	2.31
*117-000-705	117	Top	Yes	No	Yes	7.90	7.49	7.07	5.82
*117-000-706	117	Side	Yes	No	Yes	7.90	7.49	7.07	5.82
*117-000-707	117	Top	Yes	No	No	6.86	6.50	6.14	5.05
*117-000-708	117	Side	Yes	No	No	6.86	6.50	6.14	5.05
*117-000-709	117	Top	No	Yes	Yes	6.48	6.14	5.80	4.77
*117-000-710	117	Side	No	Yes	Yes	6.48	6.14	5.80	4.77
*117-000-711	117	Top	No	Yes	No	5.43	5.15	4.86	4.00
*117-000-712	117	Side	No	Yes	No	5.43	5.15	4.86	4.00
*117-000-713	117	Top	Yes	No	Yes	7.90	7.49	7.07	5.82
*117-000-714	117	Side	Yes	No	Yes	7.90	7.49	7.07	5.82
*117-000-715	117	Top	Yes	No	No	6.86	6.50	6.14	5.05
*117-000-716	117	Side	Yes	No	No	6.86	6.50	6.14	5.05
*117-000-717	117	Top	No	Yes	Yes	6.48	6.14	5.80	4.77
*117-000-718	117	Side	No	Yes	Yes	6.48	6.14	5.80	4.77
*117-000-719	117	Top	No	Yes	No	5.43	5.15	4.86	4.00
*117-000-720	117	Side	No	Yes	No	5.43	5.15	4.86	4.00
†117-000-801	117	No	No	Yes	Yes	4.28	4.05	3.83	3.15
†117-000-802	117	No	No	Yes	No	3.23	3.06	2.89	2.38
†117-000-803	117	No	Yes	No	Yes	5.70	5.40	5.10	4.20
†117-000-804	117	No	Yes	No	No	4.66	4.41	4.17	3.43
†117-000-805	117	Top	No	Yes	Yes	6.57	6.23	5.88	4.84
†117-000-806	117	Side	No	Yes	Yes	6.57	6.23	5.88	4.84
†117-000-807	117	Top	No	Yes	No	5.53	5.24	4.95	4.07
†117-000-808	117	Side	No	Yes	No	5.53	5.24	4.95	4.07
†117-000-809	117	Top	Yes	No	Yes	8.00	7.58	7.16	5.89
†117-000-810	117	Side	Yes	No	Yes	8.00	7.58	7.16	5.89
†117-000-811	117	Top	Yes	No	No	6.95	6.59	6.22	5.12
†117-000-812	117	Side	Yes	No	No	6.95	6.59	6.22	5.12
†117-000-813	117	Top	No	Yes	Yes	6.57	6.23	5.88	4.84
†117-000-814	117	Side	No	Yes	Yes	6.57	6.23	5.88	4.84
†117-000-815	117	Top	No	Yes	No	5.53	5.24	4.95	4.07
†117-000-816	117	Side	No	Yes	No	5.53	5.24	4.95	4.07
†117-000-817	117	Top	Yes	No	Yes	8.00	7.58	7.16	5.89
†117-000-818	117	Side	Yes	No	Yes	8.00	7.58	7.16	5.89
†117-000-819	117	Top	Yes	No	No	6.95	6.59	6.22	5.12
†117-000-820	117	Side	Yes	No	No	6.95	6.59	6.22	5.12

SERIES 8026 CABLE STRAIN RELIEF CLAMP



Adjustable clamp assembly for large or small cable bundles. Permits mounting on plug and /or receptacles.
30-8026-9601. Clamp for plug and cable to cable uses.
30-8026-9602. Clamp for receptacle applications.

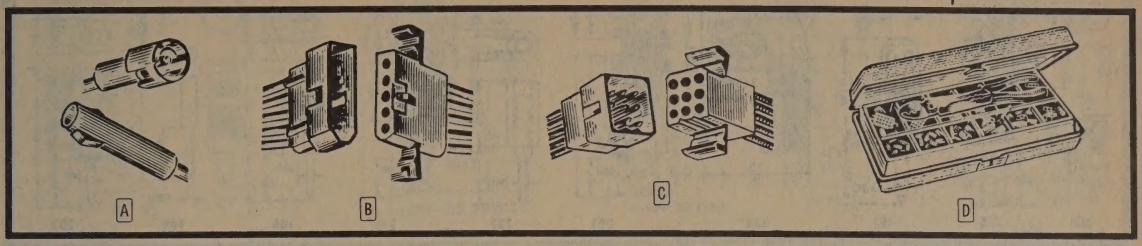
Type	1-9	10-49	50-99
30-8026-9601 30-8026-9602	1.00	.95	.85

VARILOK™ CRIMPING EQUIPMENT

06-1877-04 Extraction Tool. Does not damage contacts
Shpg. wt., 10 oz. **NET** ..... EACH 9.00
06-1742-04 Insertion Tool. Inserts contact in insulator.
Shpg. wt., 10 oz. **NET** ..... EACH 3.60
06-7515-01 Hand Crimper. For Contact #60-8017-0313.
Shpg. wt., 3 lbs. **NET** ..... EACH 55.00

NOTE: Plugs and receptacles for Sizes 33, 75 and 117 can be supplied with either male insulators (exposed contacts) or female insulators (recessed contacts).

Waldom/Molex Connectors



SAVE TIME AND LABOR WITH WALDOM/MOLEX NYLON CONNECTORS

Highly reliable, versatile connectors are ideal for use in business machines, appliances, communication instrumentation and other demanding applications. Nylon connector housings (supplied less pin terminals) are available in miniature for .062" diameter pin terminals and standard series for .093" diameter pin terminals. Available with integrally molded mounting ears for panel mounting.

All types except single circuit are polarized. Both male and female pin terminals of the same mating diameter can be intermixed in the same housing. Terminals can be easily extracted and replaced using ejector tool. Housings rated at 250 volts and are U.L. Recognized. *Indicates with mounting ears; †indicates, with holding tabs; ‡number of circuits; §amps per circuit.

MINIATURE SERIES NYLON CONNECTOR PLUG HOUSINGS AND RECEPTACLE HOUSINGS

Stock No.	Mfr's Type	Fig.	‡	§	EACH Std/Pkg	EACH Pkg/100	500-Up Pkg/100
31F1000	†03-06-2011	A	1	5	.75/10	5.50	4.25
31F1002	*†03-06-2031	B	3	5	1.20/10	10.85	8.00
31F1004	†03-06-2041	B	4	5	3.15/10	24.10	18.00
31F1006	*†03-06-2054	B	5	5	1.05/10	16.10	11.90
31F1008	*†03-06-2062	C	6	5	.95/5	15.05	11.25
31F1010	*†03-06-2081	B	8	5	.80/5	11.30	8.50
31F1012	*†30-06-2091	C	9	5	1.05/5	16.10	11.90
31F1014	*†03-06-2121	C	12	5	1.10/5	17.50	12.90
31F1016	*†03-06-2151	C	15	5	1.70/5	26.50	19.80
43F735	*†03-06-2241	C	24	5	1.80/5	28.60	22.15
31F1018	*†03-06-2361	C	36	4	2.90/5	44.00	33.00

Stock No.	Mfr's Type	Fig.	‡	§	EACH Std/Pkg	EACH Pkg/100	500-Up Pkg/100
31F1001	†03-06-1011	A	1	5	.65/10	4.95	3.65
31F1003	*†03-06-1030	B	3	5	1.40/10	12.10	9.05
31F1005	†03-06-1041	B	4	5	3.10/10	23.90	17.70
31F1007	*†03-06-1055	B	5	5	1.30/5	20.25	15.05
31F1009	*†03-06-1061	C	6	5	1.10/5	17.05	12.40
31F1011	*†03-06-1081	B	8	5	.90/5	13.90	10.40
31F1013	*†03-06-1091	C	9	5	1.15/5	18.40	13.40
31F1015	*†03-06-1121	C	12	5	1.25/5	19.70	14.65
31F1017	*†03-06-1151	C	15	5	1.85/5	30.00	25.10
43F736	*†03-06-1241	C	24	5	1.90/5	30.10	23.35
31F1019	*†03-06-1361	C	36	4	2.95/5	44.50	33.00

STANDARD SERIES NYLON CONNECTOR PLUG HOUSINGS AND RECEPTACLE HOUSINGS

Stock No.	Mfr's Type	Fig.	‡	§	EACH Std/Pkg	EACH Pkg/100	500-Up Pkg/100
31F1030	03-09-2011	A	1	12	.75/10	4.90	4.05
31F1032	*03-09-2021	B	2	12	1.62/10	12.50	9.35
31F1034	*03-09-2031	B	3	12	.90/10	7.05	5.25
31F1036	*03-09-2041	B	4	9	1.30/10	10.00	7.35
31F1038	03-09-2052	B	5	9	1.00/5	15.40	11.55
31F1040	*03-09-2061	C	6	9	1.30/5	19.70	12.95
31F1042	*03-09-2091	C	9	9	1.25/5	19.50	12.85
31F1044	*03-09-2121	C	12	7.5	1.30/5	19.95	12.45
31F1046	*03-09-2151	C	15	7.5	1.65/5	25.80	19.10

Stock No.	Mfr's Type	Fig.	‡	§	EACH Std/Pkg	EACH Pkg/100	500-Up Pkg/100
31F1031	†03-09-1011	A	1	12	.60/10	4.55	3.55
31F1033	*†03-09-1021	B	2	12	1.64/10	12.65	9.40
31F1035	*†03-09-1031	B	3	12	1.00/10	7.55	5.65
31F1037	*†03-09-1041	B	4	9	1.45/10	11.00	8.25
31F1039	†03-09-1052	B	5	9	1.40/5	21.80	16.00
31F1041	*†03-09-1061	C	6	9	1.25/5	19.55	12.90
31F1043	*†03-09-1091	C	9	9	1.35/5	21.00	14.55
31F1045	*03-09-1121	C	12	7.5	1.45/5	22.15	13.85
31F1047	*03-09-1151	C	15	7.5	1.90/5	29.10	21.60

PIN TERMINALS FOR MINIATURE AND STANDARD SERIES NYLON HOUSINGS

Pin terminals listed below are constructed of the finest .010 inch 70/30 spring tempered brass and are tin plated. *Indicates crimp termination; †indicates solder termination.

Stock No.	Mfr's Type	Pin Dia.	Wire Size	EACH Pkg/100	EACH Pkg/1000	5000-Up Pkg/1000
31F1020	*02-09-1103	.093	18-14	3.50	21.50	14.60
31F1023	*02-09-2118	.093	24-18	3.50	21.50	14.60
31F1024	*02-09-1143	.093	30-22	3.50	21.50	14.60
43F737	†02-09-7110	.093	34-14	3.50	21.50	14.60
31F1027	*02-06-1103	.062	22-18	4.20	27.00	18.20
31F1029	*02-06-1132	.062	30-22	4.20	27.00	18.20
43F738	†02-06-7101	.062	34-14	4.20	27.00	18.20

Stock No.	Mfr's Type	Pin Dia.	Wire Size	EACH Pkg/100	EACH Pkg/1000	5000-Up Pkg/1000
31F1021	*02-09-2103	.093	18-14	3.50	21.50	14.60
31F1022	*02-09-2118	.093	24-18	3.50	21.50	14.60
31F1025	*02-09-2143	.093	30-22	3.50	21.50	14.60
43F739	†02-09-8110	.093	34-14	3.50	21.50	14.60
31F1026	*02-06-2103	.062	22-18	4.20	27.00	18.20
31F1028	*02-06-2132	.062	30-22	4.20	27.00	18.20
43F743	†02-06-8101	.062	34-14	4.20	27.00	18.20

PRINTED CIRCUIT TERMINALS FOR .093" NYLON HOUSINGS (WIRE WRAP TERM.)

Stk. No.	Mfr's Type	Pin Dia.	Pkg/100	Pkg/1000	5000-Up
43F741	02-09-1131	.093	3.50	21.50	14.60/M

Stk. No.	Mfr's Type	Pin Dia.	Pkg/100	Pkg/1000	5000-Up
43F742	02-09-2131	.093	3.50	21.50	14.60

[D] NYLON CONNECTOR DESIGNER KITS

Ideal for the electronics designer, repairman and experimenter. Attractive light weight unbreakable case. Necessary crimping and extraction tools are supplied with each kit.

[D] MODEL P/N WM-50 KIT

Contains standard series male and female single circuit to 15 circuit housings and pin terminals (.093" dia.). Make up to 45 complete connectors.

30F774. NET..... **24.95**

[D] MODEL P/N WM-72 KIT

Contains miniature series male and female single circuit to 36 circuit housings and pin terms (.062" dia.). Permits you to make up to 56 complete connectors.

30F775. NET..... **29.95**

MANUAL CRIMPING TOOLS

All tools are supplied with ejector tips for removal of pin terminals from connector housings. Crimps both insulated and non-insulated wires.

Stock No.	Mfr's Type	Use With Pin Types	Description	EACH NET
31F048	HT-1919	1189-1190 1380-1381	Prototype Hand Tool	4.95
31F049	HT-1921	1433-1434	Prototype Hand Tool	4.95
31F1050	HTR-1031-C	1189-1190 1380-1381	Ratchet Production Tool	40.00
31F1051	HTR-1708	1433-1434	Ratchet Production Tool	60.00
31F1052	HTR-1719-C	1560-1561	Ratchet Production Tool	65.00
31F053	HTR-2262	1854-1855	Ratchet Production Tool	65.00

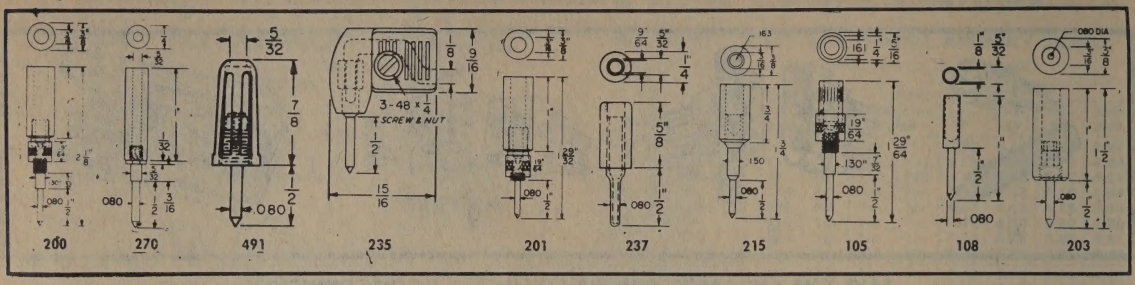
DELUXE SPRING EJECTOR TOOL

Tool is specially designed for easy removal of pin terminals from nylon connector housings.

Stk. No.	Mfr's Type	Description	EACH NET
30F772	HT-2038	(for .093" terms.)	6.70
30F773	HT-2285	(for .062" terms.)	6.70

NEWARK FOR FAST SERVICE

H. H. Smith Connectors



INSULATED TIP PLUGS NICKEL PLATED BRASS

Stk. No.	Type	Color	Description	1-99	100-299 per 100	300-499 per 100	500-Up per 100
39F852 39F853 39F848 39F849	200 200 200 200	Red Black Green Yel.	Solderless Threaded type. 1. Bakelite handle.	.20	17.00	15.30	13.77
39F846 39F847	270 270	Red Black	Sub-min. 1 23/32" 1. Fibre hndl.	.24	20.00	18.00	16.20
35F769 35F770 35F771 35F772 35F773 35F774	491 491 491 491 491 491	White Red Black Green Blue Yel.	Short tip type. 1. Nylon handle.	.18	16.00	13.50	12.15
39F963 39F964	235 235	Red Black	meter type Bakelite handle.	.36	30.00	27.00	24.30

Stk. No.	Type	Color	Description	1-99	100-299 per 100	300-499 per 100	500-Up per 100
35F775 35F776 35F777 35F778	201 201 201 201	Red Black Green Yel.	Solderless insul. Threaded type. Bakelite handle.	.20	17.00	15.30	13.77
35F689 35F690	237R 237B	Red Black	Ins. Insulated tip plug solder type	.15	12.00	10.80	9.72
35F785 35F786	215 215	Red Black	Adapter. Accepts std. banana plug.	.20	17.00	15.30	13.77
35F687 35F688	203 203	Red Black	Insulated short tip plug	.16	13.20	11.80	10.48

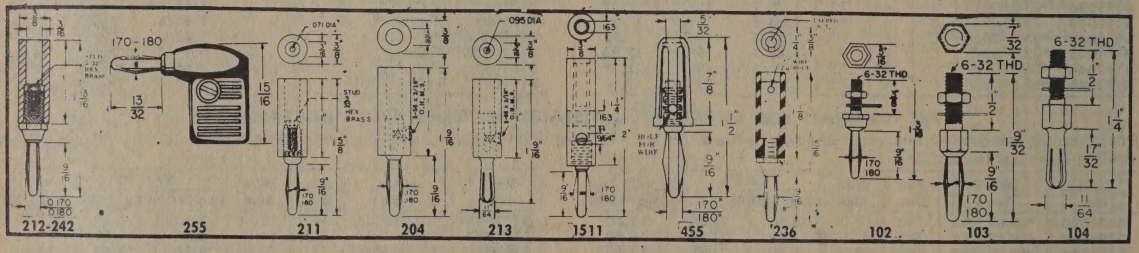
NON INSULATED TIP PLUGS

Solderless tip plugs. Fits std. phone tip jacks. Brass nickel plated.

Stk. No.	Type	Description	1-99 Each	100-299 per 100	300-499 per 100	500-Up per 100
39F850	105	Sr. type 1 29/32" 1.	.18	15.00	13.50	12.15

Solder type. For std. phone tip jacks. Brass nickel plated.

Stk. No.	Type	Description	1-99 Each	100-299 per 100	300-499 per 100	500-Up per 100
39F854	108	Ph. cord repl. tip	.04	3.00	2.70	2.45



INSULATED BANANA PLUGS—NICKEL PLATED BRASS

Stk. No.	Type	Color	Description	1-99	100-299 per 100	300-499 per 100	500-Up per 100
39F934 39F935 39F936 39F937 39F938 39F939	212 212 212 212 212 212	Red Black Yel. Green Blue White	4 leaved phosphor bronze nickel plated springs.	.36	30.00	27.00	24.30
39F844 39F845	242 242	Red Black	Same as 212 except 4 leaved beryl. copper	.42	35.00	31.50	28.35
39F944 39F940 39F941 39F942	211 211 211 211	Red Black Yel. Green	Bakelite handle. Phosphor bronze spring. Nickel-plated.	.30	25.00	22.50	20.25
39F863 39F864 39F865 39F866	204 204 204 204	Red Black Green Yel.	With side wire locking set screw. 4 leaved phosphor bronze spring.	.30	25.00	22.50	20.25

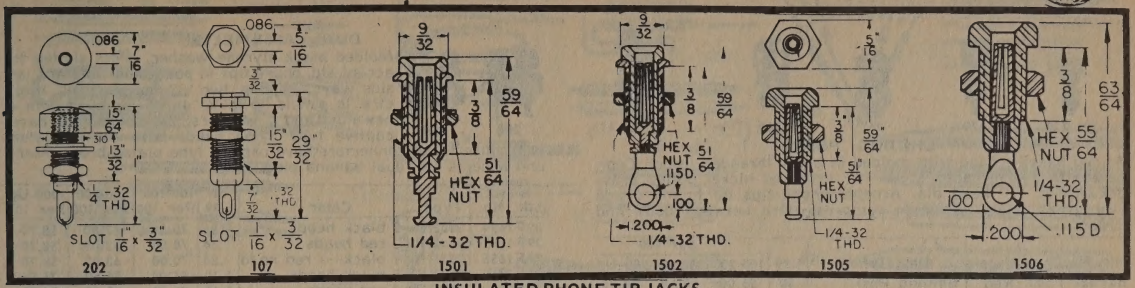
Stk. No.	Type	Color	Description	1-99	100-299 per 100	300-499 per 100	500-Up per 100
39F957 39F958	213 213	Red Black	Split type with side screw.	.24	20.00	18.00	16.20
39F965 39F966	255 255	Red Black	Meter type Bakelite handle.	.48	40.00	36.00	32.40
35F914 35F915	1511 1511	Red Black	Stack type plugs in top & side. 4 leaved phosphor bronze spring.	.42	35.00	31.50	28.35
35F779 35F780 35F781 35F782 35F783 35F784	455 455 455 455 455 455	White Red Black Green Blue Yel.	Solderless. 1½" 1. Nylon handle.	.30	25.00	22.50	20.25
35F635 35F640	236 236	Red Black	Solderless. 4-leaved phosphor bronze, nickel-plated. Hex. brass.	.54	45.00	40.50	36.45

NON-INSULATED BANANA PLUGS

Banana plugs. Supplied with hex nut and phosphor bronze tinned lug. Hex brass nickel plated body. Fits standard banana jacks. With phosphor bronze spring except 104.

Stk. No.	Type	Description	1-99 ea.	100-299 per 100	300-499 per 100	500-Up per 100
38F290	102	1 leaved spring	.30	25.00	22.50	20.25
38F291	103	4 leaved spring				

Stk. No.	Type	Description	1-99 ea.	100-299 per 100	300-499 per 100	500-Up per 100
32F292	104	Split type cross slotted body	.20	17.00	15.30	13.77



INSULATED PHONE TIP JACKS

Nickel plated brass body. Molded 7/16 inch bakelite heads with hex nut and fibre washer. Mounts in 5/16 inch holes in panels up to 3/8 inch thick. Accepts standard phone tip plug.

Stk. No.	Type	Color	1-99 ea.	1C-299 per 100	300-499 per 100	500-Up per 100
39F856	202	Red	.18	15.00	13.50	12.15
39F857	202	Black				
39F858	202	Green				
39F859	202	Yellow				

NON-INSULATED JACKS

Brass, nickel plated body. Phosphor bronze contacts. 15 amp rating on AC for 10°C temp. rise, continuous duty. Mounts in 1/4" hole in panels up to 3/8" thick.

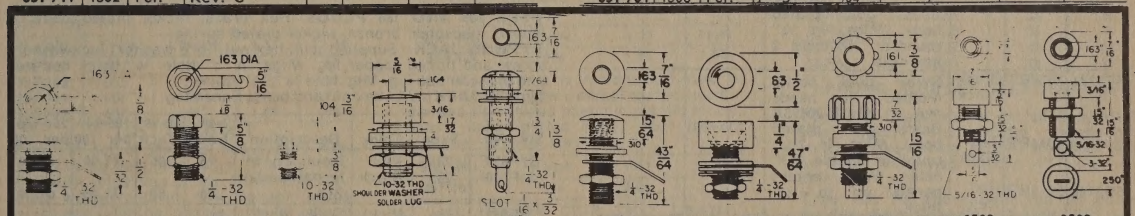
Stk. No.	Type	Description	1-99 ea.	1C-299 per 100	300-499 per 100	500-Up per 100
39F855	107	29/32" H.	.18	15.00	13.50	12.00

ALL NYLON TIP JACKS

Fit all standard phone tip plugs. Contact recessed in head for safe contact. Self insulating nylon molded body. Hex-Nut: brass nickel plated. Mounts in 1/4" hole in panels up to 1/4 inch thick.

Stk. No.	Type	Color	Description	1-99 ea.	1C-299 per 100	300-499 per 100	500-Up per 100
35F700	1501	White	Wrap around type. With metal shell. Meets MS-16108. Rev. C	.36	30.00	27.00	25.30
35F701	1501	Red					
35F702	1501	Black					
35F703	1501	Green					
35F704	1501	Blue					
35F705	1501	Yel.					
35F706	1502	White	Spade terminal type. With metal Shell. Meets MS-16108. Rev. C	.50	42.00	37.80	34.00
35F707	1502	Red					
35F708	1502	Black					
35F709	1502	Green					
35F710	1502	Blue					
35F711	1502	Yel.					

Stk. No.	Type	Color	Description	1-99 ea.	1C-249 per 100	300-499 per 100	500-Up per 100
35F750	1505	White	Wrap around type. Fits all Standard phone tip plugs. L. 59/64".	.25	21.00	18.90	16.80
35F751	1505	Red					
35F752	1505	Black					
35F753	1505	Green					
35F754	1505	Blue					
35F755	1505	Yel.					
35F756	1506	White	Spade terminal type. Fits all standard phone tip plugs L. 63/64".	.36	30.00	27.00	24.00
35F757	1506	Red					
35F758	1506	Black					
35F759	1506	Green					
35F760	1506	Blue					
35F761	1506	Yel.					



MINATURE BANANA JACKS

Nickel-plated brass body and machined butyrate molded bakelite head. Supplied w/hex nut, fibre washer and tinned lug. Mount in 1/4" holes in panels up to 1/8" thick. Accepts standard midget banana plugs.
(*) Brass nickel plated body and hex nut.

Stk. No.	Style	Color	Description	1-49 ea.	1C-299 per 100	300-499 per 100	500-Up per 100
35F867	196	Black	Insulated	.30	25.00	22.50	20.25
35F868	196	Red	Insulated				
35F2736	112 *	metal	non-insul.	.11	9.00	8.10	7.29

INSULATED BANANA JACK

Molded nylon 3/8" head and washer per MIL-P-20693A. Nickel plated brass body. W/hex nut and brass tinned lug. For std. banana plugs.

39F972	221	Red	Insul. from panel. Monts in 1/4" hole in panels up to 5/16" thick.	.30	25.00	22.50	20.25
39F973	221	Black					
39F974	221	Yel.					
39F975	221	Green					
39F976	221	Blue					

NON-INSULATED BANANA JACKS

Banana jacks. Hex brass, nickel plated body. (*) Recessed head.

Stk. No.	Type	Description	1-99 ea.	1C-299 per 100	300-499 per 100	500-up per 100
39F867	109	5/8" H.	.18	15.00	13.50	12.15
35F865	101*	1/2" H.				

INSULATED BANANA JACKS

Nickel plated brass body and molded phenolic head. Supplied w/hex nut and fibre washer. Mount in 5/16 inch holes in panels up to 3/8 inch thick. Accepts std. Ban. pl.

Stk. No.	Style	Color	Description	1-99 ea.	1C-299 per 100	300-499 per 100	500-Up per 100
39F967	219	Red	Recessed W/lockwasher and brass tinned lug.	.22	18.00	16.20	14.58
39F968	219	Black					
39F969	219	Yel.					
39F970	219	Green					
39F971	219	Blue					
39F868	205	Red	W/brass tinned lug.	.18	15.00	13.50	12.15
39F869	205	Black					
39F870	205	Green					
39F871	205	Yel.					

NYLON BANANA JACK

Molded nylon per MIL-P-20693A. Brass, cadmium plated contact. 1508 Full round body. 1509 Double "D" body mnts in rnd. or punched hole.

Stk.No.	Type	Color	Description	1-99 ea.	1C-299 per 100	300-499 per 100	500-Up
35F712	1508	White	Accepts std. banana plug. Mounts in 5/16" hole in panels up to 5/16" thick. 29/32" L.	.14	12.00	10.80	9.72
35F713	1508	Red					
35F714	1508	Black					
35F715	1508	Green					
35F716	1508	Blue					
35F717	1508	Yel.					
35F869	1509	Black					
35F870	1509	Red					

H. H. Smith Connectors

BINDING POSTS

Molded bakelite head with molded in brass threaded insert. Complete with 8-32 threaded screw ½" long and nickel plated brass lockwasher. ½" head dia. Accepts phone tips up to #10 gauge wire. Head screws down to compress wire between body and contact.

Stk. No.	Type	Color	Description	1-99	per 100 100-200	300-400	500 Up
35F827	265	Red	Binding Post	.30	25.00	22.50	20.25
35F832	265	Black	Binding Post	.30	25.00	22.50	20.25
35F828	266	Red	Binding Post	.30	25.00	22.50	20.25
35F831	266	Black	Binding Post	.30	25.00	22.50	20.25

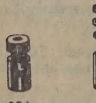
5-way captive, molded plastic head and nickel plated brass body. Accepts phone tip plug, spade lug, banana plug, alligator clip or wire strand. Insulating washer supplied. 2 hex nuts supplied 6-32 x ½ long threaded stud length $1\frac{11}{32}$ x ½". *Nylon body. *257.

(†—except with $\frac{7}{32}$" x $\frac{3}{8}$" stud)							
35F749	*257	Blk.	Molded Nylon 5 way with insul. washer	.60	50.00	45.50	40.95
35F844	*257	Red	Brass gold plated	.60	50.00	45.50	40.95
38F296	220	Red	5 way Grnd.	.26	22.00	19.80	17.60
38F297	220	Blk.	5-way Grnd.	.26	22.00	19.80	17.60
35F629	230	Red	Same as 220†	.26	22.00	19.80	17.60
35F630	230	Blk.	Same as 220†	.26	22.00	19.80	17.60
35F799	*379	Red	Grnd. Type	.36	30.00	27.00	24.00
35F748	*379	Blk.	Grnd. Type	.36	30.00	27.00	24.00

MINIATURE BINDING POSTS

Miniature. brass, gold plated bodies, rated for 5 amps. Mount in both ¼" round or "D" holes. All accept .080" phone tip #6 spade lug; miniature banana plug, alligator clip or wire.

Stk. No.	Type	Color	Description	1-24	25-49	50-99	100-Up
35F2745	3015	Red	5-way single post wrap around. Molded Nylon Head & washer. Mil-P-20693A. Brass gold plated body. Mtgs. in ¼" round or "D" hole. 2 hex nuts.	.60	.50	.45	.40
39F1801	3015	Black					
35F2746	3016BB	Black	5-way dual posts. Molded nylon heads per Mil-P-20693A Brass gold plated body. Mtgs. in 2¼" round or double "D" hole. ½" centers panels up to ¼" thick.	.90	.75	.68	.62
		Black					
35F2747	3016RB	Red-Black					
35F2748	3016RR	Red Red					



Type 136. Round head & body. Brass nickel plated. Rated 15 amps AC for 10°C. Temp. rise. Accepts std. phone tips or banana plug.

Type 137. Captive octagonal head. Brass nickel plated. 5 way. Insulate using Smith #2155 & #2163 fibre washers. Two Hex nuts supplied.

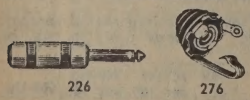
Stk. No.	Type	1-99 ea.	100-200	300-400	500-Up
38F293	136	.28	23.00	20.70	18.62
38F628	137	.36	30.00	27.00	24.00

1-11/16" INSULATED SPADE LUG

With banana jack. .030" not tinned steel.

Stk. No.	Type	Color	Ea.	100-499 per 100	500-999 per 100	1000-Up per 100
39F977	218	Red	.17	14.00	12.60	11.34
39F978	218	Black				

TELEPHONE PLUGS AND JACKS



Type 226. Telephone plug Brass, nickel plated. Has tubular insulation. Tested at 1000 VAC. Fits 276 jack and all standard phone jacks. Solder terminals.

Type 276. Telephone jack. Brass, nickel plated bushing. Has Bakelite insulation. Comes with brass hex nut and with steel mounting washer, 2-conductor closed. Mounts in ⅜" hole in panels up to $\frac{5}{32}$" thick.

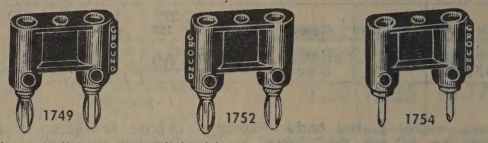
Stk. No.	Type	Description	1-49	50-99	100-249	250-Up
35787	276	2-Conductor Closed	.42	.35	.32	.29
35788	226	2-Circuit Solder	.87	.72	.65	.58

DUAL ASSEMBLIES

Molded black styrene washer, cross slotted to accept std. phone tips in post either forward, or side ways. Mts. in two ½" holes on ¾" mtg. ctrs. in panels up to ¼" thick. Supplied with 4 hex nuts and 2 washers, 284 connectors have captive type nylon heads with nickel plated brass insert; 269 connectors have captive type plated brass insert and accepts std. dual banana plug.

Stk. No.	Type	Color	1-99	100-400 Per 100	500-900 Per 100	1000-Up Per 100
39F1654	284BB	2 black heads	.84	70.00	63.00	58.70
39F1655	284RR	2 red heads	.84	70.00	63.00	58.70
39F1656	284RB	1 black—1 red head	.84	70.00	63.00	58.70
35F845	269BB	2 black heads	1.10	95.00	85.50	76.95
35F846	269RR	2 red heads	1.10	95.00	85.50	76.95
35F847	269RB	1 black—1 red head	1.10	95.00	85.50	76.95

MINIATURE DUAL BINDING POSTS AND ADAPTERS



All have ½" centers and dual banana plugs on ½" centers for side stacking. Type 1752 is shorting type.

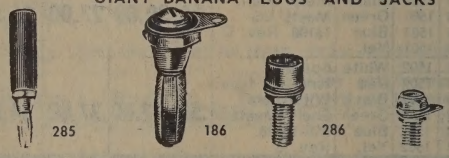
DUAL BANANA PLUG TIPS

Stk. No.	Type	Accepts	1-24	25-49	50-99	100-Up
35F2739	1749	dual banana Jack	.86	.72	.65	.58
35F2741	*1752	dual banana Jack	.86	.72	.65	.58

DUAL 080" PHONE TIPS

35F2743	1754	dual banana Jack	.86	.72	.65	.58

GIANT BANANA PLUGS AND JACKS



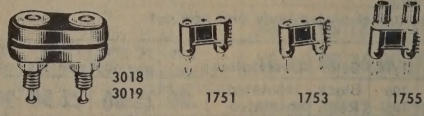
TYPE 285 AND 186 PLUGS. Hex brass, nickel plated body, 6 leaved, phosphor bronze, nickel plated spring.

TYPE 286 JACK. Supplied with hex nut fibre washer, lockwasher, screw and tinned copper lug. Mtgs. in ½" hole, ¾" thick hex nut and brass tinned lug. Mtg. hole ⅜", ½" thick.

Type187 JACK. With hex nut and brass tinned lug.

Stk. No.	Type	Color	Description	1-49 Each	50-99 Each	100-249 per 100	250-Up per 100
32F829	285	Red	Insul. Lg. in	.96	.80	72.00	64.80
32F830	285	Black	ternal well. $2\frac{25}{32}$"	.96	.80	72.00	64.80
38F295	186	Nickl. Platd.	Screw and lug. $1\frac{5}{32}$"	.54	.45	40.50	36.45
35F789	187	Red	Mtgs. in ½"	.48	.40	36.00	32.40
35F946	286	Black	Mtgs. in ½"	.66	.55	49.50	44.55
35F947	286	Brass	Mtgs. in ⅜"	.66	.55	49.50	44.55

DUAL BANANA JACK



Dual assemblies rated for 5 amps. Mount in two ¼" round single or double "D" holes on ½" centers with panel thickness up to ¼". Brass nickel plated bodies. Supplied with hex nuts.

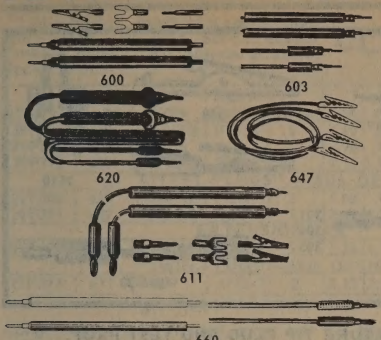
Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
35F2737	3018	dual tip jack	.72	.60	.54	.48
35F2738	3019	dual banana jack	.72	.60	.54	.48
35F2740	1751	dual .080 phone jack.	.97	.81	.73	.69
35F2744	*1753	dual banana jack	.86	.72	.65	.61
35F2742	1755	binding post jack	2.25	2.02	1.91	1.80

RIGHT ANGLE PRINTED CIRCUIT TEST JACK

Molded Nylon Body. Beryllium copper spring. Silver underplate, gold over plate. Mounts in .052 holes, 400 centers in boards up to $\frac{3}{16}$" thick. Double entry. Accepts probes .074-.084.

Stk. No.	Type	Color	1-99 ea.	100-200 per 100	300-400 per 100	500-Up per 100
35F672	430	Black	.13	11.00	9.90	8.91
39F1800	430	Red	.13	11.00	9.90	8.91

H. H. Smith Test Leads, Probes and Adapters



SOLDERLESS TIP TEST LEADS

Plastic handles colored red and black. 4" long, 3/8" diameter. Flexible kinkless rubber covered wire leads 50" long also colored red and black. Shpg. wt. 3 oz.

Stock No.	Type	Terminals	1-11	12-49
35F872	600	Phone tips	1.26	1.05
35F873	601	Spade lugs	1.26	1.05
35F874	602	Alligator clips	1.32	1.10

SOLDERLESS TEST LEADS

Type 603. The insulated handles and insulated plugs are both of the solderless type construction. Flexible kinkless rubber covered leads are 50" long. This type offers convenience at a low price, in addition to safety. Shpg. wt., 5 oz.

Stk. No.	Type	1-11	12-49
35F936	603	1.62	1.35

Type 660. Miniature test lead with machined butyrate handle 3/16" od. x 3" lt. and plug 3/16" od. x 3/4" lt. Brass, nickel plated tips.

Stk. No.	Type	1-11	12-48	44-99	100-Up
35F2728	660	1.51	1.26	1.13	1.02

ALLIGATOR CLIP TEST LEAD PAIR

Cadmium plated steel aligator clips on both ends. Extra flexible rubber covered wire. Kinkless. Prices are per pair. Average shpg. wt. 4 oz.

Stk. No.	Type	Length	1-11	12-49
35F942	604	12"	.98	.82
35F943	605	24"	1.02	.85
35F944	606	36"	1.06	.88
35F945	607	48"	1.09	.91

TEST LEAD KIT

Type 610. 50" of 5000 volt heavy duty rubber covered test lead wire. Plastic handles with solderless prods. Other end supplied with standard #204 banana plugs which are interchangeable with the phone tips, aligator clips, or spade lugs which are supplied. Shpg. wt. 6 oz.

35F929	610	2.28	1.90

Type 611. Kit supplied with one pair of test leads. One end test prods, other end ins. banana plugs. Needle tip prods. Fittings: Two each: phone tips, aligator clips, spade lugs.

35F682	611	2.28	1.90

HIGH TENSION TEST LEADS

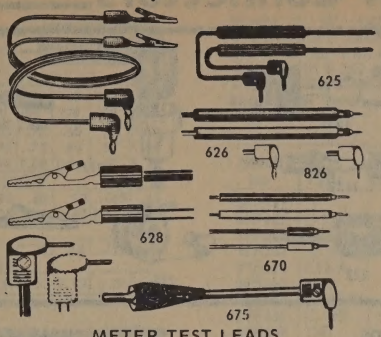
Type 620. Sturdy attractive test leads with heavy duty probes and 50" of quality high tension kinkless test lead wire. Fibre handles. Test lead wire is heavy type with .248 outside diameter. Voltage breakdown is 22,000V. Shpg. wt., 3 oz.
Type 620. With Phone Tips.
Type 622. With Alligator Clips.

Stk. No.	Type	1-11	12-49
35F928	620	2.64	2.20
35F941	622	2.88	2.40

ALLIGATOR CLIP TEST LEAD

Type 647. 50" Heavy duty lead wire with steel, cadmium plated clips. Clips have handles of molded Butyrate in red and black. Elbows are in corresponding red and black and of molded plastic. Safe and easy to use. Prices are per pair.

Stk. No.	Type	1-11	12-49
35F860	647	1.56	1.30



METER TEST LEADS

Type 625. Test leads with 50" of rubber covered kinkless test lead wire. Molded plastic fingergrip tips on one end and 4" plastic test prod handles on other end.
625-Phone tip prods
626-Needle tip prods

Stk. No.	Type	1-11	12-49
35F932	625	1.80	1.50
35F933	626	1.80	1.50

Type 685. Solderless phone tip prod with banana meter tip. Body of nickel plated brass. Price per pair.

Stk. No.	Type	1-11	12-49
35F862	685	2.04	1.70

Type 698. Long slim probes, fully insulated with vinyl tubing to prevent shock or shorting. Perfect for those hard to get at spots. Supplied with molded meter tip ends and 50" rubber coated kinkless lead wire. Shpg. wt., 5 oz.

Stk. No.	Type	1-11	12-49
35F934	698	1.62	1.35

NEEDLE PROD.

Type 626. Molded Butyrate, per. Fed. Spec. L-P349A Type 3, Class MS. Red and black. Steel nickel plated needle. Phone tip molded phenolic plastic elbow. Brass nickel plated body.

Stk. No.	Type	1-11	12-49
35F401	626	1.80	1.50

Type 686. Handle is molded butyrate in red and black. Steel nickel plated needle. Banana tip molded phenolic plastic elbow. Brass nickel plated body. Four leaved, phospher bronze, spring.

Stk. No.	Type	1-11	12-49
35F402	686	2.04	1.70

ALLIGATOR CLIP TEST LEAD

Type 628. Clip handles are molded butyrate, per. Fed. spec. L-P349A, Type 3, Class MS. Red and black. Steel cadmium plated clips. Brass nickel plated tips.

Stk. No.	Type	1-11	12-49
35F403	628	1.44	1.20

SLIM HANDLE TEST LEADS

Type 670. Slim red and black tenite handles only 5/16" O.D. with solder type phone tips on other end. Flexible, kinkless rubber covered wire, 50" long.

Stock No.	Type	1-11	12-49
35F937	670	1.02	.85

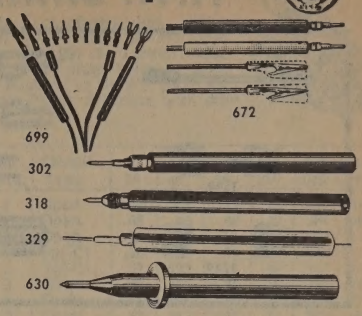
Type 678. Fibre handles colored red and black with O.D. only 1/4", with insulated tips. Flexible, kinkless rubber covered wire only 50" long. Threaded phone tips. Perfect for testing in cramped space. Shpg. wt., 4 oz.

Stock No.	Type	1-11	12-49
35F938	678	1.51	1.26

CROCODILE CLIP TEST LEAD

Model 675. Steel cadium plated clips. Boot is made of vinyl plastic. Has molded plastic elbow. Brass nickel-plated tip jack. 50" long.

Stk. No.	Type	1-11	12-49
35F863	675- Red	1.44	1.20
35F864	675- Black	1.44	1.20



ALLIGATOR CLIP TEST LEADS

Type 672. Heavy duty test leads with steel, cadmium plated clips. Lead comes in re-usable clear plastic hinged box and with 50 in. of extraflexible rubber-covered kinkless wire. Prices are per pair.

Stk. No.	Type	1-11	12-49
35F861	672	1.50	1.26

UNIVERSAL TEST LEADS

Type 699. Fifty leads in one! One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Shpg. wt. 3 oz.

35F1655	699	3.60	3.00

SOLDERLESS TEST PROD—THREADED TYPE

Type 302. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip with 4" molded plastic handle. Shpg. wt., 3 oz.

Type 303. 5 1/2" Molded Butyrate handle, type 3 class (MIL-L-P349A). Brass, nickel plated plug; rating of 12 amps AC for 10°C temp. rise. Threaded type. Wire fits through handle and body of plug.

35F930	302R	.36	.30
35F638	302B	.36	.30
35F680	303R	.40	.33
35F681	303B	.40	.33

PHONO NEEDLE TEST PRODS

Type 318. Brass, nickel plated body with steel nickel plated needle. Removable chuck for replacing broken needles. Red or Black machined handle. 4" long, 3/8" dia. Wt., 3 oz.

Type 317. As above with red or black molded plastic handle. 4" long, 3/8" dia. Wt., 3 oz.

Stk. No.	Type	1-24	25-49
35F906	318B	.46	.38
35F907	318R	.46	.38
35F939	317B	.40	.33
35F940	317R	.40	.33

HEAVY DUTY TEST PRODS

Model 329. A threaded type prod with a large diameter well to enable soldering of heavy duty wire directly into plug. Body is nickel plated brass. Handle is 5 1/2" machined plastic. Overall size is 6 1/16". Shipping weight 4 oz. **Model 319.** The handle is made of 4" molded plastic. The overall size is 5 3/16". Shipping wt. 3 oz.

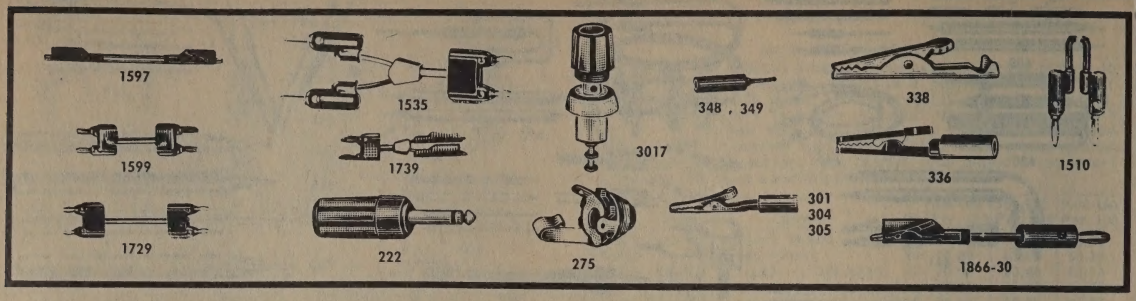
Stk. No.	Type	1-24	25-44
35F908	319R	.36	.30
35F909	319B	.36	.30
35F842	329R	.40	.33
35F843	329B	.40	.33

R.F. TEST PROBE

Type 630. Heavy insulated fibre probe. Rating 12 amps. AC for 10° temp. rise. Cont. duty 15 KV 60 cycle AC. Large inside diameter, enables use of coax cable or 1N34 crystal for R.F. Probes. Heavy duty removable tip. Shpg. wt., 3 oz.

Stk. No.	Type	1-9	10-49
35F931	630R	.95	.79
35F639	630B	.95	.79

H. H. Smith Connectors



MINIATURE PATCH CORDS

Min. Alligator clibs both ends. Black vinyl boots. 10KU-PUC flexible wire.

Stk. No. Red	Stk. No. Black	Type	Lt.	1-24	25-49	50-99	100-Up
35F893	35F894	1597-12	12"	.68	.57	.52	.47
35F895	35F896	1597-18	18"	.69	.58	.53	.48
35F897	35F898	1597-24	24"	.70	.59	.54	.49
35F899	35F900	1597-36	36"	.72	.61	.55	.50
35F901	35F902	1597-48	48"	.74	.63	.57	.52
35F903	35F904	1597-60	60"	.76	.65	.59	.54

Mates with dual binding posts or jacks having ½" centers. Ends terminate double banana cross-patch plugs. RC-174 coaxial.

Stk. No.	Length	Type	1-24	25-49	50-99	100-Up
35F2705	12"	1599-12	5.22	4.35	3.92	3.53
35F2706	24"	1599-24	5.34	4.45	4.01	3.61
35F2707	36"	1599-36	5.46	4.55	4.10	3.69
35F2708	48"	1599-48	5.58	4.65	4.19	3.78
35F2709	60"	1599-60	5.70	4.75	4.28	3.86

Made with RC-174 co-axial cable. All banana plug types have four-leaved beryllium copper, nickel plated springs. Molded butyrate handles meet military standards. Mate with standard or miniature banana jacks. One end mates ½" centers, other end ¾". Polarity indicated by word GROUND molded on side.

Stk. No.	Length	Type	1-24	25-49	50-99	100-Up
35F2700	12"	1729-12	5.22	4.35	3.92	3.53
35F2701	24"	1729-24	5.34	4.45	4.01	3.61
35F2702	36"	1729-36	5.46	4.55	4.10	3.69
35F2703	48"	1729-48	5.58	4.65	4.19	3.78
35F2704	60"	1729-60	5.70	4.75	4.28	3.86

Min. dual banana to standard cross-pitch pin plugs ½" center.

Stk. No.	Length	Type	1-24	25-49	50-99	100-Up
35F2710	12"	1535-12	6.42	5.35	4.81	4.33
35F2711	24"	1535-24	6.54	5.45	4.90	4.41
35F2712	36"	1535-36	6.66	5.55	4.99	4.49
35F2713	48"	1535-48	6.78	5.65	5.08	4.57
35F2714	60"	1535-60	6.90	5.75	5.17	4.65

Min. dual banana ½" center to insulated mini-clips.

Stk. No.	Length	Type	1-24	25-49	50-99	100-Up
35F2715	12"	1739-12	6.42	5.35	4.81	4.33
35F2716	24"	1739-24	6.54	5.45	4.90	4.41
35F2717	36"	1739-36	6.66	5.55	4.99	4.49
35F2718	48"	1739-48	6.78	5.65	5.08	4.57
35F2719	60"	1739-60	6.90	5.75	5.17	4.65

STANDARD PHONE PLUG AND JACK

Type 222 and 275. Plug body, tip, and sleeve-brass nickel plated. Barrel molded phenolic. 750 volts 60 cycle AC working voltage. Plug 5 amps. jack 10 amps. AC for 10°C temp. rise, continuous duty. Jack has brass nickel-plated bushing. 1.2 K Volts 60 cycle AC continuous working voltage. Notched insulating washers. Fits standard phone jack.

Stk. No.	Type	Description	Each 1-49	50-99	100-249	250-Up
35F404	222	Phone Plug (Black)	.68	.57	.52	.47
35F405	222	Phone Plug (Red)	.68	.57	.52	.47
35F406	275	Std. Phone Jack	.36	.30	.27	.25

MINIATURE PRESS-FIT TEFLON BINDING POST

Type 3017. Mounts in ¼" "D" punched hole without hardware. Compact head for use with miniaturized equipment. Wrap-around solder turret for direct wire connection. Accepts standard .080 phone tip. #6 spade lug, miniature Banana Plug, alligator clip or wire. Rating: 5 amps. AC for 10°C temp. rise, continuous duty. 1 KV, 60 cycle AC, continous working voltage. Capacitance 2.5 pf. Head is Captive, Molded Nylon, per MIL-P-20693A, with brass, gold plated insert. Body is brass, gold plated. Washer body is Virgin Teflon per MIL-p-19468.

Stk. No.	Type	Color	1-24	25-49	50-99	100-Up
35F2749	3017	Black	.72	.60	.54	.49
35F400	3017	Red				

SUBMINIATURE TIP PLUG AND TEST PROP.

Molded Nylon Handles. Mil P-20693A. Tip-Brass, silver plated. Solderless. Fits all standard. 080 jacks.

Stk. No.	Type	Color	Overall Length	1-99	100-299 Per 100	300-499 Per 100	500-Up Per 100
35F2726	348	Black	1-5/16"	.42	35.00	31.50	28.00
.....	348	Red	1-5/16"	.42	35.00	31.50	28.00
35F2727	349	Black	4-5/16"	.54	45.00	40.50	36.00
.....	349	Red	4-5/16"	.54	45.00	40.50	36.00

INSULATED JUMBO ALLIGATOR CLIPS

Solder connection with plastic handle. ⅝" jaw opening.

Stk. No.	Type	Color	1-99	100-249 per 100	350-499 per 100	500-999 per 100	1000-Up per 100
35F848	397	Red	.32	26.40	23.76	21.38	20.31
.....	397	Black	.32	26.40	23.76	21.38	20.31

MINIATURE ALLIGATOR CLIPS

3/16" jaw openings. Steel cadmium plated. Solder conn. & ears for crimp.

35F670	338	.....	.08	5.30	4.70	4.29	4.08

STANDARD ALLIGATOR CLIPS

Plastic handle. Accepts std. banana plug in rear.

35F671	301	Red	.11	9.00	8.10	7.29	6.93
35F683	301	Blk.	.11	9.00	8.10	7.29	6.93

ALLIGATOR CLIP ADAPTERS

Cadmium plated steel clip. Plastic handle. With brass body and bronze phosphor contact. ½" jaw opening.

Stk. No.	Type	Color	Description	1-99	100-499 Per 100	500-999 Per 100	1000-Up Per 100
28F604	304	Red	Adapts to phone tip plug	.43	36.30	32.67	29.40
28F605	304	Blk.					
35F948	305	Red	Adapts to std. phone tip or banana plug	.51	42.90	38.61	34.75
35F949	305	Blk.					
39F1652	336	Red	As 304 except all insulated	.48	39.60	35.64	32.08
39F1653	336	Blk.					
39F1650	337	Red	As 336 but with solder conn., not jack.	.32	26.40	23.76	21.38
39F1651	337	Blk.					

BANANA PLUG MOLDED CROSS PATCH CORDS

Consist of 10,000 V. black PVC flexible wire (65 stds. # 36) O.D. .140" cabled to two molded plastic banana plugs. Brass body Ber copper spring both nickle plated. Interconnects unlimited number of multiple circuits. Contacts for banana plugs on top and side.* With 19/32" or †13/32" spring plug.

Red	Black	Type	Lt.	1-9	10-24	25-49	50-99
35F910	35F911	1510-8*	8"	1.56	1.30	1.17	1.05
35F912	35F913	1515-8†	8"	1.56	1.30	1.17	1.05
35F833	35F834	1510-12*	12"	1.56	1.30	1.17	1.05
35F835	35F836	1515-12†	12"	1.56	1.30	1.17	1.05
35F791	35F792	1510-24*	24"	1.62	1.35	1.22	1.10
35F793	35F794	1515-24*	24"	1.62	1.35	1.22	1.10
35F795	35F796	1510-36*	36"	1.68	1.40	1.26	1.13
35F797	35F798	1515-36*	36"	1.68	1.40	1.26	1.13

JUMPERS (STANDARD ALLIGATOR CLIPS BOTH ENDS)

Stk. No.	Type	Color	Length	1.24	25-49	50-99	100-Up
35F677	1596-12	Red	12"	.68	.57	.51	.46
35F684	1596-12	Black	12"	.68	.57	.51	.46
35F678	1596-36	Red	36"	.73	.61	.55	.49
35F685	1596-36	Black	36"	.73	.61	.55	.49

STANDARD ALLIGATOR CLIP TO BANANA PLUG

10 KU PUC flexible wire. clip-steel cad. Plated, vinyl boots. Plut-Hex brass. Spring-phos. bronze. Both nickel plated. Handle-molded phenolic.

Red	Black	Type	1-24	25-49	50-99	100-Up
35F722	35F723	1866-36	1.14	.95	.85	.77

MIL-P-642(A) DESIGN PHONE PLUGS

"Little Plugs", meet JAN specs. Handle—Black. Lug type—Screw, except *metal handle. Fit standard phone jacks. 2 oz.

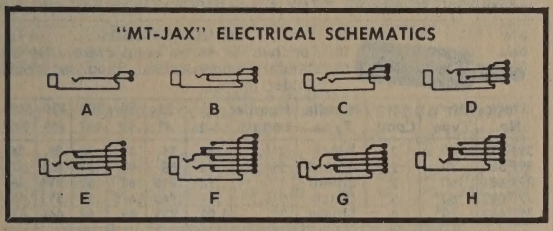
Stk. No.	Mfr's. Type	JAN Type	Signal Corps	Cond.	1-24	25-49	50-99	100-249	250-499	500-999
39F792	440	PJ-055B	PL-55	2	.90	.83	.75	.60	.57	.54
39F697	445	PJ-055	.....	2	.90	.83	.75	.60	.57	.54
39F791	480	PJ-068	PL-68	3	2.16	1.98	1.80	1.44	1.37	1.30
"LITTEL-PLUGS" — MIL DESIGN										
22F389	420	PJ047B	PL47	2	1.05	.96	.88	.70	.665	.63
22F391	482	PJ051R	PL51	3	2.40	2.20	2.00	1.60	1.52	1.44
EXTENSION JAX										
39F698	820	JJ-026	JK-26	2	1.26	1.16	1.05	.84	.798	.756
"TWIN-PLUGS"—MIL DESIGN										
22F392	411	PJ327	491242	2	3.15	2.89	2.63	2.10	2.00	1.89

"MT-JAX"

Long frame type. Welded cross bar palladium contacts in all switching circuits. Mating plug: (*) PJ-055. (**) PJ-051. (†) PJ-068.

Stock No.	Mfr's. Type	Sch.	Mil. Spec.	Ht.	1-24	25-49	50-99	100-249	250-499	500-999
22F225	MT-331*	A	JJ-086	7/16"	.78	.715	.65	.52	.494	.469
22F256	MT-332A*	B	JJ-024	1/2"	.90	.825	.75	.60	.57	.54
22F257	MT-332B**	C	JJ-022	9/16"	.90	.825	.75	.60	.57	.54
22F259	MT-334B**	E	JJ-042	5/8"	1.08	.99	.90	.72	.684	.648
22F260	MT-336C**	F	JJ-073	3/4"	1.53	1.40	1.28	1.02	.969	.918
22F261	MT-344B†	...	.....	5/8"	1.23	1.13	1.03	.82	.771	.738

"MT-JAX" ELECTRICAL SCHEMATICS



"MICRO-JAX" AND "MICRO-PLUG" SERIES

TR-2A. "Micro-Jax." Ultra Miniaturized jacks. A 2 conductor single closed circuit design with keyed nylon insulation, interlock springs and solder lugs. Size: 7/16" L, 1/4" Dia. THD .101". **Type 850.** Ultra-min. plug. Features screw-on black aluminum handle. Clamp Lug. Cable up to 7/64" Dia. Size: 1 1/64"L; 1/4" O.D.

Stk. No.	Mfr's. Type	1-24	25-49	50-99	100-249	250-499	500-999
22F394	TR-2A	.39	.358	.325	.26	.247	.234
22F395	850	.51	468	.425	.34	.323	.306

SERIES TT "TINI-TELEPHONE" JACK PANELS

"Tini-telephone" jack panels provide up to 96 jacks (48 pairs) in a standard size 19" panel. Feature exclusive quick-change designation strips consisting of clear plastic snap-on strip cover and re-usable mette finish plastic marking strip. Series 1600 double row panel accommodates 96 single "TT-Jack" and Series 1700 double row panel accommodates 48 "TT-twin jax".

Stk. No.	Mfr's. Type	Jacks	Size HxWxD	1-24	25-49	50-99	100-249
39F2290	1600	None	147/64x19x1 3/4"	18.00	16.50	15.00	12.00
39F2291	1632A	TT-32A	147/64x19x1 3/4"	87.00	79.80	72.20	58.00
39F2292	1634B	TT-34B	147/64x19x1 3/4"	110.40	101.20	92.00	73.60
39F2293	1700	None	147/64x19x1 3/4"	21.00	19.25	17.50	14.00
39F2294	1789	TT-89	147/64x19x1 3/4"	156.00	143.00	130.00	104.00

● NEW SERIES "TINI-TELEPHONE" JACKS

Miniature telephone jacks designed to be mounted on TT-Jack Panels. "TT-Jax" meet all material requirements of the military specifications for full size long-frame telephone jacks.

TWO-CONDUCTOR TYPES

Stk. No.	Mfr's. Type	Circuitry	1-24	25-49	50-99	100-249	250-499	500-999
39F2295	TT-31	A	72	.66	.60	.48	.456	.432
39F2296	TT-32A	B	.87	.798	.725	.58	.551	.522

THREE-CONDUCTOR TYPES

39F2297	TT-32B	C	.84	.77	.70	.56	.532	.504
39F2298	TT-34B	E	1.02	.935	.85	.68	.646	.612

TWIN-JACKS

39F2299	TT-89	.....	3.00	2.75	2.50	2.00	1.90	1.80

"LITTLE JAX" PHONE JACKS

Mount in 3/8" hole. C-11 equals Jan JJ-034, C12A, equals JJ-089, C-12B equals JJ-033. Special jack for thin-shank (.206 dia.) plugs. Also mates with S-250 and S-280 plugs below. **S-11, S-12B, S-13B sleeve bushing to fit WE plug 309 and Signal Corps plug PL-68. All mate with 440 plug.

Stock No.	Mfr. Type	No. Cond.	Circuit Type	1-24	25-49	50-99	100-249	250-499	500-999
39F782	11	2	Open	.33	.303	.275	.22	.209	.198
39F662	C-11	2	Open	.48	.44	.40	.32	.304	.288
39F663	S-11*	2	Open	.36	.33	.30	.24	.228	.216
39F783	12-A	2	Sgl-C1.	.36	.33	.30	.24	.228	.216
39F664	C12-A	2	Sgl-C1.	.57	.523	.475	.38	.361	.342
39F665	12-B	3	Open	.42	.385	.35	.28	.266	.252
39F666	S-12B**	3	Open	.54	.495	.45	.36	.342	.324
39F667	C-12B	3	Open	.57	.523	.475	.38	.361	.342
39F668	13B	3	Sgl.-Cl.	.69	.633	.575	.46	.437	.414
39F669	S-13B*	3	Sgl.-Cl.	.75	.688	.625	.50	.475	.45

JACK PANELS

Polished Black phenolic panels, reinforced with steel, supports "T-Jax" or "MT-Jax". Slotted mounting brackets for standard 19" relay racks. Less jacks.
Series 1200. Single row 1 3/4" wide for 24 Jacks. Spaced so no shorting results. Shpg. wt., 3 1/4 lbs.
Series 2400. Double row Panel, 2 1/8" wide for 48 Jacks. Jacks spaced 5/8" to permit use of double plug. Shpg. wt., 5 lbs.
Series 2600. Double row Panel 1 3/4" wide for 52 Jacks. Jacks spaced 5/8" centers. Shpg. wt., 5 lbs.

Stk. No.	Type	1-24	25-49	50-99	100-249
22F252	1200	9.15	8.39	7.63	6.10
22F253	2400	9.45	8.66	7.88	6.30
22F254	2600	11.40	10.45	9.50	7.60

FLAT PLUGS

Does not interfere with operation or placement of equipment. Screw-type terminals. Accept standard phone jacks. Wt. 4 oz.

Stk. No.	Mfr's. Type	Cond.	1-24	25-49	50-99	100-249	250-499	500-999
39F768	220	2	.84	.77	.70	.56	.532	.504
39F769	230	3	1.02	.935	.85	.68	.646	.612

"HI-D JAX" PHONE JACKS

Compact jacks; mate with 1/4" plugs. Mounts on 5/8" centers. For P.C. board mounting. Mounts on 3/8" hole, in panels 5/32" thick. Depth behind panel, 13/32". Wt. 7 1/8 oz.

TWO-CONDUCTOR TYPES

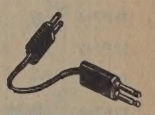
Stock No.	Mfr's. Type	Schem. No.	Mating Plug	1-24	25-49	50-99	100-249	250-499	500-999
39F656	111	A	250	.33	.303	.275	.22	.209	.198
39F657	112A	B	250	.36	.33	.30	.24	.228	.216

THREE-CONDUCTOR TYPES

39F658	112B	C	267	.39	.358	.325	.26	.247	.234
39F659	113B	D	267	.66	.605	.55	.44	.418	.396
39F660	113F	E	267	.51	.468	.423	.34	.323	.306
39F661	114B	F	267	.57	.523	.475	.38	.361	.342

SERIES 17Q PATCH CORD

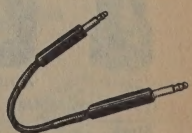
Uses Series 89Q two-conductor cord with Switchcraft No. 413 (PJ-241). Two leads wired tip to tip. No. 413 three circuit plug, two tip circuits, plug fingers, self-aligning. Lengths 6" to 10".



Stk. No.	Mfr's Type	Length	1-24	25-49	50-99	100-249	250-499	500-999
39F690	17QD17	2'	7.59	6.96	6.33	5.06	4.81	4.55
39F692	17PD17	2'	7.59	6.96	6.33	5.06	4.81	4.55

SERIES 18Q PATCH CORD

Same as above except uses Series 89Q with Switchcraft No. 482(PH-051). No. 482 is three-conductor plug which has one-piece tip rod, one-piece sleeve and body. Lengths 6" to 10'.



Stk. No.	Mfr's. Type	Length	1-24	25-49	50-99	100-249	250-499	500-999
39F694	18QD18	2'	8.25	7.56	6.88	5.50	5.23	4.95
39F696	18QH18	4'	8.91	8.17	7.43	5.94	5.64	5.35

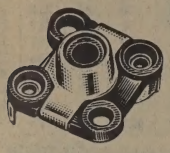
SWITCHCRAFT® INC. Plugs-Jacks-Mixers

PLUG AND JACK

Make ideal connectors for hearing aids, speaker extensions, carbon microphones and other devices where space is limited. Only 1⅜" long by 17/32" wide by ⅜" thick. Two-conductor precision. Army type. Molded black bakelite case. Machined brass pins and sockets. Sockets have strong spring contacts and solder lugs. Shpg. wt., 3 oz.

Stk. No.	Type	MIL	1-24	25-49	50-99	100-249	250-499	500-999
37F798	410 Plug	PJ291	.63	.578	.525	.42	.399	.378
39F799	810 Jack	IJ048	.84	.77	.70	.56	.532	.504

"4-LEAF CLOVER JACK"



Offers dual contact surfaces for min. shunt resistance. Tip spring with shunt form dual contact around pin of phono plug upon insertion. High di-electric body for low leakage. Requires no hand adjusting. Mates with any phono jack with a ⅛" diameter. Mounts on ¾" centers in a 13/32" hole, in panels 13/64" thick. Depth behind panel, ⅜". Shpg. wt. 2 oz.

Stk. No.	Type	Circuit	1-24	25-49	50-99	100-249	250-499	500-999
26F863	3511	Open	.21	.193	.175	.14	.133	.126
26F865	3512	Closed	.24	.22	.20	.16	.152	.144
26F866	3512A	Closed-Grd.	.24	.22	.20	.16	.152	.144

EXTENSION JACKS

A Clamp-type terminals provide solid cable anchor. Solder lug terminals mechanically interlock. Shielded types have nickel-plated brass shell. All fit standard phone plugs, except * special jack for thin-shank (.206" dia) plugs. Shpg. wt. ea., 4 oz.

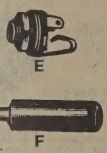
HANDLE TYPE—BLACK

Stock No.	Mfr. Type	Fig.	No. Cond.	Lug Type	1-24	25-49	50-99	100-249	250-499	500-999
39F670	80	A	2	Screw	.87	.798	.725	.58	.551	.522
39F671	88	A	2	Solder	.78	.715	.65	.52	.494	.468
22F269	830	A	3	Screw	1.14	1.05	.95	.76	.722	.684

HANDLE TYPE—SHIELD

39F672	120	B	2	Screw	1.14	1.05	.95	.76	.722	.684
22F247	121	....	2	Solder	1.20	1.10	1.00	.80	.76	.72
39F785	126	B	2	Solder	1.26	1.16	1.05	.84	.798	.756
39F673	128	B	2	Solder	1.05	.963	.875	.70	.665	.63
39F757	1230	B	2	Screw	1.47	1.35	1.23	.98	.931	.882
39F772	S-128*	B	2	Solder	1.11	1.02	.925	.74	.703	.666

"TINI-JAX" MINIATURE PHONE JACKS AND PLUGS



"Tini-Jax" is a sub-min. phone jack weighing less than ⅛ ounce. Mounts in ¼" dia. hole in panels up to ⅛" thick. "Tini-Plugs" all are sub-min. 2 conductor phone plugs designed for use with the above jacks. For use with cables up to 3/16" O.D. Available in black or red plastic handles or shielded brass nickel plated handle.

Stock No.	Mfr. Type	Fig.	Description	1-24	25-49	50-99	100-249	250-499	500-999
39F744	41	E	open circuit jack	.33	.303	.275	.22	.209	.198
39F745	42A	E	closed circuit jack	.36	.33	.30	.24	.228	.216
39F689	43A	....	closed circuit jack	.54	.495	.45	.36	.342	.324
39F746	750	F	Blk. plastic handle	.54	.495	.45	.36	.342	.324
39F747	755	F	Red plastic handle	.54	.495	.45	.36	.342	.324
39F748	780	F	Shielded	.75	.688	.625	.50	.475	.45
22F248	125	....	Shielded	.90	.825	.75	.60	.57	.54

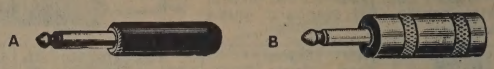
MICROPHONE CONNECTORS

2501F 2501MP 5501MP

Microphone type connectors used with miniaturized audio equipment. Accepts single conductor shielded cables up to 3/16". OD. nickel plated brass bodies. Connectors are about ½ the size of standard. 5501F is removable for quick change of female to male type. Type 5501MP mounts back of panel in 3/16" dia. hole.

Stock No.	Type	Description	1-24	25-49	50-99	100-249	250-449	500-999
22F396	2501F	female	.48	.44	.40	.32	.304	.288
22F397	2501MP	male	.36	.33	.30	.24	.228	.216
22F398	2501M	male	.39	.358	.325	.26	.247	.234
39F776	5501F	female	.48	.44	.40	.32	.304	.288
39F778	5501MP	male,panel	.36	.33	.30	.24	.288	.216

"LITTEL-PLUG" PHONE PLUGS



A B

For 2 and 3-conductor cables. Fit standard jack, except S-250* and S-260*. Solder types have cable clamp. †Shielded plugs nickle-plated brass handles. Size, 2 57/64"x½". Shpg. wt., 3 oz. *Special thin-shank (.206 dia.) plug. Mates with Switchcraft S-11, S-12B, S-13B jacks above. R-280 mates with No. 126 "Ext. Jax." **Special two-conductor plug with wide insulator between tip and sleeve for use in 3-conductor jack.

Fig A.

Stock No.	Mfr. Typ.	Descrip.	No. Cond.	Lug Type	1-24	25-49	50-99	100-250	250-499	500-999
39F761	245	Red Plastic	2	Screw	.57	.523	.475	.38	.361	.342
39F674	255	Red Plastic	2	Solder	.54	.495	.45	.36	.342	.324
39F676	269	Red Plastic	3	Solder	.81	.743	.675	.54	.513	.486
39F760	240	Blk. Plastic	2	Screw	.57	.523	.475	.38	.361	.342
39F763	250*	Blk. Plastic	2	Solder	.54	.495	.45	.36	.342	.324
39F675	260	Blk. Plastic	3	Screw	.90	.825	.75	.60	.57	.54
39F771	267	Blk. Plastic	3	Solder	.81	.743	.675	.54	.513	.486
39F677	S-250	Blk. Plastic	2	Solder	.57	.523	.475	.38	.361	.342

Fig. B

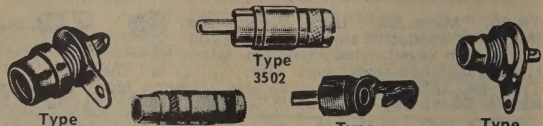
39F765	270	Shielded†	2	Screw	.81	.743	.675	.54	.513	.486
39F764	280*	Shielded†	2	Solder	.78	.715	.65	.52	.494	.468
39F766	290	Shielded†	3	Screw	1.05	.963	.875	.70	.665	.63
39F767	297	Shielded†	3	Solder	.99	.908	.825	.66	.627	.594
39F678	288*	Shielded†	2	Solder	.81	.743	.675	.54	.513	.486
39F762	S-280	Shielded†	2	Solder	.78	.715	.65	.52	.494	.468
22F275	170	Shielded†	2	Screw	1.23	1.13	1.03	.82	.779	.738

PHONE PLUGS

For two or three conductors. Fit all standard phone jacks. Shpg. wt., 5oz. *Solder term.

Stock No.	Mfr's. Type	Cond.	Handle Type	Handle Length	1-24	25-49	50-99	100-249	250-499	500-999
39F679	40	2	Black	2 1/16"	.60	.55	.50	.40	.38	.36
39F580	70	2	Shield	2 1/16"	.96	.88	.80	.64	.608	.576
39F681	160	2	Shield	1"	.78	.715	.65	.52	.494	.468
39F682	60*	3	Black	2 1/16"	.81	.743	.675	.54	.513	.486
39F683	90*	3	Shield	1"	1.02	.935	.85	.68	.646	.612

PHONO PLUGS AND JACKS

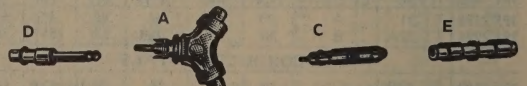


Type 3501FP Type 3503 Type 3502 Type 3501MC Type 3501FR

Model 3501FP. Standard phono jack mounts through panel and chassis with ¼"-32 nut. Fits panels up to ⅛" thick. Outside dia. 7/16". Shpg. wt., 3 oz.
Model 3501FR. Standard phono jack mounts from rear. Uses ⅜"-32 threaded locknut on panels up to 13/64" thick. 9/16" mtg. hole dia. Shpg. wt., 3 oz.
Model 3502. Terminals may be crimped with a pliers for all temp. connection. "Handle" can be removed to expose terminals. Pin ⅝" long. Shpg. wt., 3 oz.
Model 3503. Removable handle, shielded cable clamp. Durable nickel plated body and handle. Max. cable dia. 11/64". Jack length 17/32". Shpg. wt., 3 oz.
Model 3501MC. Phono Plug that provides a convenient cable clamp. Eliminates problem of shielded cable "breaking" loose from old style Phono Plugs.
Model 3501M Phono Connector, (same as A3501MC except less cable clamp)

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499	500-999
39F684	3501FP	.24	.22	.20	.16	.152	.144
39F686	3501FR	.30	.275	.25	.20	.19	.18
39F685	3502	.33	.303	.275	.22	.209	.198
22F250	3503	.42	.385	.35	.28	.266	.252
39F687	3501MC	.09	.075	.083	.06	.057	.054
39F688	3501M	.06	.055	.05	.04	.038	.036

SWITCHCRAFT CONNECTORS

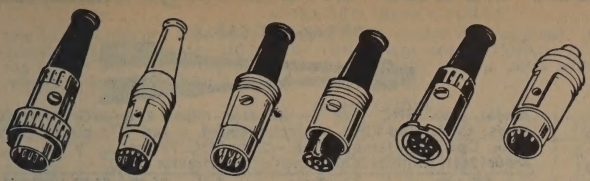


D A C E

Stk. No.	Type	Fig.	1-24	25-49	50-99	100-249	250-499	500-Up
22F265	330F	A	1.29	1.18	1.08	.86	.817	.774
22F267	336A	C	1.26	1.16	1.06	.84	.798	.756
22F268	345A	D	.93	.853	.775	.62	.589	.558
22F270	349A	E	.78	.715	.65	.52	.494	.468

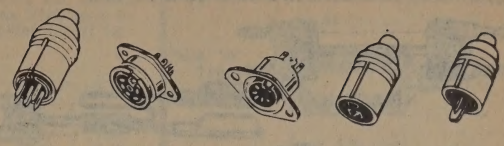
Audio Connectors

SWITCHCRAFT INC.



A B C D E F

Exact replacement plugs and receptacles for most foreign built tape recorders, radios, computers, and test equipment. Designed for all low level circuitry. Nickel plated barrel with plastic "snap-on" shells.



G H I AA BB

Molded phenolic in all inserts, and silver plated contact pins provide low mechanical interference, reduce noise and lower contact resistance, lock-ring coupling to prevent shock. Exclusive automatic grounding and polarization provision.

MALE PLUGS

FIG. A—STRAIGHT CORD WITH 30° LOCK RING PIN

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F454	05CL3M	3 Pins at 180°	1.05	.96	.875	.70	.665	.63
22F455	05CL5M	5 Pins at 180°	1.17	1.07	.975	.78	.741	.702
22F456	09CL4M	4 Pins at 210°	1.11	1.02	.925	.74	.703	.666
22F457	12CL5M	5 Pins at 240°	1.17	1.07	.975	.78	.741	.702

FIG. B—STRAIGHT CORD PLUG WITH SHIELDED BARREL

22F458	05GM3M	3 Pins at 180°	.66	.605	.55	.44	.418	.396
22F459	05GM5M	4 Pins at 210°	.78	.715	.65	.52	.494	.468
22F465	09GM4M	5 Pins at 180°	.72	.66	.60	.48	.456	.432
22F466	12GM5M	5 Pins at 240°	.78	.715	.65	.52	.494	.468

FIG. C—STRAIGHT CORD PLUG WITH EXTENDED BARREL

22F467	05BL3M	3 Pins at 180°	.99	.908	.825	.66	.627	.594
22F468	05BL5M	5 Pins at 180°	1.11	1.02	.925	.74	.703	.666
22F469	12BL5M	5 Pins at 240°	1.11	1.02	.925	.74	.703	.666

FEMALE PLUGS

FIG. D—STRAIGHT CORD PLUG WITH EXTENDED SOCKET

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F473	07FL3F	3 Cont. at 180°	.96	.88	.80	.64	.608	.576
22F474	14FL5F	5 Cont. at 240°	1.08	.99	.90	.72	.684	.648

FIG. E—STRAIGHT CORD WITH LOCK-FLANGE

22F475	06EL3F	3 Cont. at 180°	.99	.908	.825	.66	.627	.594
22F476	06EL5F	5 Cont. at 180°	1.11	1.02	.925	.74	.703	.666
22F477	13EL5F	5 Cont. at 210°	1.11	1.02	.925	.74	.703	.666

MALE PLUGS

FIG. F—STRAIGHT CORD PLUG WITH SNAP-LOCK PLASTIC SHELL

Stk. No	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F478	05LK3M	3 Pins at 180°	.54	.495	.45	.36	.342	.324
22F479	05LK5M	5 Pins at 180°	.66	.605	.55	.44	.418	.396
22F480	09LK4M	4 Pins at 210°	.60	.55	.50	.40	.38	.36
22F481	12LK5M	5 Pins at 240°	.66	.605	.55	.44	.418	.396

FIG. G—STRAIGHT CORD PLUG WITH SHORT PLASTIC SHELLS

22F534	05QK3M	3 Pins at 180°	.36	.33	.30	.24	.228	.216
22F535	05QK5M	5 Pins at 180°	.48	.44	.40	.32	.304	.288
22F536	12QK5M	5 Pins at 240°	.48	.44	.40	.32	.304	.288

FEMALE RECEPTACLES

FIG. H—RECEPTACLES FOR LOCKING PLUGS

22F537	57HA3F	3 Cont. at 180°	.60	.55	.50	.40	.38	.36
22F543	60HA4F	4 Cont. at 210°	.66	.605	.55	.44	.418	.396
22F544	61HA5F	5 Cont. at 240°	.72	.66	.60	.48	.456	.432

FIG. I—FLANGE MOUNT RECEPTACLE FOR SHIELDED BARREL PLUGS

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F545	57GA3F	3 Cont. at 180°	.42	.385	.35	.28	.266	.252
22F546	57GB5F	5 Cont. at 180°	.54	.495	.45	.36	.342	.324
22F547	60GA4F	4 Cont. at 210°	.48	.44	.40	.32	.304	.288
22F548	61GA5F	5 Cont. at 240°	.54	.495	.45	.36	.342	.324

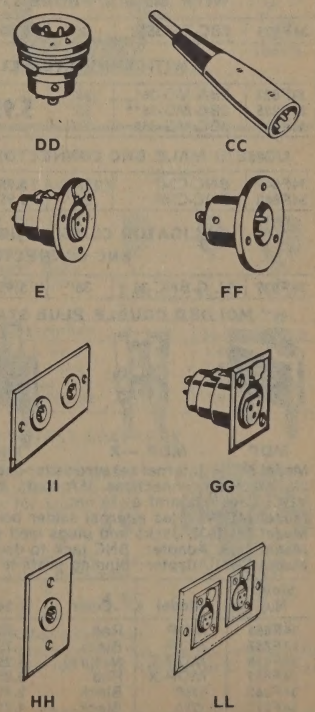
CONTROL AND SWITCHING PLUGS WITH SNAP-ON SHELLS

22F566	01QK2M	Male Fig BB	.24	.22	.20	.16	.152	.144
22F567	02QK2F	Female Fig AA	.30	.275	.25	.20	.19	.18

"QUICK GROUND" CONNECTORS

Feature a separate "Ground-Terminal" electrically integral with the connector shell. Ground continuity between mating plugs automatically accomplished through the exclusive "Ground Contactors." Possible loss of insert screw is eliminated by "Captive Design". Insert Screw. Socket and pin assemblies utilize "wedge-action" to insure firm, reliable positioning in connector shell. Q-G series 3 and 4-contact audio connectors offer 4 and 5-contact versatility when "Ground Terminal" is utilized. Can be used interchangeably with Cannon type (XLR-3), XLR-4) and Amphenol type (91-850) Series.

Stk. No.	Type	Description	No. Pins	Fig.	1-24	25-49	50-99	100-249	250-499	500-Up
27F066	A3F	Straight Female Plug	3	CC	1.47	1.35	1.23	.98	.931	.882
27F067	A4F	Straight Female Plug	4	CC	1 83	1.68	1.53	1.22	1.16	1.10
39F2274	A5F	Straight Female Plug	5	CC	3.15	2.89	2.63	2.10	2.00	1.89
27F068	A3M	Straight Male Plug	3	CC	1.26	1.16	1.05	.84	.798	.756
27F069	A4M	Straight Male Plug	4	CC	1.35	1.24	1.13	.90	.855	.81
39F2275	A5M	Straight Male Plug	5	CC	2.55	2.34	2.13	1.70	1.62	1.53
39F2276	B3F	Panel Locknut Socket-Fem.	3	...	3.00	2.75	2.50	2.00	1.90	1.80
39F2277	B4F	Panel Locknut Socket-Fem.	4	...	3.15	2.89	2.63	2.10	2.00	1.89
39F2278	B5F	Panel Locknut Socket-Fem.	5	...	4.35	3.99	3.63	2.90	2.76	2.61
27F062	B3M	Panel Locknut Socket	3	DD	1.80	1.65	1.50	1.20	1.14	1.08
27F065	B4M	Panel Locknut Socket	4	DD	1.89	1.73	1.58	1.26	1.20	1.13
39F2279	B5M	Panel Locknut Socket-Male	5	DD	3.09	2.83	2.58	2.06	1.96	1.85
27F060	C3M	Panel Flange Socket-Male	3	EE	.96	.88	.80	.64	.608	.576
27F064	C4M	Panel Flange Socket Male	4	EE	1.05	.963	.875	.70	.665	.63
39F2280	C5M	Panel Flange Socket Male	5	EE	2.25	2.06	1.88	1.50	1.43	1.35
27F059	C3F	Female Flange Socket	3	FF	1.92	1.76	1.60	1.28	1.22	1.15
27F063	C4F	Female Flange Socket	4	FF	2.01	1.84	1.68	1.34	1.27	1.21
27F2281	C5F	Female Flange Socket	5	FF	3.15	2.89	2.63	2.10	2.00	1.89
27F070	D3F	Female Flange Socket	3	GG	1.98	1.82	1.65	1.32	1.25	1.19
27F071	D4F	Female Flange Socket	4	GG	2.07	1.90	1.73	1.38	1.31	1.24
27F2282	D5F	Female Flange Socket	5	GG	3.21	2.94	2.68	2.14	2.03	1.93
27F072	D3M	Male Flange Socket	3	HH	1.20	1.10	1.00	.80	.75	.72
39F2283	D5M	Male Flange Socket	5	HH	2.19	2.01	1.83	1.46	1.39	1.31
39F2284	R3F	Right-Angle Fem. Plug	3	....	3.30	3.03	2.75	2.20	2.09	1.98
39F2285	R4F	Right-Angle Fem. Plug	4	....	3.75	3.44	3.13	2.50	2.38	2.25
39F2286	R5F	Right-Angle Fem. Plug	5	....	5.10	4.68	4.25	3.40	3.23	3.06
39F2287	R3M	Right-Angle Male Plug	3	....	3.06	2.81	2.55	2.04	1.94	1.84
39F2288	R4M	Right-Angle Male Plug	4	....	3.15	2.89	2.63	2.10	2.00	1.89
39F2289	R5M	Right-Angle Male Plug	5	....	4.50	4.13	3.75	3.00	2.85	2.70
27F1000	G3MS	Male Wall Plate, S. Steel	3	....	3.12	2.86	2.60	2.08	1.98	1.87
27F1003	H3MS	Male Wall Plate, S. Steel	3	II	4.38	4.02	3.65	2.92	2.77	2.63
27F1008	K3FS	Female Wall Plate, S. Steel	3	LL	3.24	2.97	2.70	2.16	2.05	1.94
27F1010	AC3	AC Receptacle (ungrounded)	3	...	.48	.44	.40	.32	.304	.288



POMONA Patch Cords, Test Leads and Plugs

PLUGS, CLIPS, AND CONNECTORS

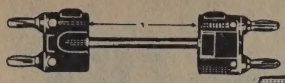


Fig. A

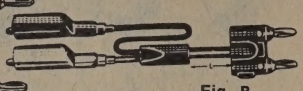


Fig. B

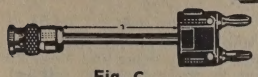


Fig. C

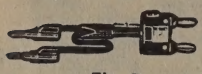


Fig. D

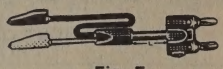


Fig. E

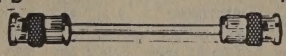


Fig. F

¾" double banana plug cabled to a variety of plugs, connectors, clips and tips as indicated below. The double banana plug permits parallel multiple stacking and has a clearly marked ground connection. Color of plug body matches cable color, av. wt., 5 oz. *Two conductor twisted 18 ga. (65x36) wire. Vinyl jacket and insulation. Nom. cap. 30 mmf/ft., gray color. **Shielded microphone cable. Polyethylene insulation. Vinyl jacket. Nom. cap. 25 mmf/ft., gray color. †Coaxial shielded cable. RG58 c/u clr. blk.

WITH DOUBLE PLUGS EACH END—Fig. A.

Stk. No.	Type	Length[1]	1-9	10-24	25-49	50-99
34F801	2BA-36*	36"	4.95	4.46	4.21	3.47
34F803	2BB-36**	36"				
34F805	2BC-36†	36"				

WITH ALLIGATOR CLIPS — Fig. B.

34F807	2BA-AL-36*	36"	5.95	5.36	5.06	4.17
34F809	2BB-AL-36**	36"				
34F811	2BC-AL-36†	36"				

WITH UG88E/U MALE BNC CONNECTOR—Fig. C.

34F813	2BB-BNC-36**	36"	5.95	5.36	5.06	4.17
34F815	2BC-BNC-36†	36"	5.95	5.36	5.06	4.17

WITH .080 DIA. PHONE TIP PLUG—Fig. D.

34F821	2BC-PP-36†	36"	7.50	6.75	6.38	5.25

WITH MINIGATOR CLIPS—Fig. E

34F823	2BA-MG-36*	36"	5.95	5.36	5.06	4.17
34F825	2BB-MG-36**	36"				
34F827	2BC-MG-36†	36"				

UG88E/U MALE BNC CONNECTOR BOTH ENDS—Fig. F

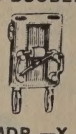
34F842	BNC-C24†	24"	5.95	5.36	5.06	4.17
34F843	BNC-C36†	36"	5.95	5.36	5.06	4.17

ALLIGATOR CLIPS TO UG88E/U MALE BNC CONNECTOR

34F839	AL-C-BNC-36 †	36"	5.95	5.36	5.06	4.17

¾" MOLDED DOUBLE PLUB STACK-UP ACCESSORIES

MDP



MDP —X

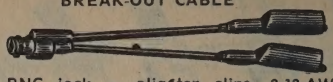
1269

1296

Model MDP. Internal set screws for cable connection. Has .171" dia. stack up connections. 15A cont., 30A int. Working V.: 5000 VDC. Cap: 0.8 mmf at 10 mc.
Model MDP-S. Has internal solder bonded shorting bar.
Model MDP-X. Jacks and plugs lead to 4 isolated terminals.
Model 1269. Adapter: BNC jack to double banana plug.
Model 1296. Adapter: binding posts to BNC plug.

Stock No.	Model	Color	1-24	25-49	50-99	100-249
34F856	MDP	Red	.75	.68	.64	.53
34F857	MDP	Black	.75	.68	.64	.53
34F858	MDP-S	Natural	1.25	1.13	1.06	.88
34F859	MDP-X	Red	3.25	2.93	2.76	2.28
34F860	1269	Black	2.95	2.66	2.51	2.07
34F870	1296	Black	4.95	4.46	4.21	3.47

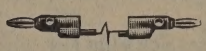
BREAK-OUT CABLE



Model 2630. BNC jack — aligator clips. 2.18-AWG stranded leads. Cable and clips are color coded, 1 red & 1 black. 500V peak. Operating temp. range:—25 to 85°C. 7" long.
Model 2631. Same as 2630, except with minigator clips.

Stk. No.	Type	1-24	25-49	50-99	100-249
34F964	2630	3.45	3.10	2.93	2.42
34F965	2631	3.45	3.10	2.93	2.42

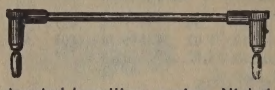
STACK-UP CONNECTING LEADS



Model B. Fits all standard banana jacks. Permit stack-up and side connections.

Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F875	B-4	4"	Red	1.50	1.35	1.28	1.05
34F876	B-4	4"	Black				
34F877	B-8	8"	Red				
34F878	B-8	8"	Black				
34F879	B-12	12"	Red				
34F880	B-12	12"	Black				
34F881	B-18	18"	Red				
34F882	B-18	18"	Black				
34F848	B-24	24"	Red				
34F849	B-24	24"	Black				
34F850	B-36	36"	Red				
34F851	B-36	36"	Black				

STACK-UP 90° PATCH CORDS



Model 2864. 18 AWG Cable, rated 15 amps, 90° banana plug at each end. Volt, 10,000 VDC. Operating temp. range: 0-105°C. Plugs fit standard banana jacks. Heat treated beryllium spring. Nickel plate finish.

Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F940	2864-12	12"	Red	1.50	1.35	1.28	1.05
34F941	2864-12	12"	Black				
34F942	2864-18	18"	Red				
34F943	2864-18	18"	Black				
34F944	2864-24	24"	Red				
34F945	2864-24	24"	Black				

MINIATURE STACK-UP CONNECTING LEADS

Model 1081. Miniature patch cords for use with .104 dia. banana jacks. For miniaturization of test equipment and high density packaging. WIRE: 20AWG. Strand. RATED: 5 A. Cont., 10 A. Int. 5,000 V.D.C. OPER. TEMP.: O to +105°C.

Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F891	1081-4	4"	Red	1.50	1.35	1.28	1.05
34F892	1081-4	4"	Black				
34F893	1081-12	12"	Red				
34F894	1081-12	12"	Black				
34F895	1081-24	24"	Red				
34F896	1081-24	24"	Black				
34F897	1081-36	36"	Red				
34F898	1081-36	36"	Black				

MINIATURE BANANA PLUGS AND ADAPTERS

3269

3296

2945

2244

Model 3269. Adapter. BNC receptacle to miniature double banana plug—½" centers.
Model 3296 Adapter. 5-way binding posts on ½" ctrs. with .104" dia. banana jacks attached to BNC plug.
Model 2945. Miniature Solderless Banana Plug Stack-up. Collar acts as strain relief. .104" dia. jack to plug.
Model 2244. Miniature double banana plug on ½" ctrs.

Stk. No.	Type	Color	1-24	25-49	50-99	100-249
34F936	3269	Black	3.25	2.93	2.76	2.28
34F937	3296	Black	4.85	4.37	4.13	3.40
34F938	2945	Black	.50	.45	.43	.35
34F939	2945	Red	.50	.45	.43	.35
34F844	2244	Black	.85	.77	.72	.60
34F845	2244-2	Red	.85	.77	.72	.60

TEST LEAD HOLDER

Model 1508. Patch cords and cable assemblies can be filed for instant selection. Accepts cables up to .210" diameter. Cold rolled steel with orange baked enamel finish. Wt. 5 oz. Model 2708. RG cable holder . With .450" slots for coax cable. Blue finish. 11" Lx3.5" W; p slots.

Stk. No.	Type	1-24	25-49	50-99	100-249
34F956	1508	2.95	2.65	2.51	2.07
34F957	2708	2.95	2.65	2.51	2.07

Housings, Sockets and Adapters POMONA

SHIELDED "BLACK BOXES"

Die cast aluminum. Blue baked enamel finish except *(unfinished). Covers and screws supplied. BNC jacks are UG290A/U. BNC plugs are UG1104A/U. **Has BNC jack in top center also. # has red and black banana jack binding posts with solder turret terminals in top center also.

CONNECTIONS

Stk. No.	Type	1st End	2nd End	Size	1-24	25-49	50-99	100-249
34F952	2390	BNC Jack	BNC Jack	A	6.85	6.17	5.84	4.80
34F953	2391	BNC Jack	BNC Plug	A	7.85	7.05	6.67	5.48
35F3500	2392**	BNC Jack	BNC Jack	A	9.50	8.55	8.07	6.65
35F3501	2393#	BNC Jack	BNC Plug	A	10.85	9.75	9.22	7.58
34F954	2397	None	None	A	1.50	1.35	1.28	1.05
35F3502	*2400	None	None	A	1.50	1.35	1.28	1.05
35F3503	3230	BNC Jack	BNC Jack	B	6.85	6.17	5.84	4.80
35F3504	3231	BNC Jack	BNC Plug	B	7.85	7.05	6.67	5.48
35F3505	3232**	BNC Jack	BNC Jack	B	9.50	8.55	8.07	6.65
35F3506	3233#	BNC Jack	BNC Plug	B	10.85	9.75	9.22	7.58
34F955	2417	None	None	B	1.50	1.35	1.28	1.05
35F3507	*2428	None	None	B	1.50	1.35	1.28	1.05
35F3508	2901	None	None	C	5.85	5.27	4.97	4.10
34F966	2902	BNC Jack	BNC Jack	C	9.85	8.88	8.38	6.90
35F3509	2903	BNC Jack	BNC Plug	C	10.85	9.75	9.22	7.58
35F3510	*2906	None	None	C	5.85	5.27	4.97	4.10
35F3511	3601	None	None	D	3.85	3.47	3.27	2.70
35F3512	3602	BNC Jack	BNC Jack	D	8.85	7.97	7.52	6.20
35F3513	3603	BNC Jack	BNC Plug	D	9.85	8.87	8.37	6.90
35F3514	*3606	None	None	D	3.85	3.47	3.27	2.70

SHIELDED BLACK BOXES WITH CARD GUIDES

Extruded aluminum. Blue finish except *(unfinished). Top and bottom covers and screws supplied. Slotted to accept 1/16 circuit boards.

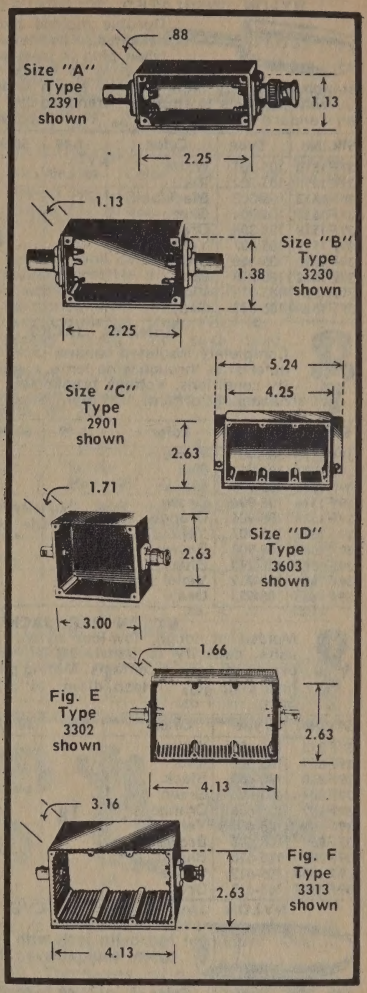
Stk. No.	Type	1st End	2nd End	Size	1-24	25-49	50-99	100-249
34F947	3301	None	None	E	6.85	6.17	5.84	4.80
35F3515	3302	BNC Jack	BNC Jack	E	10.85	9.75	9.22	7.58
34F946	3303	BNC Jack	BNC Plug	E	11.85	10.67	10.07	8.30
35F3516	*3306	None	None	E	6.85	6.17	5.84	4.80
35F3517	3311	None	None	F	8.85	7.97	7.52	6.20
35F3518	3312	BNC Jack	BNC Jack	F	12.85	11.37	10.92	9.00
35F3519	3313	BNC Jack	BNC Plug	F	13.85	12.47	11.77	9.70
35F3520	*3316	None	None	F	8.85	7.97	7.52	6.20

MOUNTING BOARDS AND SHIELDING DIVIDERS FOR BOXES WITH CARD GUIDES

Stk. No.	Type	For Use With	Dimensions A	Dimensions B	No. of Holes	Material	1-24	25-49	50-99
34F948	3323	Fig. E	2.39	1.50	12x7	Glass-Epoxy (GEE)	.65		
35F3521	3326	Fig. E	2.39	1.50	23x15	Glass-Epoxy (GEE)	.85		
35F3522	3327	Fig. E	2.39	1.50	.....	Aluminum Shielding Divider	.85		
35F3523	3328	All	5.25	2.50	.....	Bottom plate for mtg.	1.25		
35F3525	3551	Fig. F	2.39	3.00	12x15	Glass-Epoxy (GEE)	1.25		
35F3526	3553	Fig. F	2.39	3.00	23x30	Glass-Epoxy (GEE)	1.75		
35F3524	3558	Fig. F	2.39	3.00	.....	Aluminum Shielding Divider	1.10		

NON SHIELDED BLACK BOXES

Stock No.	Type	Dimensions Length	Width	Depth	Connections	1-24	25-49	50-99	100-249
35F3527	2103	2.25	1.00	1.00	None	.85	.77	.72	.60
35F3528	2104	2.38	1.53	1.53	None	.85	.77	.72	.60
35F3529	2105	1.75	1.44	.69	None	.85	.77	.72	.60
34F951	2224	2.38	1.53	1.53	Upper: Banana Jacks (z)	3.45	3.10	2.93	2.42
34F950	2098	1.75	1.44	.69	Lower: Banana plugs (z)	3.45	3.10	2.93	2.42



TEST SOCKET ADAPTERS

Features extended test tabs for ease of use with test prods or alligator clips. Low R.F. loss, phenolic construction: power factor less than 0.010 at 10 Mc. Insulation exceeds 5000,000 megohms

TVS-12 TVS-7 TVS-8

Stk. No.	Type	Description	1-49	50-99	100-249
34F527	TVS-7	7 pin. min.	1.85	1.57	1.52
34F545	TVS-8	Octal	1.95	1.66	1.56
34F546	TVS-9	9 pin min.	1.95	1.66	1.56
34F548	TVS-1	Duo-Ducal	2.55	....	....
34F869	TVS-12	Compactron	2.55	2.29	2.17
34F883	1779	Novar	2.25	1.91	1.80

BREADBOARD SURFACE MOUNTED SOCKETS

An insulated base prevents connection from shorting to the chassis. Eliminates double chassis design. Ciruits maybe wired in enclosed unit, base connections are numbered for easy identification. Phosphor bronze spring contacts.

XS-7 XS-9 XS-8

Stk. No.	Type	Description	1-49	50-99	100-249
34F864	XS-7	7-pin min.	.65	.59	.55
34F865	XS-9	9-pin min.	.75	.68	.64
34F866	XS-8	Octal	.85	.77	.72

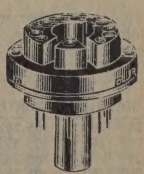
SOCKET SAVERS

Designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. Easy to install and remove. Beryllium Copper long-life contacts.

SS-7 SS-9 SS-8

Stk. No.	Type	Description	1-49	50-99	100-249
34F861	SS-7	7-pin min.	1.75	1.50	1.40
34F862	SS-9	9-pin min.	1.75	1.50	1.40
34F863	SS-8	8-octal	1.95	1.66	1.56
34F868	1751	9-pin Novar	2.25	1.91	1.80

COLOR TV TEST ADAPTERS



Model 2887. Pin saver-color CRT. Miniature Diheptal. Accept .040 Dia. Pins—.800 Dia. Pin Circle. Provision for spark gaps.

34F888. NET **4.95**

Model 2380. Test adapter-color CRT. As above, with test tabs on outer circumference.

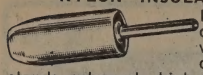
34F886 NET **4.95**

Model 2599A. Novar-6JE6-6KM6 cathode current horizontal output color test adapter. 9QL basing, with pin No. 3 interrupted. Test tab on Pin No. 2 for control grid horizontal drive measurement.

34F884 1-49....3.75 50-99....3.19 100-249....3.00

E. F. JOHNSON Plugs and Jacks

NYLON INSULATED SOLDERLESS TIP PLUG



Durable molded nylon insulating sleeves designed so no metal surfaces are exposed when plug is inserted in jack. Connection of up to 16 gauge stranded wire. Withstands extremely high voltages and a wide temperature range. Current rating is 10 amperes. Standard .081 inch diameter pin fits all standard tip jacks. Size: 17/16"x3/8". Shpg. wt., 2 oz.

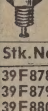
Stk. No.	Type	Color	1-49	50-99	100-400	500-up
39F1513	105-301	White				
39F1514	105-302	Red				
39F1515	105-303	Black				
39F1516	105-304	Green				
39F1518	105-306	Orange				
39F1519	105-307	Yellow	.17	.16	14.30	13.00
39F1520	105-308	Brown			Per	Per
39F1522	105-310	Blue			100	100
39F1524	105-312	Violet				
39F1525	105-313	Gray				

BANANA JACKS

Completely insulated banana jack. Retains low-loss characteristics through wide temp. range and high rel. humidity conditions. Voltage breakdown: 10,000 V DC. For banana plugs of nom. .175" diam. Shpg. wt., 2 oz.

Stk.No.	Type	Color	1-49	50-99	100-400	500-up
39F1573	108-901	White				
39F1574	108-902	Red				
39F1575	108-903	Black				
39F1576	108-904	Green				
39F1578	108-906	Orange				
39F1579	108-907	Yellow	.11	.10	8.70	7.90
39F1580	108-908	Brown			Per	Per
39F1582	108-910	Blue			100	100
39F1584	108-912	Violet				
39F1585	108-913	Gray				

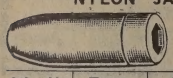
NYLON TIP JACKS



Molded of tough, low-loss nylon. DC breakdown 11,000 volts, capacity to panel, 2.0 pf. Recessed silver plated beryllium copper contacts. Mating pin .081" diameter. Mtg. hole reg. 17/32". Head diam. 3/8". Body threaded 1/4"-.32. Shpg. wt. 1 oz.

Stk.No.	Type	Color	1-49	50-99	100-400	500-Up
39F878	105-601	White				
39F879	105-602	Red				
39F880	105-603	Black				
39F881	105-604	Green				
39F882	105-606	Orange				
39F883	105-607	Yellow	.18	.17	15.00	13.70
39F884	105-608	Brown			Per	Per
39F885	105-610	Blue			100	100
39F1558	105-612	Violet				
39F1559	105-613	Gray				

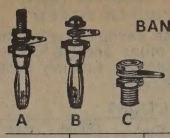
NYLON JACKS AND SLEEVE ASSEMBLIES



Nylon tip jack with inside threaded molded nylon insul. sleeve. Shpg. wt., 3 oz.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1500	105-701	White				
39F1501	105-702	Red				
39F1502	105-703	Black				
39F1503	105-704	Green				
39F1505	105-706	Orange				
39F1506	105-707	Yellow	.24	.22	20.00	18.10
39F1507	105-708	Brown			Per	Per
39F1509	105-710	Blue			100	100
39F1511	105-712	Violet				
39F1512	105-713	Gray				

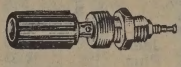
BANANA PLUGS AND JACKS



Complete selection. Banana plugs have nickel silver springs. Jacks are nickeled brass. Type 108-740 is 5/8" long. 108-760 is 1" long. Studs extend full length of sleeves for added support. With nuts and lugs. Shpg. wt., 2 oz.

Stk. No.	Type	Fig.	Descriptions	1-49	50-99	100-400 Per 100	500-Up Per 100
39F888	108-750	A	Plug, 3/8" stud	.20	.19	17.00	15.45
39F889	108-750-2	A	Plug, 3/4" stud	.21	.19	17.80	16.10
39F890	108-753	B	Plug, 6-32 screw	.21	.19	17.50	15.90
39F891	108-770	A	Jumbo type plug	.40	.37	34.00	30.80
39F892	108-771	B	Jumbo type plug	.65	.59	53.80	48.80
39F893	108-740	C	Standard jack	.16	.15	13.40	12.20
39F894	108-760	C	Jumbo jack	.50	.46	42.50	38.50

NYLON SIX-WAY BINDING POST



Compact, completely insulated, pre-assembled 6-way binding post. Molded nylon body. Silver-plated brass shank. Current capacity 15 amps. Voltage breakdown 8000 V. Single 5/16"-32 nut furnished for mounting—no auxiliary hardware needed. Shpg. wt., 3 oz.

Stk.No.	Type	Color	1-49	50-99	100-400	500-up
39F1545	111-101	White				
39F1546	111-102	Red				
39F1547	111-103	Black				
39F1548	111-104	Green				
39F1550	111-106	Orange				
39F1551	111-107	Yellow	.31	.29	26.40	23.90
39F1552	111-108	Brown			Per	Per
39F1554	111-110	Blue			100	100
39F1556	111-112	Violet				
39F1557	111-113	Gray				

INSULATED BANANA PLUGS

High voltage insulated plug for a wide variety of applications. Connection of up to 16 gauge stranded wire. Polyamide insulating sleeve retains strength and low loss characteristcs over wide range of temperatures, withstands high voltages. 15 amp. Shpg. wt., 3 oz.

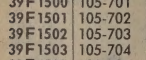
Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1530	108-301	White				
39F1531	108-302	Red				
39F1532	108-303	Black				
39F1533	108-304	Green				
39F1535	108-306	Orange				
39F1536	108-307	Yellow	.21	.20	17.80	16.10
39F1537	108-308	Brown			Per	Per
39F1539	108-310	Blue			100	100
39F1541	108-312	Violet				
39F1542	108-313	Gray				

LOW COST NYLON TIP JACKS

Low cost nylon tip jacks with formed silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 9000 volts DC; capacity to 1/8" panel, 2.0 pf. 1/4"-32 nut furnished; mounts in 17/64" hole. Shpg. wt., 2 oz.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1560	105-801	White				
39F1561	105-802	Red				
39F1562	105-803	Black				
39F1563	105-804	Green				
39F1565	105-806	Orange				
39F1566	105-807	Yellow	.13	.12	10.80	9.80
39F1567	105-808	Brown			Per	Per
39F1569	105-810	Blue			100	100
39F1571	105-812	Violet				
39F1572	105-813	Gray				

METAL—CLAD NYLON TIP JACK TIPS



Shock-proof nylon and metal construction. Nickel-plated machined brass jacket protects nylon body—assures positive fastening to mounting surface. Current rating: 10 amperes, internal silver-plated contact recessed in head—accommodates tip plugs of nominal .081" diameter. 1/4"-32 nut furnished. Mounts in 17/64" diameter hole. Capacity to 1/8" metal is 3.8 Mmf. Variations of two available grades listed below. Av. shpg. wt., 3 oz.

STANDARD TYPE

These low cost metal-clad jacks have nylon tips for extremely long wear. Each is provided with formed silver-plated phosphor-bronze contact to insure optimal performance. Voltage breakdown is 7,000 volts DC. 3.8 pf. 10 amp.

Stk. No.	Mfg. No.	Color	1-49	50-99	100-400	500-Up
39F1700	105-251-1	White				
39F1701	105-252-1	Red				
39F1702	105-253-1	Black				
39F1703	105-254-1	Green				
39F1705	105-256-1	Orange				
39F1706	105-257-1	Yellow	.18	.16	14.90	13.60
39F1707	105-258-1	Brown			Per	Per
39F1709	105-260-1	Blue			100	100
39F1711	105-262-1	Violet				
39F1712	105-263-1	Grey				

MILITARY TYPE

Military type designed to comply with MS-16108 Rev. F of MIL-STD-242A. Heavy nickel plated brass jacket. High insulation resistance of nylon body. Gold plated beryllium copper contact spring. Voltage breakdown: 8,000 volts DC. 3.8 pf 5 amp.

Stk. No.	Mfg. No.	Color	1-49	50-99	100-400	500-Up
39F1726	105-201-200	White				
39F1727	105-202-200	Red				
39F1728	105-203-200	Black				
39F1729	105-204-200	Green				
39F1731	105-206-200	Orange				
39F1732	105-207-200	Yellow	.35	.31	28.40	25.80
39F1733	105-208-200	Brown			Per	Per
39F1735	105-210-200	Blue			100	100
39F1737	105-212-200	Violet				
39F1738	105-213-200	Grey				

E. F. JOHNSON

PORCELAIN BASE BAYONET SOCKETS

Type 123-210-1. For 4 prong "UX" base tubes. Has phosphor bronze contacts, aluminum shell. Takes 852, 860, 866 tubes. 2 1/16" mtg. ctrs. Shpg. wt. 10 oz.
Type 123-211-1. For jumbo 4 pin tubes. Takes 211, 872. 2 13/16" mtg. ctrs. Wt: 1 lb.
Type 123-209-1. For med. 4 pin tubes A4-10. Sides glazed 2 5/16" mtg. ctrs. Wt: 10 oz.

Stk. No.	Type	1-9	10-49	50-99
38F756	123-210-1	2.35	2.11	1.88
38F757	123-211-1	2.95	2.65	2.35
38F762	123-209-1	2.30	2.07	1.83

DUAL SOLDERLESS BANANA PLUG

Extremely versatile. Molded body incorporates polarity indication and strain relief hole for wire leads. Springs are high quality nickel silver—bodies are nickel-plated. Accurately machined brass studs extend the full length of pins for extra strength. Voltage breakdown: 10,000 volts DC. Capacity plug to plug: 1.3 pf Current carrying capacity: 15 amps.

Stk. No.	Type 108-	Color	1-49	50-99	100-499 per 100
39F895	202	Red	.75	.69	63.50
39F896	203	Black	.75	.69	63.50

INSULATED BANANA PLUGS

Standard size. With plastic handles. brass nickel-plated bodies, nickel-silver springs. 2 1/8" L.x 7/16" Max. Dia.

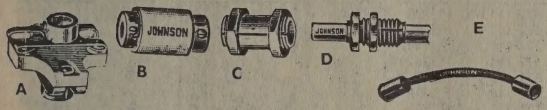
Stk. No.	Type 108-	Color	1-49	50-99	100-499 per 100
39F897	752-1	Black	.30	.28	25.40
39F898	752-2	Red	.30	.28	25.40

COUNTER DIAL

Vernier dial calibrated 0-100 over 360°, making possible accurate return to any pre-determined setting. Built-in dial lock. Furnished with mounting template for easy installation. Shpg. Wt. 1 lb.

26F033 116-208-1 1-9 . . . 14.60 10-49 . . . 12.90

COUPLINGS



Provide flexibiliy without backlash. Steatite insulation except (*) bakelite. for low voltage. Wt., 2 oz.

Stk. No.	Type	Fig.	Use	1-9	10-49	50-99
26F240	104-250	A	For 1/4" shaft	1.50	1.33	1.18
26F241	104-251-1	A	For 3/8" shaft	2.20	2.00	1.75
26F242	104-252	B	Solid 1/4"	1.30	1.15	1.02'
26F243	104-258	C	1/4" clamp	.55	.48	.425
26F249	104-264	A*	For 1/4" shaft	1.10	.88	.87

PANEL LIGHT

Has polished nickel plated hood. Rotates to any position. Fits 1/2" mtg. hole. T-3 1/4 or G3 1/2 bulbs. Wt: 3 oz.

Stk. No.	Type	Base	1-9	10-49	50-99
25F320	147-330	Screw	1.50	1.35	1.20
25F321	147-329	Bayonet	1.70	1.53	1.36

PANEL BEARINGS FOR 1/4" SHAFTS

Nickel plated brass for 1/4" shaft up to 3/8" panels. Wt: 2 oz.

Stk. No.	Type	Fig.	Length	1-49	50-99	100-499 Per C
26F244	115-255	D	Bearing only	.26	.23	20.30
26F245	115-256	D	3"	.60	.50	44.20
26F246	115-256-2	D	6"	.85	.72	63.50

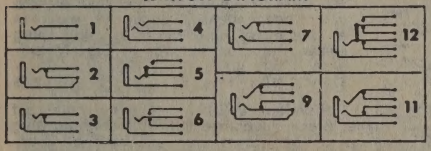
1/4" FLEXIBLE SHAFTS

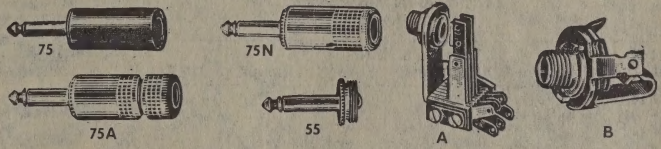
Permit out of line or up to 90° angular control. Wt.: 3 oz.

26F248	115-254	E	6"	1.00	.87	76.40
26F247	115-253	E	3"	.70	.63	53.80

MALLORY

CIRCUIT DIAGRAM





PLUGS

Type 55. Adapts standard microphone connector for use with conventional jack. Length, 1 7/16". Shpg. wt., 4 oz.

Type 75. Two-way phone plug with tie-cord anchor and insulated phenolic shell. Brass terminals for either phone tips or wire. Length 2 13/16". Handle, 1 9/16" long. Shpg. wt., 3 oz.

Type 75N. Two-way phone plug with tie-cord anchor and polished shielded nickel shell. Brass screw terminals. Overall length, 2 13/16". Handle, 1 5/8". Shpg. wt., 8 oz.

Type 75A. Two-way phone plug with tie-cord anchor and polished, shielded nickel shell and cable clamp. Brass screw terminals. Length 3 1/16". Handle, 1 13/16". Shpg. wt., 4 oz.

Type 76. Similar to type 75. Three-way microphone plug with insulated phenolic shell. Silver-plated lug terminals. Overall length, 2 13/16. Handle, 1 9/16" long. Shpg. wt., 3 oz.
Type 76A. Similar to 75A. Three-way mike plug in polished shielded nickel shell with cable cl
Length, 3". 1 13/16" handle. Shpg.

Stk. No.	Type	1-9	1			
39F742	55	.33				
39F700	75	.50				
39F701	75N	.73				
39F702	75A	1.16				
39F703	76	.99	.87			
39F704	76A	1.29	1.16	1.07	.966	.858

JACKS

Long Frame Jacks. Mount in 7/16" hole in panels up to 1/4" thick by means of a 3/8" diameter threaded shank. All take standard 1/4" plugs. Nickel-plated alloy springs, silver contacts, cadmium-plated frames. Supplied with mounting nut and washer. Shpg. wt., 4 oz.

Stk. No.	Type	Cir. Diag.	1-9	10-49	50-99	100-249	250-499
39F711	2B	4	.63	.565	.525	.470	.418
39F714	3B	7	.66	.594	.550	.495	.440
39F718	4B	11	.83	.742	.688	.619	.550
39F719	5	12	.99	.891	.825	.743	.660

Fig. A. Junior Jacks. For standard 1/4" plugs. Mounts in 3/8" hole in panels up to 5/16" thick. Nickel plated brass frames and bushings. Supplied with mounting nut & washer. Shpg. wt., 3 oz.

Stk. No.	Type	Cir. Diag.	1-9	10-49	50-99	100-249	250-499
39F724	701	1	.50	.445	.412	.372	.330
39F726	702A	3	.63	.565	.523	.470	.418
39F727	702B	4	.63	.565	.523	.470	.418
39F728	703	5	.66	.594	.550	.495	.440
39F730	703B	7	.66	.594	.550	.495	.440
39F732	704	9	.76	.683	.633	.570	.506
39F734	704B	11	.76	.683	.633	.570	.506
39F735	705	12	.83	.742	.688	.619	.55

Have a shorter frame and spring than the Junior jack. For minimum clearance positions. Extend 1 9/32" behind panel; take standard plugs. Shpg. wt., 2 oz.

Stk. No.	Type	Cir. No.	Description	1-9	10-49	50-99	100-249	250-499
39F737	A-1	1	Open Cir. Jack	.36	.327	.303	.273	.242
39F738	A-2	2	Shorting Jack	.53	.475	.440	.396	.352
39F739	A-2A	3	Closed Cir. Jack	.63	.565	.523	.470	.418
39F740	A-3A	6	Sgl. Cir. Make Brk.	.73	.653	.605	.545	.484

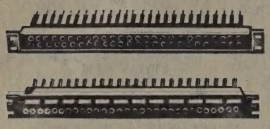
Fig. B. SC-1A Phone Jack. 2-conductor. Commercial equivalent of military jack No. JJ-034. Requires 7/8" mounting space behind panel. Designed to receive these plugs: Mallory 75, West. Electric 47A 47B, Signal Corps PL-47 PL-55, PL-148, PL-155, Jan plugs PJ-055, PJ-155, PJ-636, PJ-047 La Jacks. Similar to SCIA, SCA2B jacks. For use in electronic equipment. 1/2" mtg. radius. For 75, 75N, 75A plugs. Wt: 2 oz.

SCA-2B. Microphone Jack. 3 conductor. Commercial equivalent of Military Jack No. JJ-033. Requires 7/8" mounting space behind panel. Receive: West Electric 109, Signal Corps PL-68, Jan plugs PJ-068, PJ-168, PJ-309. Wt: 2 oz.

39F780	SC-1A	1	Open Circuit	.40	.356	.330	.297	.264
39F781	SCA-2B	4	Open Circuit	.46	.416	.385	.347	.308
35F838	LA-1	1	Open Cir. Jack	.40	.356	.330	.297	.264
35F839	La-2	2	Shorting Jack	.46	.416	.385	.347	.308
35F840	LA-2A	3	Closed	.53	.475	.440	.396	.352

ADC Panels, Connectors, Terminal Blocks

JACK PANELS



PJ-30
DOUBLE PANEL

PJ-33
SINGLE PANEL

Panels are compact and lightweight. Standard size offers 24, 26, 48, 52, 78, or 96 jacks in Bantam sized panel. Spaced to prevent cross patching of adjacent circuits when using double plugs. Panels are molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with 5/8" spacing. Mounting brackets and designation strips furnished with each panel. Fit standard relay rack. All double panel except (*) single panel

Stk. No.	Type	Holds	Hgt.	1-9	10-24
57F106	PJ-31	48 jacks, less jacks	2 1/8"	.945	7.88
57F107	PJ-341	48 PJ-318 jacks w/jacks	2 1/8"	42.75	35.63
57F108	PJ-30	52 jacks, less jacks	13 3/4"	12.90	10.75
57F109	PJ-340	52 PJ-318 jacks w/jacks	13 3/4"	49.50	41.25
57F110*	PJ-33	24 jacks, less jacks	13 3/4"	8.52	7.10
57F111*	PJ-343	24 PJ-318 jacks w/jacks	13 3/4"	25.14	20.95
57F1187	PJ-731	96 jacks, less jacks	13 3/4"	19.20	16.00
57F1188	PJ-737	96 PJ-818 jacks w/jacks	13 3/4"	92.40	77.00
57F1189	PJ-739	96 PJ-839 jacks w/jacks	13 3/4"	116.40	97.00

TERMINAL BLOCKS

The one piece base and individual terminal separators molded. Interchangeable with popular telephone type blocks 100A through 100D and L3A through L6A. Terminals are .040 brass. Rows of terminals are graduated in length for ease of writing and the top row of terminals is identified by numbering. The PJ-106 terminal block provides 120 terminals six rows of 20 terminals each.

Stock No.	Type	Rows of Terms.	No. of Terms.	Height	NET
57F100	PJ-101	1	20	1 29/32	3.45
57F101	PJ-102	2	40	2 1/4	4.65
57F102	PJ-103	3	60	2 19/32	5.85
57F103	PJ-104	4	80	2 15/16	7.05
57F104	PJ-105	5	100	3 9/32	8.25
57F105	PJ-106	6	120	3 5/8	9.45

PATCH CORDS

Shielded cords made of tinned copper conductor wire. Cords, as well as cord assemblies with PJ-1 double plugs. PJ-055B or PJ-051R single plugs and standard black patch cords with shields grounded both ends.

Cord with PS-051R Plugs

Stk. No.	Type	Lgth.	1-24	25-49
57F133	PJ-82	2-feet	5.82	4.85
57F134	PJ-84	4-feet	6.48	5.40
57F135	PJ-86	6-feet	7.26	6.05

Cord With PJ-1 Plugs

Stock No.	Type	Lgth.	1-24	25-49	Stock No.	Type	Lgth.	NET
57F139	PJ-10 1/2	6-inch	6.38	5.32	57F142	PJ-13	3-feet	6.90
57F140	PJ-11	1-foot	6.60	5.50	57F143	PJ-14	4-feet	7.13
57F141	PJ-12	2-feet	6.75	5.63	57F145	PJ-16	6-feet	7.58

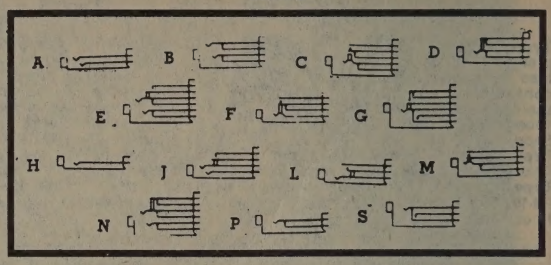
Cord With PJ-055B Plugs

Stock No.	Type	Lgth.	1-24	25-49	Stock No.	Type	Lgth.	NET
57F147	PJ-50 1/2	6-inch	3.84	3.20	57F150	PJ-53	3-feet	4.53
57F148	PJ-51	1-foot	3.99	3.33	57F151	PJ-54	4-feet	4.86
57F149	PJ-52	2-feet	4.20	3.50	57F153	PJ-56	6-feet	5.79

Replacement Cords For PJ-1 and PJ-055B

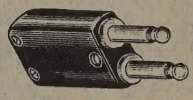
Stock No.	Type	Lgth.	1-24	25-49	Stock No.	Type	Lgth.	NET
57F156	PJ-21	1-foot	2.07	1.73	57F159	PJ-24	4-feet	2.76
57F157	PJ-22	2-feet	2.22	1.85	57F160	PJ-25	5-feet	3.03
57F158	PJ-23	3-feet	2.37	1.97				

JACKS



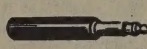
Unique one-piece frame, which provides both dimensional stability and maximum strength. Connecting lugs are hot-tinned. Coin silver contacts are welded to springs. Insulation is XXX phenolic to meet military requirements. Shpg. wt., 3 oz.

Stock No.	Type	Config.	Stack Ht.	Cont.	NET
57F112	PJ238	A	9/16	3	.66
57F113	PJ240	E	3/4	3	1.23
57F114	PJ241	J	3/4	3	1.02
57F115	PJ242	N	3/4	3	1.23
57F116	PJ339	B	9/16	3	.92
57F119	PJ318	P	1/2	2	.66
57F121	PJ338	G	13/16	2	1.23
57F122	PJ418	P	1/2	2	.69
57F123	PJ115	L	5/8	2	.90
57F125	PJ117	D	9/16	2	.90
57F126	PJ123	H	7/16	2	.60
57F128	PJ203	S	9/16	2	.78
57F1194	PJ-803	S	13/32"	2	.90
57F1195	PJ-818	P	13/32"	2	.78
57F1196	PJ-823	H	27/64"	2	.66
57F1197	PJ-838	A	35/64"	3	.75
57F1198	PJ-839	B	17/32"	3	1.05
57F1199	PJ-841	J	43/64"	3	1.14

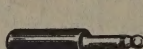


PJ-327. Twin plug. Provides two electrically independent, 2 conductor plugs in a phenolic shell. Self aligning plug sleeves are on 5/8" ctrs. For MIL-P-642A & WE 327.
57F163. NET 2.55

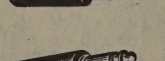
PJ-1. Equivalent, WE-241, heavy duty die cast frame. Black phenolic shell. Self aligning plug prongs on 5/8" center for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.
57F130. 1-24 ..... 2.55 **25-49**..... 2.13



PJ-051R. WE-310. Designed for use with 1/4" tip, ring and sleeve jacks. Molded insulation, red plastic shell. Three conductor.
57F131. 1-24 ..... 1.32 **25-up**..... 1.10



PJ-055B. (old style PJ-5). WE-47, fits 1/4" phone jacks. Black plastic shell. Screw terminals. Two conductor.
57F129. 1-24 ..... .78 25-up..... .65



PJ-6. Equivalent. WE-213. Designed for applications requiring two separate 3 conductor circuits. Self aligning plug prongs on 1 1/16" centers.
57F132. 1-24 ..... 5.40 25-up 4.50

BANTAM PATCH CORDS

Plastic jacketed, shielded tinned copper conductor. Plugs of connector are brass and a molded polystyrene insulation which also aids strain relief.

Stk. No.	Type	Length	1-24	25-49
2 CONDUCTOR-SINGLE PLUG				
57F187	PJ-704	24"	3.78	3.15
2 CONDUCTOR-DOUBLE PLUG				
57F192	PJ-754	24"	4.74	3.95
3 CONDUCTOR-SINGLE PLUG				
57F196	PJ-712	12"	4.38	3.65
57F197	PJ-714	24"	4.50	3.75
57F198	PJ-716	36"	4.62	3.85
57F199	PJ-718	48"	4.74	3.95
3 CONDUCTOR-DOUBLE PLUG				
57F1190	PJ-762	12"	6.21	5.18
57F1191	PJ-764	24"	6.57	5.48
57F1192	PJ-766	36"	6.93	5.78
57F1193	PJ-768	48"	7.29	6.08

SUPERIOR

DOUBLE ASSEMBLY 5-WAY BINDING POST

Fig. A. For instrument and equip. panels requiring ¾" centers. Rated for a current capacity of 30 amps. & working voltage of 1000 V. Gold plated brass pts. 5 ways to make connections. 0.098" diam. wire holes. Color coded captive thumbnuts.

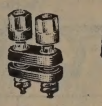


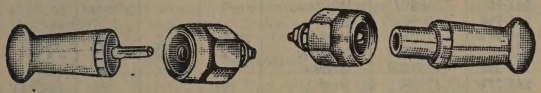
Fig. A

Fig. B

Fig. B. Dual adapter type. 125VAC, 15A

Stk. No.	Type	Thumbnut	Fig.	1-9	10-99
6F078	DAP15BWC	Black & White	B	2.00	1.50
6F085	DF30-2-BWTC	Black & White	A	1.10	.83
6F086	DF30-2-BBC	Black & Black	A		
6F087	DF30-2-BRC	Red & Black	A		

SUPERCON ELECTRICAL CONNECTORS



Supercon flexible soldered or solderless plugs and receptacles

Color	Stk.No.	Type	Desc.	Stk.No.	Type	Desc.	Key
black	6F054	RP25GB	25 amp	6F066	PS25GB	25 amp	A
yellow	6F055	RP25GY	Pin	6F067	PS25GY	Socket	A
red	6F056	RP25GR	Recep-	6F068	PS25GR	Plugs	A
blue	6F057	RP25GBL	tacles	6F069	PS25GBL		A
green	6F058	RP25GGN		6F070	PS25GGN		A
white	6F059	RP25GWT		6F071	PS25GWT		A
black	6F048	RS25GB	25 amp	6F060	PP25GB	25 amp	A
yellow	6F049	RS25GY	Socket	6F061	PP25GY	Pin	A
red	6F050	RS25GR	Recep-	6F062	PP25GR	Plugs	A
blue	6F051	RS25GBL	tacles	6F063	PP25GBL		A
green	6F052	RS25GGN		6F064	PP25GGN		A
white	6F053	RS25GWT		6F065	PP25GWT		A
black	6F024	PS50GB	50 amp	6F006	RP50GB	50 amp	B
yellow	6F025	PS50GY	Socket	6F007	RP50GY	Pin	B
red	6F026	PS50GR	Plugs	6F008	RP50GR	Recep-	B
blue	6F027	PS50GBL		6F009	RP50GBL	tacles	B
green	6F028	PS50GGN		6F010	RP50GGN		B
white	6F029	PS40GWT		6F011	RP50GWT		B
black	6F000	RS50GB	50 amp	6F030	PP50GB	50 amp	B
yellow	6F001	RS50GY	Socket	6F031	PP50GY	Pin	B
red	6F002	RS50GR	Recep-	6F032	PP50GR	Plug	B
blue	6F003	RS50GBL	tacles	6F033	PP50GBL		B
green	6F004	RS50GGN		6F034	PP50GBL		B
white	6F005	RS50GWT		6F035	PP50GWT		B
black	6F012	RS100GB	100 amp	6F042	PP100GB	100 amp	C
yellow	6F013	RS100GY	Socket	6F043	PP100GY	Pin	C
red	6F014	RS100GR	Recep-	6F044	PP100GR	Plugs	C
blue	6F015	RS100GBL	tacles	6F045	PP100GBL		C
green	6F016	RS100GGN		6F046	PP100GGN		C
white	6F017	RS100GWT		6F047	PP100GWT		C
black	6F036	PS100GB	100 amp	6F018	RP100GB	100 amp	C
yellow	6F037	PS100GY	Socket	6F019	RP100GY	Pin	C
red	6F038	PS100GR	Plugs	6F020	RP100GR	Recep-	C
blue	6F039	PS100GBL		6F021	RP100GBL	tacles	C
green	6F040	PS100GGN		6F022	RP100GGN		C
white	6F041	PS100GWT		6F023	RP100GWT		C
black	6F675	RP250GB	250 amp	6F672	PS250GB	250 amp	D
yellow	6F676	RP250GY	Pin	6F673	PS250GY	Socket	D
red	6F677	RP250GR	Recep-	6F674	PS250GR	Plugs	D
blue	6F148	RP250GBL	tacles	6F145	PS250GBL		D
green	6F149	RP250GGN		6F146	PS250GGN		D
white	6F150	RP250GWT		6F147	PS250GWT		D
black	6F095	RS250GB	250 amp	6F097	PP250GB	250 amp	D
red	6F096	RS250GR	Socket	6F098	PP250GR	Pin	D
			Recep-			Plugs	D
			tacles				

Price Key

Key	1-9	10-99	100-999	Key	1-9	10-99	100-999
A	2.80	2.24	1.96	C	4.75	3.80	3.33
B	3.65	2.92	2.56	D	8.15	6.52	5.71

5-WAY BINDING POSTS

Plastic and gold plated brass parts. Hex. and Fluted nut rated at 30 amps. Mini at 15 amps, all 1000 working volts. Mini and Hex. Mil-P-20693A, Type IV.

Color	Mini. Stk.No.	Mini. Type	Hex.Nut Stk.No.	Hex.Nut Type	Fluted Stk.No.	Fluted Type
red	6F079	DF21RC	5F762	DF30RC	6F088	DF31RC
white	6F080	DF21WTC	5F764	DF30WTC	6F091	DF31WTC
black	6F081	DF21BC	5F760	DF30BC	6F092	DF31BC
blue	6F082	DF21BLC	5F761	DF30BLC	6F089	DF31BLC
yellow	6F083	DF21YC	5F765	DF30YC	6F093	DF31YC
green	6F084	DF21GNC	5F763	DF30GNC	6F090	DF31GNC
nickel	. . .	.....	5F769	DF30NC	. . .	.....

Prices 1-99 .....50 100-500 35

ITT-CANNON AUDIO PLUGS

P SERIES AUDIO PLUGS

Plugs have split shell. 2-6 contact inserts take #10 wire. 8 contact takes #14 wire. Panel mtg. except *Cable connector. Avg. shpg. wt. 4 oz.

MALE

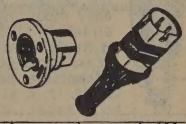
Stk. No.	Pins	Type	1-24	25-99	100-499
39F531	3	P3-CG-12S*	7.92	6.73	5.94
39F534	6	P6-CG-12S*	8.69	7.39	6.52

Female

Stk. No.	Pins	Type	1-24	25-99	100-499
39F537	3	P3-CG-11S*	8.62	7.33	6.47
39F539	5	P5-CG-11S*	9.20	7.82	6.90
39F540	6	P6-CG-11S*	9.77	8.30	7.33
39F541	8	P8-CG-11S*	9.77	8.30	7.33
39F549	3	P3-13	6.13	5.36	4.73

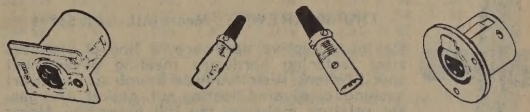
UA RETMA STANDARD PLUGS

Standard 3 contact microphone plugs. Latch-locking, gold-plated contacts, rubber relief collar and bushings on plugs with flat-top polarized. 15 amps. ½" cbl. entry. St. plg. shell. *Pin insert.



Stk. No.	Type	Description	1-24	25-99	100-499
39F570	UA-3-11	Straight cord plug	12.32	10.47	9.24
39F571	UA-3-12	*Straight cord plug	7.81	6.64	5.86
39F572	UA-3-13	Round wall mount	9.53	8.10	7.15
39F573	UA-3-14	*Round wall mount	5.17	4.40	3.88
39F575	UA-3-32	*Rect. wall mount	5.19	4.41	3.89

XLR SERIES



Protects against mechanical interference. Integral cable clamp, neoprene cable relief, and time tested latch lock. Shpg. wt. 3 oz.

STEEL & SATIN NICKEL FINISH SHELLS

Stk.No.	Type	Description	Pins	1-9	10-49	50-99
39F475	XLR-3-11SC	Cable Conn. F	3	4.99	4.58	4.16
39F476	XLR-3-12SC	Cable Conn. M	3	3.98	3.65	3.32
39F477	XLR-4-11SC	Cable Conn. F	4	5.08	4.66	4.24
39F478	XLR-4-12SC	Cable Conn. M	4	4.10	3.76	3.42
39F481	XLR-4-11C	Cable Conn. F	4	1.99	1.82	1.66
39F483	XLR-4-12C	Cable Conn. M	4	1.45	1.33	1.21
39F465	XLR-4-13	Panel Mt.-Flg. F	4	2.33	2.14	1.95
39F466	XLR-4-13N	Panel Mt.-Nut F	4	3.15	2.89	2.63
39F467	XLR-4-14	Panel Mt.-Flg. M	4	1.06	.97	.88
39F468	XLR-4-14N	Panel Mt. Nut M	4	2.68	2.46	2.24
39F485	XLR-4-31	Wall Mt. F	4	2.41	2.21	2.01
39F487	XLR-4-32	Wall Mt. M	4	1.75	1.61	1.46
39F480	XLR-3-11C	Cable Conn. F	3	1.57	1.44	1.31
39F482	XLR-3-12C	Cable Conn. M	3	1.36	1.25	1.14
39F455	XLR-3-13	Panel Mt.-Flg. F	3	2.25	2.06	1.88
39F456	XLR-3-13N	Panel Mt. F	3	3.05	2.80	2.55
39F457	XLR-3-14	Panel Mt.-Flg. M	3	1.03	.94	.86
39F458	XLR-3-14N	Panel Mt. M	3	2.48	2.28	2.07
39F459	XLR-3-15	90° Cable Conn. F	3	4.84	4.44	4.04
39F484	XLR-3-31	Wall Mt. F	3	2.35	2.15	1.96

STANDARD TELEVISION CAMERA PLUGS FOR REPLACEMENT

Replacement units for connecting TV cameras. Shells are made of die-cast aluminum with cadmium-plated finish. All are 24-contact types. Shpg. wt., 4 oz.

Stk. No.	Type	1-9	10-24	25-49
39F403	LKT-R24C-22⅞	43.44	39.10	32.58
39F408	LKT-R24C-21⅞	48.20	43.38	36.15
39F410	SK-M7-21C½	10.42	9.38	7.82

NEWARK Stocks the World's Most Complete

Inventory of Industrial Electronic Components

TEST JACKS. . .Meets MS16108 (Rev. F) Specs

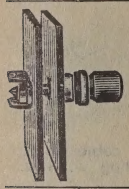
Meets all requirements of MS16108 (ships). Consists of a heavy nickel plated brass bushing, protected by nylon sleeve. Contact assembly is silver plated with a gold wash for lowest contact resistance. Mounts in .261" dia. hole.

Stk. No.	Type	Mil. No.	Color	1-99	100-499	500-999	1000-4999
26F329	TJ101Y	MS16108-8A	Yellow	.29	.25	.23	.20
26F331	TJ103R	MS16108-2A	Red				
26F333	TJ105BL	MS16108-3A	Black				
26F334	TJ106GN	MS16108-5A	Green				
26F335	TJ107MB	MS16108-7A	Blue				
26F336	TJ108W	MS16108-1A	White				

SUBMINIATURE FIXED-CONTACT JACK

Model MC122. Suitable for equipment of standard, miniature, or subminiature sizes. Beryllium-copper spring pin contact. No nuts or washers allows for fast and easy mounting. Accepts any standard test prods. Over all length .655" max. Insulator diameter .286. Insulator is made from DuPont Zytel (Nylon). Contact sleeve is brass, gold-plated. Mounting hole dia .219. Range of acceptable panel thickness .031-.093. Weight is 1 lb. each.

Stock No.	Type	Color	1-49	50-249	250-499	500-999
26F940	TJ401Y	Yellow	.21	.18	.17	.16
26F942	TJ403R	Red				
26F944	TJ405BL	Black				
26F945	TJ408W	Green				
26F946	TJ40GN	Marine Blue				
26F947	TJ407MB	White				



THUMBSCREWS. . . Meets MIL-16400 Specs

Raytheon captive hardware, a line of stainless steel fastening hardware meeting government specifications. A slotted head thumb screw, insert bushing, captivated floating nut, gasket, and gasket retainer make up the full assembly. Meets MIL-E-16400 (ships) specifications.

Stock No.	Type	Thread Size	L	1-499	500-999	1000-2499
26F350	CS-130	1/4-20NC-2	7/8	.76	.65	.61
26F351	CS-131	1/4-20NC-2	1"	.76	.65	.61
26F362	CS-100	8-32NC-2	5/8	.55	.47	.44
26F364	CS-102	8-32NC-2	7/8	.55	.47	.44
26F368	CS-122	10-32NC-2	1"	.60	.52	.49

PANEL INSERT

Thread Size: 1/4-20NC-2

Stock No.	Type	Thread Size	For Panel	1-499	500-999	1000-2499
26F381	PIN-132	1/4-20NC-2	.119-.156	.28	.24	.22
26F383	PIN-134	1/4-20NC-2	.250	.28	.24	.22

Thread Size: 5/16-18NC-2

Stock No.	Cat. No.	Thread Size	For Panels	1-499	500-999	1000-2499
26F389	PIN-100	8-32NC-2	.048-072	.22	.19	.18
26F390	PIN-101	8-32NC-2	.074-109			
26F391	PIN-102	8-32NC-2	.119-156			

Thread Size: 10-32NC-2

26F395	PIN122	10-32NC-2	.119-.156	.25	.21	.20
26F397	PIN-124	10-32NC-2	.250			

NUT BRACKET

Stk. No.	Type	Thread Size	1-499	500-999	100-2499
26F369	NB-100	8-32NC-2	.10	.09	.08
26F371	NB-102	10-32NC-2	.12	.11	.10
26F372	NB-103	1/4-10NC-2	.18	.16	.15

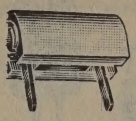
GASKETS

Stk. No.	Type	Screw Size	1-19 Per 50	20-Up Per 50
26F399	GS101	1/4-20	1.00	.85
26F401	GS103	8-32		

GASKET RETAINER

26F402	GSR-115	10-24 or 10-32	1.00	.85
26F405	GSR-118	8-32		

RIGHT ANGLE PRINTED CIRCUIT TEST JACKS



Model MC123. Single .080" contact for use with closely spaced painted circuit boards. .3" mtg. centers. Rated: 5 amps Oper. volts: 2000 RMS @ sea level. All metal surfaces are heavy gold over silver plating. Size: .231 x .48 x .449". Shpg. wt., 3 oz.

Stock No.	Type	Color	1-249	250-499	500-999	1000-2499
26F948	TJ201Y	Yellow	.19	.16	.15	.13
26F949	TJ202BR	Brown				
26F992	TJ203R	Red				
26F993	TJ2040R	Orange				
26F994	TJ205BL	Black				
26F995	TJ206GN	Green				
26F996	TJ207MB	Marine Bl.				
26F997	TJ208W	White				
26F998	TJ209GY	Gray				
26F999	TJ210V	Violet				
26F290	TJ251Y	Yellow				
26F291	TJ252BR	Brown				
26F292	TJ253R	Red				
26F293	TJ254OR	Orange				
26F294	TJ255BL	Black				
26F295	TJ256GN	Green				
26F296	TJ257MB	Blue				
26F297	TJ258W	White				
26F298	TJ259GY	Gray				
26F299	TJ260V	Violet				

PRINTED CIRCUIT TEST JACKS

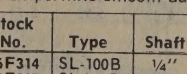
Model MC121. For dip board application. Simple mounting on any circuit panel up to 1/4" thick. Accepts any standard test prod. Temperature cycling from —65°C to +85°C. Beryllium-Copper spring pin contact. 95% Relative humidity @ 40°C for 250 hrs. Gold plated contact sleeve. Maximum L .546. Maximum insulator dia. .228.

Stock No.	Type	Color	1-249	250-499	500-999	1000-2499
26F928	TJ300N	Natural	.19	.16	.15	.13
26F929	TJ301Y	Yellow				
26F930	TJ302B	Brown				
26F931	TJ303R	Red				
26F932	TJ304OR	Orange				
26F933	TJ305BL	Black				
26F934	TJ306GN	Green				
26F935	TJ307MB	Marine Bl				
26F936	TJ308W	White				

PANEL BRACKETS

Formed from .090" cold-rolled carbon steel, the bracket is available in four sizes to accommodate panels ranging in width from 1 3/8-3 7/16". A pair of brackets will mount either one or two panels. Meet the requirements of MIL-E-16400A (ships). MIL-E-5400 and MIL-P-11268B (Sig. C) Cadmium plated, Shpg. wt., 3 oz.

Stk. No.	Type	Wide Range	1-99	100-199	200-499	500-999
26F326	MB-125	1 3/8-1 15/16	.26	.22	.21	.20
26F317	MB-126	2-2 7/16	.27	.23	.22	.20
26F318	MB-127	2 1/2-2 15/16	.28	.24	.22	.21
26F319	MB-128	3-3 7/16	.30	.26	.24	.23



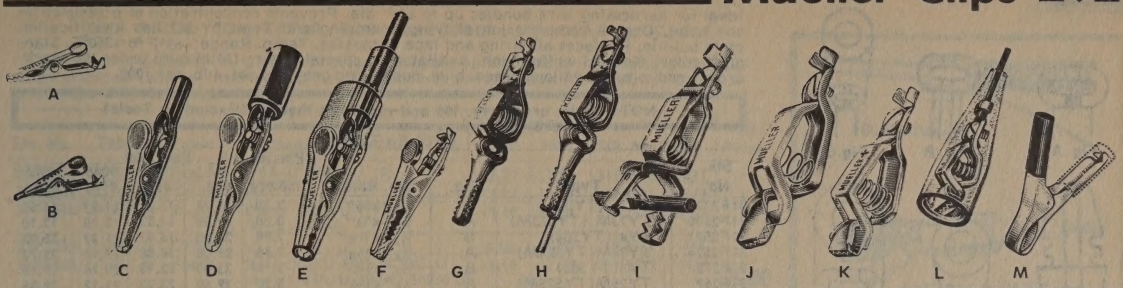
SHAFT LOCKS

Mounted on the control bushing in place of the nut and washer, the shaft lock fits snugly around the control shaft, providing a constant drag which resists rotation caused by accidental contact, vibrations, etc., but which permits smooth adjustment. Shpg. wt. 1 oz.

Stock No.	Type	Shaft	Thread NEF2	1-99	100-199	200-499	500-999
26F314	SL-100B	1/4"	3/8-32	.33	.28	.26	.24
26F937	SL-101R	1/4"	.....	.35	.30	.28	.26
26F315	SL-105B	1/8"	1/4-32	.25	.22	.20	.18
26F938	SL-110B	1/4"	.....	.22	.19	.18	.16

Make NEWARK
your one stop source
for Industrial Electronic Components

Mueller Clips



MINI-GATOR CLIPS

Miniaturized. For No. 20 wire, provides quick, strong connection even in smallest areas. Penetrates corrosion. Easily removed. $1\frac{1}{16}$" length, $\frac{3}{16}$" jaw spread. Shpg. wt. ¼ lb. per 100.

Stock No.	Type	Fig.	Description	1-9	10-99	100-499	500-999
28F528	30	A	Steel Cad. Plated	.09	.062	.053	.051
28F529	30C	A	Copper	.11	.076	.065	.061

MICRO-GATOR CLIPS

Designed for printed circuits and tight spots. Tip is no bigger than the head of a pin yet will stand up straight on the smallest terminals. Uses No. 20 or small wire. Length, $1\frac{3}{32}$". Jaw spread, $\frac{7}{32}$". Tips, $\frac{1}{32}$" across. Shpg. wt., ¼ lb. per 100.

Stock No.	Type	Fig.	Description	1-9	10-99	100-499	500-999
28F496	34	B	Cad. Plated Steel	.07	.047	.041	.039
28F497	34C	B	Copper	.09	.062	.053	.051

2" ALLIGATOR CLIPS

28F500	60	C	†Solder connection	.10	.07	.061	.058
28F501	60-S	C	†Screw connection	.12	.082	.07	.066
28F502	60-CS	C	*Screw connection	.18	.126	.108	.103
28F464	60PR-2	C	Adapted for phone Tip or test prod. tip	.15	.102	.087	.083

INSULATED ALLIGATOR CLIPS

Fully insulated alligator clips. Consists of Mueller No. †60S or (*)60S complete with skin-tight flexible insulation. Barrel takes wire or banana plug. $2\frac{1}{8}$" long.

Stock No.	Type	Fig.	Description	1-9	10-99	100-499	500-999
28F503	60-HS	D	†Screw conn. Red	.16	.115	.098	.093
28F504	60-HS	D	†Screw conn. Black	.16	.115	.098	.093
28F505	60CHS	D	*Screw conn. Red	.22	.156	.134	.127
28F506	60CHS	D	*Screw conn. Black	.22	.156	.134	.127

Clip 60-S with skin-tight two-piece flexiable vinyl cover.

28F533	63	E	†Screw conn. Black	.23	.158	.136	.129
28F534	63	E	†Screw conn. Red	.23	.158	.136	.129
28F535	63C	E	*Screw conn. Black	.27	.19	.162	.154
28F536	63C	E	*Screw conn. Red	.27	.19	.162	.154

2" INSULATION PIERCING ALLIGATOR CLIP

Needle in nose pierces insulation on wire gripped in jaws. Ideal for trailer-light hook-up, etc.

28F469	60NS	C	†Screw connection	.23	.158	.136	.129

SERIES 70 CLIPS

Designed similar to No. 30 mini-gator clip but with dimensions of popular No. 60 alligator. In either *solid copper or †cadmium plated steel. Meshing teeth and slim jaws.

Stock No.	Type	Fig.	Description	1-9	10-99	100-499	500-999
28F530	70	F	†Solder Conn.	.08	.057	.049	.046
28F531	70S	F	†Screw Conn.	.10	.067	.058	.055
28F532	70CS	F	*Screw Conn.	.16	.10	.094	.089

CROCODILE CLIPS

Nesting teeth give solid contact along entire length of jaw. Jaws open $\frac{5}{16}$". Shpg. wt.: 1½ lbs. per 100. Sizes Fig. G—$2\frac{1}{8}$"; Fig. H—$2\frac{5}{8}$"; Fig. I—$2\frac{1}{4}$".

Stock No.	Type	Fig.	Description	1-9	10-99	100-499	500-999
28F507	85	G	†Screw connection	.12	.084	.072	.069
28F508	85-C	G	*Screw connection	.24	.165	.142	.134
28F509	85-T	H	†Tip Clip" phone tip	.31	.215	.184	.175
28F510	50-C	I	*Needle clip, screw conn.	.36	.25	.213	.202
28F511	51-C	I	*Less needle, screw conn.	.25	.177	.151	.144

"PEE WEE" CLIPS—Fig. K

Type 45. Steel, cadmium plated. A very small clip for general test purposes. Jaw teeth mesh. Shipping weight: 1 lb. per 100.

Type 45C. Solid copper, phosphor bronze spring, brass screw connection. No heating from hysteresis effect. 1¼ lbs. per 100.

Stock No.	Mfr's. Type	Amp.	Size	Open	1-9	10-99	100-499	500-999
28F513	45†	5	$1\frac{1}{2}$"	$\frac{5}{16}$"	.10	.068	.058	.055
28F514	45C*	10	$1\frac{1}{2}$"	¼"	.17	.12	.103	.098

KEY TO CLIP CONSTRUCTION MATERIAL
*solid copper **lead-plated steel †cadmium-plated steel

3-SIDED MESH TEETH CLIPS—Fig. J

Stock No.	Type	Amp.	Size	Open	1-9	10-99	100-499	500-999
28F523	27†	20	$2\frac{7}{16}$"	$\frac{5}{8}$"	.18	.12	.104	.099
28F524	27C*	40	$2\frac{7}{16}$"	$\frac{5}{8}$"	.31	.218	.187	.177
28F515	48B†	10	2"	½"	.15	.103	.089	.084
28F538	48C*	20	2"	½"	.22	.15	.13	.124

HEAVY DUTY SOLID COPPER CLIPS

Type 25-C—Fig. J 6¾ lbs. per 100 Type 21C—Fig. K is 18 lbs. per 100, Types 11C-33C. Fig. K, 41 lbs. per 100.

Stock No.	Type	Amp.	Size	Open	1-9	10-99	100-499	500-999
28F519	25C*	75	3"	¾"	.51	.36	.304	.288
28F520	21C*	100	4½"	$1\frac{1}{16}$"	1.34	.94	.80	.76
28F521	11C*	200	6"	$1\frac{5}{8}$"	2.65	1.85	1.59	1.56
28F522	33C*	300	7¾"	$2\frac{1}{4}$"	4.80	3.36	2.88	2.74

BATTERY CLIPS—Fig. K

Heavy duty lead plated clips especially designed for battery connection, or for general testing.

Stk. No.	Type	Amp.	Size	Open	1-9	10-99	100-499	500-999
28F516	24A**	25	$2\frac{7}{8}$"	¾"	.29	.20	.174	.165
28F517	21A**	50	4"	$1\frac{1}{16}$"	.52	.36	.31	.296
28F518	11A**	100	6"	$1\frac{5}{8}$"	1.44	1.01	.86	.82

PLIER-TYPE BATTERY CLIPS

Bright copper plated with vinyl insulating sleeves and heavy duty plated springs.
Type 41. For fast chargers, battery booster cables.
Type 46. For small overnight charges, and battery power pickup.

Stk. No.	Type	Color	Fig.	Amp.	Size	Open	NET
28F468	46A	Red	M	50	3"	$1\frac{1}{8}$"	.18
28F467	46A	Black	M	50	3"	$1\frac{1}{8}$"	.18
28F465	41A	Red	M	100	6"	$1\frac{9}{16}$"	.60
28F466	41A	Black	M	100	6"	$1\frac{9}{16}$"	.60

FLEXIBLE INSULATORS FOR CLIPS LISTED ABOVE

Fig. L. Protect against electric shock and short circuit. Vinylite except (*) rubber compound. Vinyl insulators available also in white, blue, yellow and green on special order. Add 10% to price.

Stock No.	Type	Color	For Clip	1-9	10-99	100-499	500-999
28F476	47	Red	45, 45C	.08	.052	.045	.042
28F477	47	Blk	45, 45C	.08	.052	.045	.042
28F478	49	Red	48B-C, 50-51C	.12	.085	.073	.069
28F479	49	Blk	48B-C, 50-51C	.12	.085	.073	.069
28F480	35*	Red	33C	3.48	2.43	2.09	1.98
28F481	35*	Blk	33C	3.48	2.43	2.09	1.98
28F482	26	Red	24A, 25, 25C	.29	.20	.172	.163
28F483	26	Blk	24A, 25, 25C	.29	.20	.172	.163
28F484	23	Red	21A-21C	.47	.33	.28	.266
28F485	23	Blk	21A-21C	.47	.33	.28	.266
28F472	32	Red	30, 30C	.05	.033	.029	.027
28F473	32	Blk	30, 30C	.05	.033	.029	.027
28F498	36	Blk	34, 34C	.05	.033	.029	.027
28F499	36	Red	34, 34C	.05	.033	.029	.027
28F474	72	Red	70, 70S, 70CS	.06	.041	.035	.033
28F475	72	Blk	70, 70S, 70CS	.06	.041	.035	.033
28F486	29	Red	27, 27C	.19	.134	.115	.109
28F487	29	Blk	27, 27C	.19	.134	.115	.109
28F488	13	Red	11C, 11A	.86	.60	.52	.49
28F489	13	Blk	11C, 11A	.86	.60	.52	.49
28F490	87	Red	85, 85C, 85T	.08	.052	.045	.043
28F491	87	Blk	85, 85C, 85T	.08	.052	.045	.043
28F492	62	Red	60, 60CS, 60S	.06	.041	.035	.033
28F493	62	Blk	60, 60CS, 60S	.06	.041	.035	.033

Cable Clamps, Strap and Adapters

Fig. A

Fig. B

Fig. C

Fig. D

Fig. E

Fig. F

Fig. G

Fig. D

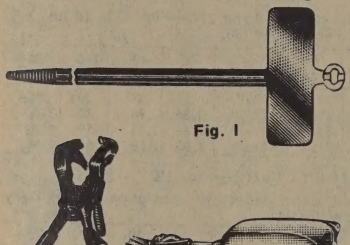


Fig. I

Fig. J

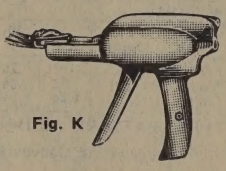


Fig. K

Fig. L

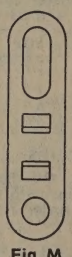


Fig. M

Fig. N

Fig. O

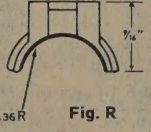


Fig. R

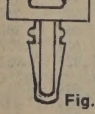


Fig. P

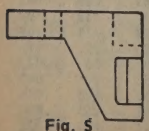


Fig. S

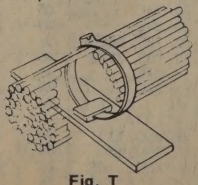


Fig. T

TY-RAP CABLE TIES AND STRAP

Ideal for harnessing wire bundles up to 3¾" dia. Prevents concentration of pressures on one point. Does a complete job of tying, clamping and Type TY-542 has identification plate built-in. Replaces all string and tape harnesses. Temp. Range:–65°F to +350°F. Standard color: Natural white nylon. Available on special order: (Minimum order 100 black brown, red, orange, yellow, green, blue, purple and gray. Av. wt. 4 lb. per 1000.

NOTE: min. order qty. 100 and multiples thereof. (Excluding Tools)

CABLE TIES

Stk. No.	Type	Fig.	Dia. Range	Per 100	Per 1000			
				100-900	1M-9M	10M-49M	50M-99M	100M & up
31F271	TY3 (TY503)	B	1/16"x5/8"	2.10	18.70	13.20	11.99	11.55
31F2500	TY23M (TY523M)	A	1/16"x5/8"	2.30	19.80	14.52	13.20	12.10
31F2523	TY4 (TY504)	B	1/16"x1 1/8"	2.90	20.90	18.02	16.39	15.02
31F2524	TY24M(TY524M)	A	1/16"x1 1/8"	2.50	22.00	18.88	17.16	15.73
31F272	TY5(TY505)	B	1/16"x1 3/4"	3.10	33.00	22.18	20.16	18.48
31F269	TY25M(TY525M)	A	1/16"x1 3/4"	3.20	39.60	23.23	21.12	19.36
31F2525	TY6(TY506)	B	1/16"x3"	6.50	55.00	41.58	37.80	34.65
31F2605	TY26M(TY526M)	A	1/16"x3"	5.30	59.40	43.56	39.60	36.30
31F273	TY7(TY507)	B	3/16"x3 3/4"	10.50	121.00	80.30	76.40	72.77
31F2501	TY27M(TY527M)	A	3/16"x3 3/4"	10.50	132.00	85.80	81.32	76.23
31F2502	TY28M(TY528M)	A	1/16"x4"	7.40	82.50	53.79	50.94	48.40

CABLE CLAMPS

Stk. No.	Type	Fig.	Screw Size	Dia. Range	per 100		Per 1000		
					100-900		1M-9M	10M-24M	25M-49M
31F276	TY13(TY513)	E	4"	1/16"x5/8"	3.88	32.00	24.00	22.80	21.60
31F277	TY15(TY515)	E	10"	1/16"x3/4"	5.13	41.00	31.00	29.50	27.90
31F2526	TY33M(TY533M)	C	4"	1/16"x5/8"	4.75	37.56	29.50	28.30	27.10
31F2527	TY34M(TY534M)	C	8"	1/16"x1 1/8"	5.38	41.00	35.00	31.00	29.80
31F2528	TY35M(TY535M)	C	10"	1/16"x1 3/4"	6.13	45.00	40.00	36.00	34.00
31F2503	TY37M(TY537M)	F	1/4"	3/16"x3 3/4"	19.38	135.00	125.00	113.00	106.00
31F2529	TY38M(TY538M)	D	1/4"	1/16"x1 3/4"	6.50	45.00	40.00	36.00	34.00
31F2615	TY54M	D	10"	1/16"x1 1/8"	5.38	40.00	31.10	29.40	28.00

IDENTIFICATION TIES

31F2504	TY46M(TY546M)	G	.....	3/8"x1 3/4"	12.38	70.00	59.00	53.10	50.20
31F2505	TY46MD(TY546MD)	G	.....	3/8"x1 3/4"	27.00	210.00	175.00	166.00	158.00
31F2506	TY46MX(TY546MX)	G	.....	3/8"x1 3/4"	13.63	77.00	64.90	58.40	55.20
31F2530	TY51M(TY551M)	I	.....	3/16"x5/8"	6.00	45.00	40.00	36.00	34.00

37F2507 Type WT163M-1 Black Marking Pen ..... Each 1.80

TY-RAP INSTALLING TOOLS

Stk. No.	Type	Fig.	For Use With TY-RAPS	NET
31F281	WT-183F	J	TY505, 515	22.00
31F282	WT-185F	J	TY503, 504, 513, 506	22.00
31F283	WT-186F	J	TY507, 527, 537	22.00
31F2531	WT-199M	K	TY—23M, 24, 25, 33, 34, 35, 38, 46, 51	25.00
31F2532	WT-293	K	TY3, TY13	55.00
31F2533	WT-294	K	TY4, TY6, TY14	55.00
31F2534	WT-295	K	TY5, TY8, TY15, TY42	55.00

TY-RAP ROUTING CLAMPS

*Same as Fig. "O" except stud mount.

Stk. No.	Type	Fig.	Base Mount	Clamp Size	NET PER 100		
					100	500	1000
31F2535	TC88	O	snap-in	1/2"	10.00	8.47	7.70
31F2536	TC95	O	snap-in	1"	11.00	9.79	8.90

TY-RAP MOUNTING PLATE—CLAMP MOUNT

Stock No.	Type	Fig.	Description	NET PER 100		
				100	500	1000
31F280	TC501(TC101)	M	Fits all ties except Types TY507 and TY517	4.66	3.33	2.50
31F389	TC503(TC103)	M	For TY507 and TY517	18.60	13.30	10.00
31F2508	TC502(TC102)	L	Same as TC-501	3.72	2.66	2.00
31F2509	TC504(TC104)	L	For TY-503 & TY-523M	2.56	2.00	1.60
Adapter for coaxial cable and Belden Silver plated brass.						
31F2610	TC92(TC592)	R	Saddle Mtg. plate	46.50	33.30	25.00
31F2611	TC106	S	Rt. angle mtg. base	28.00	20.00	15.00
31F2612	TC112	L	Miniature Mtg. Base	3.72	2.66	2.00
31F2613	TC342A(TC5342A)	T	Adhesive Base	11.20	10.00	9.20
31F2614	TC823(TC5823)	P	1/4" push in Base	3.91	3.13	2.50
Fits all TY's except - TY7 and TY27						

ADAPTER For Coaxial cable & belden silver plated brass. Fig. N

Stk. No.	Type	I.D.	Cable Type	Mates with Outersleeve	Net Per 100		
					100-	500-	1000-
31F2520	GSA2590	.263	WE #724	GSC3275	46.00	40.40	34.30
31F2579	GSA2592	.179	RG 58/U	GSC2195	52.70	46.00	39.20
31F2580	GSA2593	.215	Belden 8279	GSC2615	46.00	40.40	34.30

OUTER SLEEVE FIG. P

Stk. No.	Type	O.D.	Cable Type	Mates with Adapter	Net per 100		
					100-	500-	1000-
31F2522	GSC3275	.327	WE #724	GSA2590	14.70	13.00	11.00
31F2581	GSC2195	.179	RG 58/U	GSA2592	7.40	6.50	5.60
31F2582	GSC2615	.261	Belden 8279	GSA2593	7.40	6.50	5.60

FIG. Q— CRIMPING HAND TOOLS FOR ABOVE

Stk. No.	Type	Description	Shpg. Wt.	NET EA.
31F2521	WT-236	For GSA2590	1 lb. 13 oz.	65.00
31F2583	WT-408	For GSA2592	1 lb. 13 oz.	60.00
31F2584	WT-411	For GSA2593	1 lb. 13 oz.	60.00

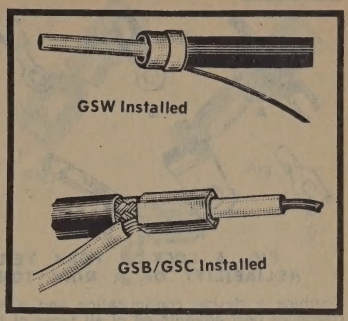
Connectors, Adapters, Blocks, Tools

T&B ENGINEERED

ONE PIECE CONNECTOR FOR SHIELDED AND COAXIAL CABLE

"Two piece" reliability in ONE connector. "Wobble-action" hard inner sleeve moves when shielded cable is inserted; soft outer sleeve is compression material. Nylon insulated. Use WT440 tool below.

Stk. No.	Type	Color	Coaxial Cable (RG)	NET PER 100 100	NET PER 100 1000	Stk. No.	No.	Net Price
31F2558	GSW-90	Red	178A/U 178B/U 196/U	12.70	11.00	31F2568	4451	
31F2559	GSW-100	Yellow	161/U	12.90	11.10	31F2569	4452	
31F2560	GSW-110	Blue	174/U 179A/U 179B/U 187/U 188/U	13.40	11.50	31F2570	4453	
31F2561	GSW-120	Green	122/U	13.80	12.00	31F2571	4454	
31F2562	GSW-130	Black	58/U 58A/U 58B/U 58C/U 141/U 141A/U 180/U 180A/U 195/U	14.10	12.20	31F2572	4455	35.00
31F2563	GSW-150	Green	55/U 55A/U 55B/U 142/U 142A/U 223/U	14.60 15.10	12.60 13.30	31F2573 31F2574	4456 4457	
31F2564	GSW-160	Red	59/U 59A/U 59B/U 62/U 62A/U 62B/U 124/U 140/U 210/U					
31F2565	GSW-180	Blue	71/U 71A/U 71B/U 108/U	17.40	15.00	31F2575	4458	
31F2566	GSW-200	Yellow	54A/U 126/U 134/U 143A/U	20.30	17.40	31F2576	4459	



WO PIECE CONNECTOR FOR SHIELDED AND COAXIAL CABLE

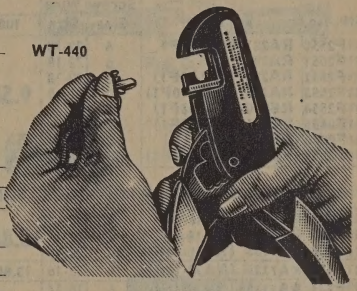
Permanent compression method for reliable grounding, termination and insulation shielded and coaxial cable. See installation tool WT-440. Meets mil. std. appl.

INNER SLEEVES

Stk. No.	Type	I.D.	O.D.	Color Code	MS Number	NET PER 100 100	NET PER 100 1000	NET PER 100 5000
31F2543	GSB-134	.134	.156	Orange	MS21981-134	4.94	3.49	2.65
31F2544	GSB-156	.156	.193	Red	MS21981-156	4.94	3.49	2.65

OUTER SLEEVES

Stk. No.	Type	I.D.	O.D.	Color Code	MS Number	Crimp Die No.	NET PER 100 100	NET PER 100 1000	NET PER 100 5000
31F2545	GSC-225	.225	.256	Purple	MS21980-225	WT-4409	4.97	3.46	2.70
31F2546	GSC-261	.261	.267	Yellow	MS21980-261	WT-4411	4.97	3.46	2.70



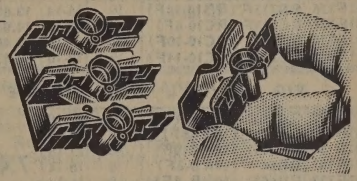
Featuring Interchangeable Dies

INSTALLATION TOOL FOR ONE & TWO PIECE CONNECTORS

Model WT-440. Lightweight aluminum hand tool with confortable cushion-grip handles.

31F2567. Net **60.00**

NOTE: Additional two piece connectors available to an "ID" of 3.170 inches.



Sectional Terminal Blocks

SECTIONAL TERMINAL BLOCKS AND MARKERS

Snap in and out of channel eliminates need for end sections and mounting clamps.

Stk. No.	Type	Description	NET EA.	NET 100	NET 1000
31F2547	MTB-1	Individual blocks	.30	20.00	156.00
31F2548	MTB-1M	10-20 sect. mark strips	4.00	. . . .	. . . . .

STA-KON INSTALLING TOOLS

Stock No.	Type	Fig.	For Use With STA-KON Type	NET
31F177	WT100M	H	A,B,C,AB,RA,AB,RC	6.95
31F265	WT111M	J	A,B,C	6.00
31F179	WT-161	I	A,B,C,RA,RB,RC	8.50
31F266	WT145A	I	RA, RB, RC	55.00
31F267	WT130A	I	A,B,C	50.00
31F2604	WT1000	K	A,B,C,AB,RA,RB,RC,PT	6.95

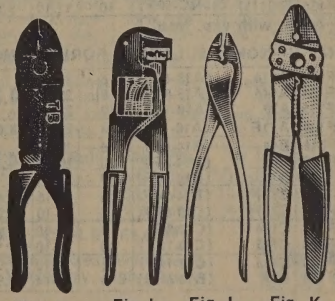


Fig. H Fig. I Fig. J. Fig. K

SELF ADJUSTING WIRE STRIPPER

- This precision tool has been designed to strip insulation from one wire or in multiples.
- Accommodate avg. sizes from # 30 thru 10 copper and aluminum.
- Excellent for bonded, and coaxial cable
- Self adjusting, no nicking, no positioning blades

31F2606 Net ABMK-3 *30 AWG to # 12 ..... **28.00**

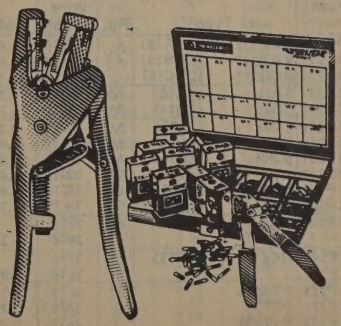
31F2638 Net ABMK-3 # 18 AWG to # 10 ..... **36.00**

STA-KON DISCONNECT TERMINAL & TOOL KIT PK-1003

Includes disconnect terminals, Wt 1000 tool and steel box.

Quantity	Tab Size	Cat. No.	Description
100	.250x.032	18RA-250F	Vinyl Insulated 22-18
100	.250x.032	14RB-250F	Vinyl Insulated 16-14
50	.250x.032	10RC-250F	Vinyl Insulated 12-10
100	.250x.032	A18-250	Uninsulated 22-18
100	.250x.032	B14-250	Uninsulated 16-14
50	.250x.032	C10-250F	Uninsulated 12-10
50	.250x.032	B14-250A	Flag Uninsulated 20-14
100	.250x.032	14RB-250T	Male Tab Vinyl Insulated 20-14

31F2634 PK 1003 Net **49.50**



ABMK-1 PK-1003

Thomas & Betts Terminals

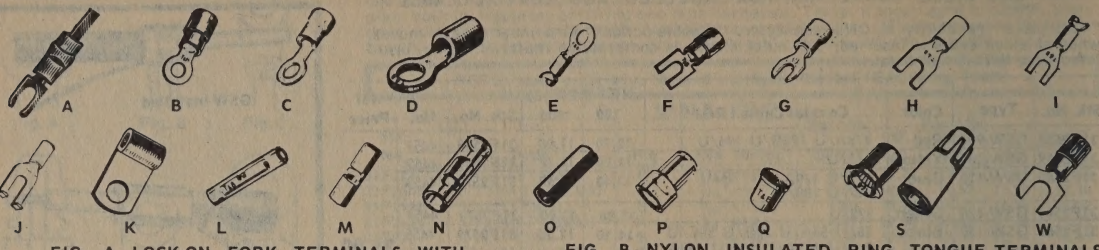


FIG. A LOCK-ON FORK TERMINALS WITH RELIABILITY OF A RING TONGUE TERMINAL

Combine a design configuration and a new vinyl insul. alloy; combines best advantages of all types of terminals.

Stk. No.	Type	Screw Size	Wire Size	Net per 100 100	1000	5000	10M
31F2550	RA2217(18RA6F1	6	22-18				
31F2551	RA2227	6	22-18				
31F2552	RA2247(18RA8F1)	8	22-18				
31F2553	RA2257(18RA10F1)	10	22-18	9.58	5.64	4.33	4.11
31F2554	RB2207(14RB6F1)	6	16-14				
31F2555	RB2217(14RB8F1)	6	16-14				
31F2556	RB2237	8	16-14				
31F2557	RB2257(14RB10F1)	10	16-14				

FIG. F— NYLON INSULATED FORK TONGUE TERMINALS

31F236	RA1103 (RA18-6F)	6	22-16				
31F237	RA1123 (RA18-8F)	8	22-16	10.88	6.42	4.91	4.67
31F238	RA1153 (RA18-10F)	10	22-16				
31F125	RA713F (RA18-14F)	¼	22-16	13.80	8.79	7.12	6.84
31F231	RB1113 (RB14-6F)	6	16-14				
31F232	RB1123 (RB14-8F)	8	16-14	10.88	6.42	4.91	4.67
31F233	RB1153 (RB14-10F)	10	16-14				
31F126	RB713F (RB14-14F)	¼	16-14	13.80	8.79	7.12	6.84
31F127	RC333F (RC10-6F)	6	12-10	14.08	8.54	7.68	7.10
31F234	RC1153 (RC10-10F)	10	12-10	13.48	7.94	6.08	5.78
31F235	RC1163 (RC10-14F)	¼	12-10	13.63	8.02	6.16	5.85

FIG. G—VINYL FORK TONGUE TERMINALS

31F129	RA1167 (18RA6F)	6	22-18				
31F130	RA1147 (18RA8F)	8	22-18				
31F131	RA1157 (18RA10F)	10	22-18				
31F132	RB647 (14RB-6F)	6	16-14	7.46	4.40	3.38	3.21
31F133	RB657 (14RB-8F)	8	16-14				
31F134	RB297 (14RB-10F)	10	16-14				
31F136	RC1157 (10RC-10F)	10	12.10	9.58	5.64	4.33	4.11

(*) Avail. with exp. insul.

FIG. H—NON-INSULATED FORK TONGUE TERMINALS

31F214	A116 (A18-6F)	6	22-18				
31F138	A114 (A18-8F)	8	22-18	4.81	2.83	2.17	2.07
31F215	A29 (A18-10F)	10	22-18				
31F139	A71F (A18-14)	¼	22-18	8.09	5.42	4.53	4.40
31F216	B64 (B14-6F)	6	20-16				
31F140	B65 (B14-8F)	8	20-16	4.81	2.83	2.17	2.07
31F217	B115 (B14-10F)	10	20-16				
31F141	B71F (B14-14F)	¼	20-16	7.61	5.42	4.53	4.40
31F142	C33F (C10-6F)	6	16-10	8.59	5.71	4.72	4.57
31F143	C114 (C10-8F)	8	16-10	6.99	4.11	3.15	2.99
31F218	C115 (C10-10F)	10	16-10				
31F144	C116 (C10-14F)	¼	16-10	7.96	4.70	3.60	3.41
31F158	B19 (B14-6FS)	6	20-14	4.81	2.83	2.17	2.07

SPLICES

Stock No.	Type	Fig.	Wire Range	Net per 100 100	1000	5000	10M
31F250	RAA217 (2RA18)	L	22-18	8.66	5.11	3.92	3.54
31F251	RBB217 (2RB14)	L	16-14	8.66	5.11	3.92	3.54
31F252	RCC217 (2RC10)	L	12-10	13.15	7.74	5.94	5.66
31F247	AA¼ (2A18)	M	22-18	5.71	3.37	2.59	2.45
31F248	BB2 (2B14)	M	20-14	5.71	3.37	2.59	2.45
31F249	CC2 (2C10)	M	16-10	8.27	4.87	3.75	3.56
31F260	RA24 (2A20)	N	22-20	8.48	6.63	5.30	4.77
31F261	RB25 (2B16)	N	18-16	8.48	6.63	5.30	4.77
31F163	AIA 2A22-10)	O	22-20	4.49	2.64	2.02	1.92
31F164	BIB (2B18-16)	O	18-16	4.49	2.64	2.02	1.92
31F165	CIC (2C14-12)	O	14-12	5.36	3.15	2.42	2.18
31F239	RB4 (RB44)	P	2#20-2#16	5.36	3.15	2.42	2.18
31F240	RC6 (RC55)	P	3#16-3#14	9.09	5.35	4.11	3.90
31F171	PT66M	S	3#12	6.24	4.88	3.90	3.51
31F172	PT70	Q	3#12	2.72	2.13	1.70	1.53
31F173	PT70M	Q	4#12	2.72	2.13	1.70	1.53
31F174	PT80	Q	4#10	7.20	5.63	4.50	4.05

FIG. B—NYLON INSULATED RING TONGUE TERMINALS

Stock No.	Type	Wire Size	Stud Size	Net Per 100 100	1000	5000	10M
31F100	RZ23 (RZ22-2)	26-22	2				
31F101	RZ43 (RZ22-4)	26-22	4	10.81	6.35	4.88	4.63
31F104	RZ103 RZ22-10)	26-22	10				
31F105	RA323 (RA18-4)	22-16	4				
31F219	RA853 (RA18-6)	22-16	6				
31F220	RA863 (RA18-8)	22-16	8	10.88	6.42	4.91	6.47
31F221	RA873 (RA18-10)	22-16	10				
31F222	RA713 RA18-14)	22-16	¼	12.20	7.19	5.52	5.24
31F223	RB853 (RB14-6)	16-14	6				
31F224	RB863 (RB14-8)	16-14	8	10.88	6.42	4.91	6.47
31F225	RB873 (RB14-10)	16-14	10				
31F226	RB713 (RB14-14)	16-14	¼	12.20	7.19	5.52	5.24
31F228	RC863 (RC10-8)	12-10	8	13.48	7.94	6.08	5.78
31F229	RC363 (RC10-10)	12-10	10	13.48	7.94	6.08	5.78
31F230	RC713 (RC10-14)	12-10	¼	13.63	8.02	6.16	5.85

FIG. C— VINYL INSULATED RING TONGUE TERMINALS

31F107	RA77 (18RA4)	22-18	4				
31F108	RA857 (18RA6)	22-18	6				
31F109	RA867 (18RA8)	22-18	8				
31F113	RB857 (14RB-6)	16-14	6	7.46	4.40	3.38	3.21
31F114	RB867 (14RB-8)	16-14	8				
31F115	RB877 (14RB-10)	16-14	10				
31F116	RB717 (14RB-14)	16-14	¼	9.74	5.73	4.40	4.18
31F117	RC337 (10RC-6)	12-10	6	9.58	5.64	4.33	4.11
31F119	RC367 (10RC-10)	12-10	10	9.58	5.64	4.33	4.11
31F120	RC717 (10RC-14)	12-10	¼	10.67	6.29	4.82	4.59

FIG. D—NON-INSULATED RING TONGUE TERMINALS

31F121	A-7 (A18-4)	22-18	4				
31F200	A-85 (A18-6)	22-18	6				
31F201	A-86 (A18-8)	22-18	8				
31F202	A-87 (A18-10)	22-18	10	4.81	2.83	2.17	2.07
31F122	B-132 (B14-4)	20-14	4				
31F204	B-133 (B14-6)	20-14	6				
31F205	B-86 (B14-8)	20-14	8				
31F206	B-87 (B14-10)	20-14	10				
31F207	B71 (B14-14)	20-14	¼	6.49	3.82	2.93	2.80
31F208	C33 (C10-6)	16-10	6				
31F109	C77 (C10-8)	16-10	8	6.99	4.11	3.15	2.99
31F210	C26 (C10-10)	16-10	10				
31F211	C71 (C10-14)	16-10	¼	7.96	4.70	3.60	3.41

FIG. E—NON-INSULATED RING TONGUE TERMINALS

Stock No.	Type	Wire Size	Stud Size	Net per 100 100	1000	5000	10M
31F212	B85G (B14-6G)	20-14	6				
31F123	B86G (B14-8G)	20-14	8	8.27	4.87	3.75	3.56
31F213	B87G (B14-10G)	20-14	10				

FIG. 1—NON-INSULATED FORK TONGUE TERMINALS

31F145	B64G (B14-6FG)	20-14	6	8.27	4.87	3.75	3.56
31F146	B65G (B14-8FG)	20-14	8	8.27	4.87	3.75	3.56
31F148	B71FG(B14-14FG)	20-14	¼	12.14	8.23	6.80	6.58

FIG. J—NYLON INSUL FORK FLANGED TONGUE TERMINALS

31F153	RB1223(RB14-8FS)	16-14	8	10.88	6.42	4.91	4.67

FIG.W— NYLON INSUL. FORK FLANGED TONGUE TERMINALS

31F150	RA1223(RA18-8FS)	22-16	8	10.88	6.42	4.91	4.67

FIG. K—NON-INSULATED FLAG TONGUE TERMINALS

31F241	AB51(AB14-6A)	20-14	6	7.56	4.45	3.41	3.25
31F243	AB53(AB14-10A)	20-14	10	7.56	4.45	3.41	3.25
31F245	C52(C10-8A)	16.10	8	8.18	4.82	3.68	3.51

(*) Self insulated terminals, available with expanded insulation. Write for complete ordering information.

Installation Tools for Terminals and Splices on Facing Page

Write For Thomas & Betts Condensed Catalog No. 1000.4

31F268 ..... FREE

Terminals, Tools & Cable Binders

THOMAS & BETTS

FEMALE AND (*) MALE SELF INSULATED DISCONNECTS (250 x .032)

Stock No.	Type	Fig.	Tab Size	Wire Range	Net Per 100 100-900	1000-4900	5000-9900	10M-24,900	25M-49,900
31F2518	RBB250*	F	.250x.032	Coupler	9.41	5.54	4.26	4.04	3.83
31F2519	FTA250	E	.250x.032	Adapter	7.58	5.77	4.33	3.61	....
31F175	RB250	A	.250x.032	18-14	11.75	6.92	5.31	5.01	4.78
31F098	RB2517 *	G	.250x.032	16-14	8.34	4.91	3.78	3.60	3.41
31F2637	RC2517 *	G	.250x.032	12-10	9.16	5.72	5.45	5.19	4.95
31F2510	RA257			28-18	10.18	5.99	4.60	4.37	4.15
31F2511	RB257	A	250x.032	16-14	10.18	5.99	4.60	4.37	4.15
31F2512	RC257			12-10	12.98	7.65	5.86	5.57	5.29
31F2616	RA187	A	.187x.032	22-18	15.45	9.12	7.01	6.36	6.05
31F2617	RA187-020	A	.187x.020	22-18	15.45	9.12	7.01	6.36	6.05
31F2618	RA205	A	205x.032	22-18	15.45	9.12	7.01	6.36	6.05
31F2619	RA205-020	A	.205x.020	22-18	15.45	9.12	7.01	6.36	6.05
31F2620	RA10	A	.110x.032	22-18	16.72	9.85	7.56	7.16	6.81
31F2621	RB187	A	.187x.032	16-14	15.45	9.12	7.01	6.36	6.05
31F2622	RB187-020	A	.187x.020	16-14	15.45	9.12	7.01	6.36	6.05
31F2623	RB205	A	.205x.032	16-14	15.45	9.12	7.01	6.36	6.05
31F2624	RB205-020	A	.205x.020	16-14	15.45	9.12	7.01	6.36	6.05
31F2625	RB10	A	.110x.032	16-14	16.72	9.85	7.56	7.16	6.81

FEMALE AND (*) MALE NON-INSULATED DISCONNECTS

31F2635	B251 *	G	.....	16-14	4.73	2.79	2.14	2.04	1.93
31F2636	C251 *	G	.....	12-10	4.73	2.79	2.14	2.04	1.93
31F2513	A-250	A	.250x.032	22-18	6.66	3.92	3.01	2.86	2.71
31F2514	B-250	A	.250x.032	16-14	6.66	3.92	3.01	2.86	2.71
31F2515	C-250	A	.250x.032	12-10	16.56	9.75	7.47	7.12	6.74
31F2516	A-10	A	.110x.032	22-18	11.85	6.98	5.35	5.09	4.83
31F2517	B-10	A	.110x.032	16-14	11.85	6.98	5.35	5.09	4.83
31F2600	B252G	C	.250x.032	20-14	8.43	4.97	3.81	3.63	3.43
31F2601	B250G	A	.250x.032	20-14	8.27	4.87	3.75	3.56	3.38
31F2602	B251G	B	.250x.032	20-14	6.66	3.92	3.01	2.86	2.71
31F2603	B-23	D	Disconnect	20-14	11.21	6.60	5.07	4.81	4.57
31F2626	A-187	A	.187x.032	22-18	11.04	6.50	4.99	4.74	4.50
31F2627	A187-020	A	.187x.020	22-18	11.04	6.50	4.99	4.74	4.50
31F2728	A205	A	.205x.032	22-18	11.04	6.50	4.99	4.74	4.50
31F2629	A205-020	A	.205x.020	22-18	11.04	6.50	4.99	4.74	4.50
31F2630	B187	A	.187x.032	16-14	11.04	6.50	4.99	4.74	4.50
31F2631	B187-020	A	.187x.020	16-14	11.04	6.50	4.99	4.74	4.50
31F2632	B-205F	A	.205x.032	16-14	11.04	6.50	4.99	4.74	4.50
31F2633	B205-020F	A	.205x.020	16-14	11.04	6.50	4.99	4.74	4.50

Note: Flat Tabs ¼" Straight Female. *Use with above term blocks.

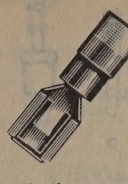


Fig. A

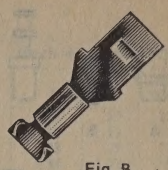


Fig. B

Fig. C

Fig. D

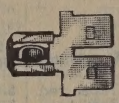


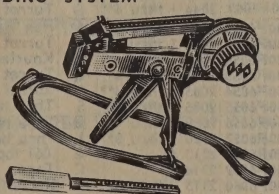
Fig. E

Fig. F

Fig. G

TYTON

CABLE BINDING SYSTEM



Designed for fast, economical fabrication of wire and harness. Each size has one tool, one tape and one closure to handle all wire bundling from 1/32" up. Loop tape around bundle; tighten to desired tension; squeeze trigger. Makes strong, vibration-proof ties every time. No waste, tape is fed off a storage roll as needed.

Type 4-2001. Cable-binding tool 8 mm, w/shoulder strap and loading fork. Shpg. wt. 2¾ lbs.
58F986. NET 79.95

Type 4-2601. Cable-binding tool 6 mm, w/shoulder strap and loading fork. Shpg. wt. 2¾ lbs.
58F1115. NET 79.95

Type 4-2301. Cable binding tool 3mm, w/shoulder strap and loading fork. Shpg. wt. 1¾ lbs.
58F1116. NET 49.95

POLYPROPYLENE CABLE CLAMPS

Low-cost clamp with good all around characteristics for general purpose applications.

W.xDia.	Stk. No.	Type	Sold in Pkg. of 100 100-900	1000-1500	1600-2000	2100-4900
3/8x1/8	58F1000	4-1101	1.40	.98	.79	.74
3/8x5/32	58F1001	4-1102	1.40	1.01	.81	.76
3/8x3/16	58F1002	4-1103	1.41	1.02	.82	.77
3/8x1/4	58F1003	4-1104	1.50	1.08	.87	.82
3/8x5/16	58F1004	4-1105	1.61	1.18	.95	.89
3/8x3/8	58F1005	4-1106	1.71	1.23	.99	.93
3/8x7/16	58F1006	4-1107	1.90	1.33	1.07	1.00
3/8x1/2	58F1007	4-1108	1.91	1.39	1.12	1.05
1/2x1/8	58F1008	4-1109	1.70	1.06	.85	.80
1/2x3/16	58F1009	4-1110	1.71	1.10	.88	.82
1/2x1/4	58F1010	4-1111	1.61	1.17	.94	.88
1/2x5/16	58F1011	4-1112	1.81	1.30	1.04	.97
1/2x3/8	58F1012	4-1113	1.90	1.36	1.09	1.02
1/2x7/16	58F1013	4-1114	2.10	1.48	1.19	1.12
1/2x1/2	58F1014	4-1115	2.21	1.58	1.27	1.19
1/2x9/16	58F1015	4-1116	2.71	1.95	1.56	1.47
1/2x5/8	58F1016	4-1117	2.81	2.02	1.67	1.52
1/2x11/16	58F1017	4-1118	3.11	2.24	1.80	1.68
1/2x3/4	58F1018	4-1119	3.30	2.34	1.88	1.77

CABLE BINDING TAPE

Tape is .351" wide x .016" thick and made of self-extinguishing nylon material. Withstands temperatures up to 100°C continuously (110° short term). Resistant to corrosive conditions, i.e., saltwater. All natural color. Sold in std. pkg. only.

Stk. No.	Type	Width	Ft./Roll	Std. Pkg.	1-9	10-24	25-Up
58F987	4-2199-Tape	8mm	25 feet	10rls/ctn	11.95	10.95	9.95
58F1117	4-2699-Tape	6mm	25 feet	10rls/ctn	11.00	10.00	9.00
58F1118	4-2399-Tape	3mm	50 feet	5rls/ctn	10.00	9.00	8.00

STANDARD CLOSURES

Closures are made of self-extinguishing nylon material. Withstands temperatures up to 100°C continuously (110°C short term). Resistant to corrosive conditions, including sea water. Each rack contains 100 closures.

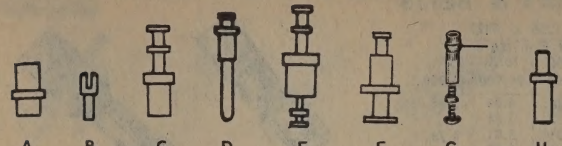
Stk. No.	Type	Width	Ft./Roll	Std. Pkg.	1-9	10-24	25-Up
58F988	4-2109	8mm	.....	10rack/ctn	11.95	10.95	9.95
58F1119	4-2609	6mm	.....	10rack/ctn	10.95	9.95	8.95
58F1120	4 2309	3mm	.....	10rack/ctn	9.95	8.95	7.95

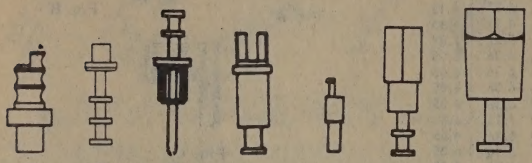
NYLON CABLE CLAMPS

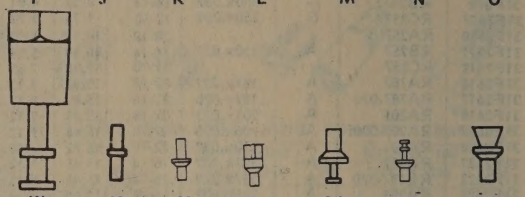
Excellent resistance to heat, weathering, and corrosive conditions. Extremely high tensile strength.

W.xDia.	Stk. No.	Type	Sold in Pkg. of 100 100-900	1000-1500	1600-2000	2100-4900
3/8x1/8	58F1025	4-1126	2.20	1.55	1.24	1.17
3/8x5/32	58F1026	4-1127	2.21	1.60	1.28	1.20
3/8x3/16	58F1027	4-1128	2.31	1.65	1.32	1.24
3/8x1/4	58F1028	4-1129	2.51	1.80	1.44	1.35
3/8x5/16	58F1029	4-1130	2.80	1.97	1.58	1.48
3/8x3/8	58F1030	4-1131	2.91	2.10	1.68	1.58
3/8x7/16	58F1031	4-1132	3.10	2.20	1.76	1.65
3/8x1/2	58F1032	4-1133	2.30	2.34	1.88	1.77
1/2x1/8	58F1033	4-1134	3.21	2.29	1.84	1.73
1/2x3/16	58F1034	4-1135	3.60	2.55	2.04	1.92
1/2x1/4	58F1035	4-1136	3.91	2.77	2.22	2.08
1/2x5/16	58F1036	4-1137	4.20	2.97	2.38	2.23
1/2x3/8	58F1037	4-1138	4.70	3.29	2.64	2.48
1/2x7/16	58F1038	4-1139	4.90	3.34	2.68	2.52
1/2x1/2	58F1039	4-1140	4.91	3.49	2.80	2.63
1/2x9/16	58F1040	4-1141	5.00	3.51	2.82	2.64
1/2x5/8	58F1041	4-1142	5.21	3.69	2.96	2.78
1/2x11/16	58F1042	4-1143	5.70	3.99	3.20	3.00
1/2x3/4	58F1043	4-1144	6.20	4.36	3.50	3.28

CAMBION Solder Terminals and Swager







Suffix in type number indicates the sizes available. Order from Board Thickness Chart at right adding the proper suffix to Type number for thickness desired.
**Silver Plate, (01) ‡Electro-Tin Plate (04) §Electro-Solder (05)

Stk. No.	Type	Fig.	Description	Net per 100 100-900	1000-4000	5000-9000	10M-25M
40F6000	1015 2 thru 4‡	A	Taper rec.	5.41	4.17	3.90	3.41
40F6001	1019 1 thru 3**	B	Thru hole	3.40	2.62	2.45	2.14
40F6002	1018 1 thru 2**	B	Thru hole	3.05	2.35	2.20	1.92
40F6003	1025 2**	B	Slotted	11.01	8.48	7.93	6.94
40F6004	1026 1 thru 4**	C	Turret	2.40	1.85	1.73	1.51
40F6005	1031 2**	D	Turret	4.93	3.80	3.55	3.11
40F6006	1032 1 thru 2**	D	Turret	3.05	2.35	2.20	1.92
40F6007	1035 2 thru 3**	E	Feed Thru	4.20	3.23	3.02	2.65
40F6008	1041 2 thru 3**	F	Turret	3.54	2.73	2.55	2.23
40F6009	1042 2 thru 3**	G	Turret	4.52	3.48	3.25	2.85
40F6010	1043 2 thru 4**	E	Turret	4.52	3.48	3.25	2.85
40F6011	1081 2 thru 4**	E	Feed thru	8.30	6.39	5.98	5.23
40F6012	1131 2‡	H	Pin	3.33	2.56	2.40	2.10
40F6013	1132 2 thru 3‡	H	Pin	3.33	2.56	2.40	2.10
40F6014	1136 2‡	H	Pin	4.46	3.43	3.21	2.81
40F6015	1245 2 thru 3**	I	Turret	3.37	2.59	2.43	2.12
40F6016	1457 1 thru 4**	I	Turret	2.10	1.62	1.51	1.32
40F6017	1459 2§	J	Printed	2.91	2.24	2.10	1.83
40F6018	1460 2§	J	Cir.	2.91	2.24	2.10	1.83
40F6019	1461 2§	J	eyelet thru	2.91	2.24	2.10	1.83
40F6020	1462 2§	J	hole	2.91	2.24	2.10	1.83
40F6021	1463 1 thru 2**	K	Domed turret	2.97	2.29	2.14	1.87
40F6022	1548 1 thru 5**	C	Turret	3.03	2.33	2.18	1.91
40F6023	1558 1 thru 5**	C	Turret	2.15	1.66	1.55	1.35
40F6024	1578 2 thru 4**	L	Knurled	5.94	4.57	4.28	3.74
40F6025	1579 2 thru 4**	G	Feed thru	6.62	5.10	4.77	4.17
40F6026	1582 2**	M	Round base	6.52	5.02	4.69	4.11
40F6027	1597 1 thru 5**	C	Turret	2.40	1.85	1.73	1.51
40F6028	1604 2**	I	Turret	2.56	1.97	1.84	1.61
40F6029	1724 1 thru 4**	C	Turret	3.44	2.65	2.48	2.17
40F6030	1783 4**	L	Knurled	9.52	7.33	6.85	6.00
40F6031	1784 2 thru 4**	L	Knurled	5.37	4.13	3.87	3.38
40F6032	1785 1 thru 4**	N	Forked	2.89	2.23	2.08	1.82
40F6033	1797 1 thru 4**	I	Turret	3.30	2.54	2.38	2.08
40F6034	1798 2**	C	Turret	4.98	3.83	3.59	3.14

HAND SWAGER

Designed for quick, uniform swaging of solder terminals on terminal boards. Adjustable to a wide range of terminal board thicknesses. Swaging in place as far as 1⅞" from board edge. Less tooling.

40F1500. Type 3802-1. 2½" Throat
NET 49.50

40F1570. Type 3803-1. 5" Throat.
NET 79.50

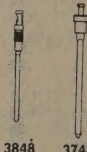
40F1599. Type 6098-1. Adapter for converting to hand set use.
NET 8.00

ANVILS Stk. No.	Type	PUNCHES Stk. No.	Type	Net
40F1575	6401	40F1586	6604	
40F1530	6402	40F1591	6606	
40F1576	6404	40F1587	6611	
40F1577	6512	40F1589	6617	
40F1573	6418	40F1594	6618	8.00
40F1574	6419	40F1532	6619	
40F1582	6420	40F1533	6629	
40F1578	6430	40F1558	6654	
40F1531	6447	40F1534	6657	
.....	....	40F1585	6601	

BOARD THICKNESS CHART

Dash No. Suffix	Board Thickness	Dash No. Suffix	Board Thickness	Dash No. Suffix	Board Thickness
—1	1/32"	—3	3/32"	—5	3/16"
—2	1/16"	—4	1/8"		

Stk. No.	Type	Fig.	Description	Net Per 100 100-900	1000-4000	5000-9000	10M-25M
40F6035	1813 3 thru 4**	O	Solder pot	6.55	5.04	4.72	4.13
40F6036	1814 3 thru 4**	O	Solder pot	6.55	5.04	4.72	4.13
40F6037	1815 3 thru 4**	O	Solder pot	6.55	5.04	4.72	4.13
40F6038	1941 2**	N	Thru hole	2.93	2.26	2.11	1.85
40F6039	1969 1 thru 5**	N	Thru hole	4.30	3.31	3.10	2.71
40F6040	1979 2 thru 4**	P	Half slot	5.03	3.87	3.62	3.17
40F6041	2000 1 thru 4**	G	Feed thru	3.25	2.50	2.34	2.05
40F6042	2004 1 thru 4**	E	Feed thru	3.20	2.46	2.30	2.02
40F6043	2027 1 thru 4**	I	Thru hole	2.89	2.23	2.08	1.82
40F6044	2034 1 thru 4**	C	Turret	3.42	2.63	2.46	2.15
40F6045	2040 1 thru 4**	E	Turret	3.50	2.70	2.52	2.21
40F6046	2041 1 thru 3**	I	Turret	2.15	1.66	1.55	1.35
40F6047	2042 1 thru 2**	F	Turret	2.34	1.80	1.68	1.47
40F6048	2043 1 thru 4**	C	Turret	2.24	1.72	1.61	1.41
40F6049	2044 1 thru 4**	G	Turret	2.46	1.89	1.77	1.55
40F6050	2051 1 thru 2**	M	Hex Base	7.30	5.62	5.26	4.60
40F6051	2080 1 thru 4**	Q	Turret	3.01	2.32	2.17	1.90
40F6052	2081 1 thru 4**	R	Knurled	4.54	3.50	3.27	2.86
40F6053	2084 2 thru 4**	Q	Turret	5.86	4.51	4.22	3.69
40F6054	2085 1 thru 4**	I	Turret	1.83	1.41	1.32	1.15
40F6055	2086 2 thru 3**	S	Thru hole	5.72	4.40	4.12	3.60
40F6056	2089 1 thru 4**	B	Thru hole	3.71	2.86	2.67	2.34
40F6057	2100 1 thru 3**	I	Thru hole	2.89	2.23	2.08	1.82
40F6058	2113 4‡	C	.061 top	5.77	4.44	4.15	3.64
40F6059	2114 3‡	C	Taper	7.39	5.69	5.32	4.66
40F6060	2115 2 thru 3‡	F	Receptacle	9.62	7.41	6.93	6.06
40F6061	2141 2 thru 4**	F	Thru hole	6.06	4.67	4.36	3.82
40F6062	2154 1**	T	Half turret	6.18	4.76	4.45	3.89
40F6063	2186 2 thru 4‡	I	Taper rec.	7.16	5.51	5.16	4.51
40F6064	2187 1 thru 2§	B	Slotted	3.46	2.66	2.49	2.18
40F6065	2345 3**	U	Term. Spcr.	9.72	7.48	7.00	6.12
40F6066	2380 1§	V	Tap. mnt.	12.54	9.66	9.03	7.90
40F6067	2381 1§	W	Tap. mnt.	12.35	9.51	8.89	7.78
40F6068	2750 2 thru 4§	X	PC pin	2.97	2.29	2.14	1.87
40F6069	2751 2 thru 4§	Y	PC pin	2.97	2.29	2.14	1.87
40F6070	2752 2 thru 4§	Z	PC thru hole	4.41	3.40	3.18	2.78
40F6071	2753 2 thru 3§	AA	PC turret	2.97	2.29	2.14	1.87
40F6072	2754 1 thru 4§	BB	PC turret	2.97	2.29	2.14	1.87
40F6073	2755 2 thru 3§	CC	PC thru hole	2.97	2.29	2.14	1.87
40F6074	2926 2§	Z	PC flared	7.41	5.71	5.34	4.67
40F6075	3653 1 thru 3**	C	Turret	2.36	1.82	1.70	1.49



Press Mount — Swage Type

WIRE WRAP TERMINALS

Type 3748-02-04. For board 1/16" thick, .090 Mtg. Dia. .045 sq. wire-wrap pin with turret

Type 3848-01-03. For board .062 to .125 thick, .056 Mtg. Dia. -.025 sq. wire-wrap pin, turret

Type 3854-01-03. For board .062 to .188 thick, .058 Mtg. Dia. -.025.

Type 3866-01-03. For board .062 thick only, .058 Mtg. Dia. -.025.

Stk No.	Type	Description	Net Per 100 Lots 100-900	1000-4900	5000-9900	10M-25M
40F4010	3748-02-04	Turret	8.91	6.86	6.42	5.61
40F4011	3848-01-03	Turret	11.72	9.02	8.44	7.38
40F4012	3854-01-03	Press Mount	12.07	9.29	8.69	7.60
40F4013	3866-01-03	Turret	9.77	7.52	7.03	6.16

Insulated Terminals and Boards CAMBION

STUD-TAPPED AND RIVET-MOUNTING INSULATED TERMINALS

Teflon for Nos. 1502 thru 1511, 1945 and 1947; phenolic for 1581 and 1795; diallyl for 4810 thru 4895; all others are ceramic. * Suffix —05 (cg. 1502-1-05) indicates electro-solder plating on terminal; —01, silver plating; —03, gold plating. † Final suffix indicates standard color: 16, blue for diallyl units; 19, while for Teflon units. MIL-T-55155 dash numbers (0/9) indicate range of colors available. To order non—standard colors, delete stock No. replace 19 or 16 final endings of Cambion No. with: —11 brown; —12 red; —13 orange; —14 yellow; —15 green; —17 violet; —18 gray; ‡ Dash numbers (cg., 1942-1-05 or 1942-2-05) show stud lengths available.

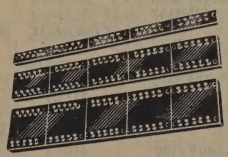
Stk. No.	Type	MIL-T-55155 Nos.	Each—Multiples of 50		
			50	100-450	500-1000
40F5147	1502-1-0519	(FT20XA01)	.57	.44	.40
40F6200	1503-1-0519+	SE09(0/9)E01	.36	.28	.26
40F6201	1504-1-0519†	.....	.36	.28	.26
40F6202	1510-1-0519†	.....	.36	.28	.26
40F6203	1511-1-0519†	.....	.36	.28	.26
40F1821	1581-1-01	.....	.36	.28	.26
40F6204	1581-3-01	.....	.36	.28	.26
40F6205	1581-4-01	.....	.36	.28	.26
40F1831	1795-01-01	.....	.62	.48	.44
40F1773	1942-1-05*	SE21X03/05	.40	.31	.28
40F1774	1942-2-05	SE21X03=05	.40	.31	.28
40F6206	1942-1-01	.....	.40	.31	.28
40F6207	1942-2-01	.....	.40	.31	.28
40F1834	1945-1	.....	.53	.41	.38
40F1835	1945-2	.....	.53	.41	.38
40F1841	1947-1	.....	.57	.44	.40
40F1842	1947-2	.....	.57	.44	.40
40F1737	1980-03-01	.....	.38	.29	.27
40F6208	1980-05-01	.....	.38	.29	.27
40F6209	1983-05-01	.....	.38	.29	.27
40F6210	1992-05-01	.....	.38	.29	.27
40F1805	1990-1-05	FT01XA01	.75	.58	.53
40F6212	1995-01-01	.....	.38	.29	.27
40F1794	1994-01-01	.....	.38	.29	.27
40F6213	1994-02-01	.....	.38	.29	.27
40F6214	2012-05	FT01YA0-2	1.34	1.03	.95
40F6215	2012-1-01	.....	1.34	1.03	.95
40F1755	2045-1-05‡	SE21XE01	.40	.31	.28
40F6216	2045-2-05	SE21XE02	.40	.31	.28
40F6217	2045-1-01	.....	.40	.31	.28
40F6218	2045-2-01	.....	.40	.31	.28
40F6219	2255-1-05‡	SE22XE01	.40	.31	.28
40F6220	2255-2-05‡	SE22XE02	.40	.31	.28
40F6221	2255-3-05‡	SE22XE03	.40	.31	.28
40F1700	2255-1-03	.....	.40	.31	.28
40F1701	2255-2-03	.....	.40	.31	.28
40F1702	2255-3-03	.....	.40	.31	.28
40F6222	2384-2-01	.....	.57	.44	.40
40F1771	2432-1-01	.....	.49	.38	.35
40F1781	3648-1-01	.....	.40	.31	.28
40F1782	3648-2-01	.....	.40	.31	.28
40F1762	3650-1-01	.....	.40	.31	.28
40F1763	3650-2-01	.....	.40	.31	.28
40F6224	4810-1-0516	.....	.29	.22	.21
40F6225	4814-1-0516†	SE20(0/9)D01	.32	.25	.23
40F6226	4815-1-0516	.....	.32	.25	.23
40F6227	4820-1-0516†	SE20(0/9)D02	.37	.28	.26
40F6228	4826-1-0516	.....	.32	.25	.23
40F6229	4827-1-0516	.....	.32	.25	.23
40F6230	4838-1-0516	SE19(0/9)E01	.32	.25	.23
40F6231	4862-1-0516	.....	.36	.28	.26
40F6232	4863-1-0516	.....	.36	.28	.26

TEFLON • PRESS-MOUNT INSULATED TERMINALS

40F6239	4015-1-0519	.....	.19	.17	.14
40F1847	4025-1-0519	.....	.18	.15	.13
40F6240	4025-2-0519	.....	.18	.15	.13
40F6241	4025-3-0519	.....	.18	.15	.13
40F6242	4026-1-0519	.....	.19	.17	.14
40F6243	4026-2-0519	.....	.19	.17	.14
40F6244	4026-3-0519	.....	.19	.17	.14
40F6245	4027-1-0519	.....	.19	.17	.14
40F6246	4027-2-0519	.....	.19	.17	.14
40F6248	4029-1-0519†	SE08(0/9)B0J	.17	.14	.13
40F6249	4033-1-0519	.....	.19	.17	.14
40F6250	4033-2-0519	.....	.19	.17	.14
40F6251	4034-1-0519	.....	.19	.17	.14
40F6252	4034-2-0519	.....	.19	.17	.14
40F6253	4034-3-0519	.....	.19	.17	.14
40F6268	4051-1-0519†	SE07(0/9)B01	.19	.17	.14
40F6269	4078-1-0519	.....	.21	.18	.16
40F5149	4115-1-0519	.....	.26	.22	.20
40F6255	4122-1-0519	.....	.39	.34	.30
40F6256	4132-1-0519	.....	.39	.34	.30
40F6257	4140-1-0519†	SE07(0/9)B02	.17	.14	.13
40F6258	4152-1-0519†	FT05(0/9)B01	.21	.18	.16
40F6259	4167-1-0519†	FT06(0/9)B01	.19	.17	.14
40F6260	4168-1-0519†	FT05(0/9)BO2	.19	.17	.14
40F5150	4176-1-0519†	FT03(0/9)B02	.19	.17	.14
40F1946	4182-1-0519†	.....	.19	.17	.14
40F1947	4182-2-0519	FT04(0/9)B01	.19	.17	.14
40F6261	4182-3-0519	FT03(0/9)B01	.19	.17	.14
40F6262	4185-1-0519†	FT04(0/9)B01	.19	.17	.14
40F5151	4188-1-0519†	FT03(0/9)B01	.17	.14	.13
40F6263	4193-1-0519†	FT05(0/9)B03	.17	.14	.13
40F6264	4194-1-0519†	FT06(0/9)B02	.19	.17	.14
40F5152	4197-1-0519†	FT04(0/9)B02	.19	.17	.14
40F1812	4263-1-0519	.....	.31	.27	.23
40F6265	4267-1-0519	.....	.39	.34	.30
40F6266	4281-1-0519†	FT03(0/9)B03	.19	.17	.14
40F6267	4410-1-0319	.....	.19	.17	.14

TERMINAL BOARDS

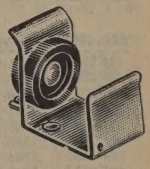
Each section is drilled for 14 terminals, w/10 mntd. except 1/2" and 5/16" widths which are drilled for 7, w/5 mntd. Materials used: cotton-fabric phenolic, Mil. Type FBE, Mil. Spec. MIL-P-15035B; epoxy glass-cloth, GEE, MIL-P-18177B; nylon-fabric phenolic, NPG, MIL-P-15047B.



Stk. No.	Type	Mat'l	Thick x Wid'th	Each		
				1-9	10-99	100-499
40F5135	1330-25-01-02	GEE	1 1/16 x 1/8"	5.00	3.60	3.15
40F2000	1401-35-01-01	FBE	3/32 x 1/2"	1.95	1.40	1.23
40F5136	1401-35-01-02	GEE	3/32 x 1/2"	3.00	2.16	1.89
40F2006	1402-35-01-01	FBE	3/32 x 2"	4.25	3.05	2.68
40F5137	1402-35-01-02	GEE	3/32 x 2"	6.95	5.00	4.40
40F5138	1402-35-01-03	NPG	3/32 x 2"	5.10	3.65	3.20
40F2007	1402-45-01-01	FBE	1/8 x 2"	4.25	3.05	2.68
40F5139	1402-45-01-02	GEE	1/8 x 2"	8.75	6.30	5.50
40F2011	1402-45-01-03	NPG	1/8 x 2"	5.10	3.65	3.20
40F2012	1403-35-01-01	FBE	3/32 x 2 1/2"	4.50	3.25	2.84
40F2013	1403-45-01-01	FBE	3/32 x 2 1/2"	4.50	3.25	2.84
40F2018	1404-35-01-01	FBE	3/32 x 3"	4.65	3.35	2.93
40F2019	1404-45-01-01	FBE	1/8 x 3"	4.65	3.35	2.93
40F5140	1405-25-01-01	FBE	3/32 x 1 1/16"	3.90	2.81	2.46
40F2024	1405-35-01-01	FBE	3/32 x 1 1/16"	3.90	2.81	2.46
40F5141	1405-35-01-02	GEE	1/8 x 1 1/16"	7.35	5.30	4.65
40F2028	1406-35-01-01	FBE	3/32 x 1 1/2"	4.10	2.95	2.58
40F2029	1406-45-01-01	FBE	1/8 x 1 1/2"	4.10	2.95	2.58

BATTERY HOLDERS

For mercury ("C" size) and zinc nickel plated ("D" size) batteries; snap-in holders with locking strap to hold mercury batteries under extreme vibration and shock. Body material Phosphor Bronze.
*For "D" size only with steel body.



Stk. No.	Type	Battery Sale	Each Multiples of 10	
			10-90	100-500
40F2128	2233-01-02	Mercury .620 Dx .650 L	.44	.38
40F2129	2234-01-02	Mercury .655 Dx 1.305 L	.56	.48
40F2130	2475-01-02	Mercury .655 Dx 1.960 L	.95	.81
40F2131	2477-01-02	Mercury .655 Dx 2.605 L	1.11	.95
40F2133	2870-01-02	Mercury 1.190 Dx 2.375 L	1.50	1.28
40F2135	2890-01-02	Zinc Carb 1.344 Dx 2.406	1.50	1.28
40F2136	2895-01-02*	Zinc Carb 1.244 Dx 2.406 L	1.04	.89

SPRING LOADED COMPONENT CLIPS

Stk. No.	Type No.	Mntng Style	Slot Dia.	Each—Multiples of 10		
				10-90	100-490	500-990
40F2268	2146-01-02	2/56 stud	.040	.38	.34	.32
40F2270	2247-02-08	swage type	.040	.38	.34	.32
40F2274	2329-01-02	2/56 stud	.055	.46	.41	.38
40F4022	2330-02-08	swage type	.055	.46	.41	.38
40F4023	2339-01-02	3/48 stud	.085	.61	.54	.51
40F4024	3084-02-08	swage type	.040	.40	.36	.33
40F4025	3085-02-08	swage type	.055	.47	.42	.40

Cambion Cat. 40F000. . .Free

CAMBION Coils, Coil Forms & Components

VARIABLE COILS

CAMBION coils are available on ceramic or molded polypropylene forms, or in unitized shielded housings offering both electromagnetic and electrostatic shielding. Tunable ranges provide overlapping inductances. Listing covers more popular ratings—if inductance range you want is not listed, order by Part No. and specify range desired.

Stk. No.	Type	Ind. Range Min-uh-Max	1-9	10-99	100-499
40F1600	1195-1	IF Tfr-455KC	4.65	3.50	3.10
40F1601	1195-3	IF Tfr-455KC			
40F1602	1195-5	IF Tfr-455KC			
40F4978	1505-1	.55-1.0	4.15	3.10	2.78
40F1603	1505-2	.90-1.75			
40F1604	1505-3	66.0-160			
40F4982	1505-5	7.8-16.0	4.50	3.40	3.00
49F4983	1505-6	14.5-33.0	4.50	3.40	3.00
40F4984	1505-7	30.0-73.0	4.05	3.05	2.71
40F1605	1505-8	66.0-160.0			
40F4995	1507-3	.27-.55			
40F4997	1507-5	.9-2.0			
40F5052	2047-03	5-10	1.91	1.43	1.28
40F5055	2060-1	0-23.7	1.88	1.41	1.26
40F5058	2060-4	10-18	2.05	1.54	1.37
40F5061	2060-7	61-122	2.49	1.87	1.67
40F5062	2060-8	120-243	2.73	2.05	1.83
40F5064	2060-10	440-800	2.91	2.18	1.95
40F1607	3338-5	.27-.40			
40F1608	3338-6	.40-.60			
40F1609	3338-7	.60-.87			
40F5125	3642-1	.090-.110	2.85	2.14	1.91
40F1610	3338-10	1.80-3.0	2.91	2.18	1.95
40F1611	3370-5	.27-.40	2.73	2.05	1.83
40F1612	3370-10	1.80-3.0	2.73	2.05	1.83
40F1613	3370-17	26.0-36.0	3.30	2.48	2.21
40F1614	3370-19	51.0-72.0	3.30	2.48	2.21
40F1615	3370-1	1.27-1.73	3.55	2.66	2.38
40F1616	3387-3	1.87-2.53			
40F1617	3387-7	4.0-5.8			
40F1618	3387-11	8.5-11.5			
40F1619	3387-12	10.2-13.8			
40F5125	3642-1	.090-.110	2.85	2.14	1.91
40F1620	3642-7	.280-.380	2.83	2.12	1.90
40F1621	3642-9	.40-.54			
40F1622	3642-11	.575 .780			
40F1623	7105-11	.612-.748	2.95	2.21	1.98
40F1624	7105-33	20.9-23.1	3.25	2.44	2.18
40F1625	7105-37	31.4-34.5	3.65	2.74	2.45
40F1626	7107-7	.297-.363	2.14	1.61	1.43
40F1627	7107-9	.423-.517			
40F1628	7107-11	.612-.748			
40F1629	7107-19	2.97-3.63			
40F1630	7107-23	6.12-7.48			
40F1631	7107-25	9.0-11.0			
40F1632	7107-29	19.8-24.2	2.46	1.85	1.65
40F1633	7107-43	297.0-363.0	2.46	1.85	1.65

MOUNTING STAND OFFS (*BRASS CAD. PLATED)

1246

1300

1246 series—round; 6/32 tapped
1247 series—round; through hole
1299 series—hex; threaded stud
1300 series—round; 4/40 tapped
2188 series—round; 2/56 tapped

Stk. No.	Type	Above Board Hgth.	For Board Thickness	Each Lots of 50			
				50	100-450	500-950	1M-2500
40F2569	1246-9-07	.125"	1/16"	.22	.18	.14	.13
40F2570	1246-10-07	.188"	1/16"				
40F2571	2246-11-07	.250"	1/16"				
40F1634	1246-12-07	.375"	1/16"				
40F2573	1246-13-07	.500"	1/16"				
40F2575	1246-15-07	.750"	1/16"				
40F1635	1246-16-07	1.00"	1/16"				
40F2577	1246-17-07	.175"	3/32"				
40F2579	1246-19-07	.250"	3/32"				
40F2580	1247-10-07	....	....				
40F2600	1247-9-07	.125"	1/16"				
40F2601	1247-10-07	.188"	1/16"				
40F2602	1247-11-07	.250"	1/16"				
40F1636	1247-12-07	.375"	1/16"				
40F1637	1247-13-07	.500"	1/16"				
40F1638	1247-25-07	.125"	1/8"				
40F2471	1299-1-07	.375"	...	.22	.18	.14	.13
40F2472	1299-2-07	.500"	...				
40F1639	1300-1-07	.125"	3/32"				
40F2484	1300-9-07	.125"	1/16"				
40F2485	1300-10-07	.188"	1/16"				
40F2486	1300-11-07	.250"	1/16"				
40F2487	1300-12-07	.375"	1/16"				
40F2488	1300-13-07	.500"	1/16"				
40F1640	1300-16-07	1.00"	1/16"				
40F1641	1300-19-07	2.50"	3/32"				
40F1642	1300-21-07	.500"	3/32"				
40F2619	2188-9-07	.125"	1/16"				
40F2620	2188-10-07	.188"	1/16"				
40F2621	2188-11-07	.250"	1/16"				
40F2622	2188-12-07	.375"	1/16"				
40F2623	2188-13-07	.500"	1/16"				

*Aluminum versions also available (Special Orders).

COIL FORM ORDERING INSTRUCTION CHART

Example. 1150-4-1 for 1150 form with 50-200 slug and terminal board with 2 terminals 1532-2-1 for 1532 with 1-20 slug and 2 ring terminals etc.

SUFFIX NO. 1			SUFFIX NO. 2	
Dash	Clr.	Freq. Range	Terminal-Collar Locations	Term. Bd. (Shield Form)
-1	Yel.	.2-1.5 MC	2 Ring Terminals	2 Board
-2	Red	1-20 MC	2 Collars-2Term. Ea.	3 Board
-3	Gr.	20-50 MC	2 Collars-1 Term. Ea.	4 Board
-4	Wh.	50-200 MC	1 Top Collar-2 Term.	5 Board
-5	Br.	100 MC and up	1 Bot. Collar-2 Term.	6 Board
-6	Pur.	2-50 MC		
-7	Bl.	40-300 MC		

SHIELDED ASSEMBLY

Shielded Coil forms provide both electrostatic and elector magnetic shielding and consequently may be placed adjacent to one another with no couplings needed. These rugged compact units, precision engineered from brass and aluminum. Dielectric withstanding voltage: 100 VRMS. Powdered iron components are moisture proof.

Stk. No.	Type	1-99	100-499	500-999
40F3521	1150-2-3	1.70	1.46	1.36
40F3523	1150-3-3			
40F3536	1160-4-1	1.51	1.30	1.21
40F3537	1160-2-1			

CERAMIC COIL FORM

Stk. No.	Type	Each Lots of 10			
		10-90	100-490	500-990	2500
40F1645	1631-2-1	.73	.63	.55	.50
40F1646	1531-3-1				
40F1647	1531-2-2	.92	.79	.69	.63
40F3103	1532-1-1	.69	.59	.52	.47
40F3102	1532-2-1				
40F1648	1532-3-1				
40F3101	1532-4-1				
40F1649	1532-5-1				
40F1650	1532-7-1				
40F1651	1532-2-2	.88	.76	.66	.60
40F1652	1532-3-2				
40F1653	1532-4-2				
40F1654	1532-5-2				
40F3208	1532-2-3				
40F3144	1534-2-1	.84	.72	.63	.57
40F3143	1534-4-1	.84	.72	.63	.57
40F3126	1536-2-1	.73	.63	.55	.50
40F3128	1536-3-1				
40F3125	1536-4-1				
40F1655	1536-5-1				
40F3298	1536-2-2	.92	.79	.69	.63
40F3300	1536-3-2				
40F3297	1536-4-2				
40F1656	1536-2-3				

PHENOLIC VERT. P.C. MOUNT

49F3620	2173-2-3	.37	.32	.28	.25
40F3623	2173-3-3				

CERAMIC VERT. P.C. MOUNT

40F3591	2175-1-1	.41	.35	.31	.28
40F3587	2175-3-3	.43	.37	.32	.29
40F3593	2175-4-3	.43	.37	.32	.29
40F1657	2175-6-4	.43	.37	.32	.29

CERAMIC HORIZ. P.C. MOUNT

40F1658	2270-2	.82	.71	.62	.56
40F3574	2270-3				
40F3575	2270-4				
40F3578	2271-2	.94	.81	.71	.64
40F1659	2271-4	.94	.81	.71	.64

MOLDED DIALLYL HORIZ. P.C. MOUNT

40F3180	3104-1	1.15	.99	.86	.78
40F3181	3104-2				
40F3182	3104-3				
40F3183	3104-4				
40F1660	3104-6				
40F1661	3104-7				

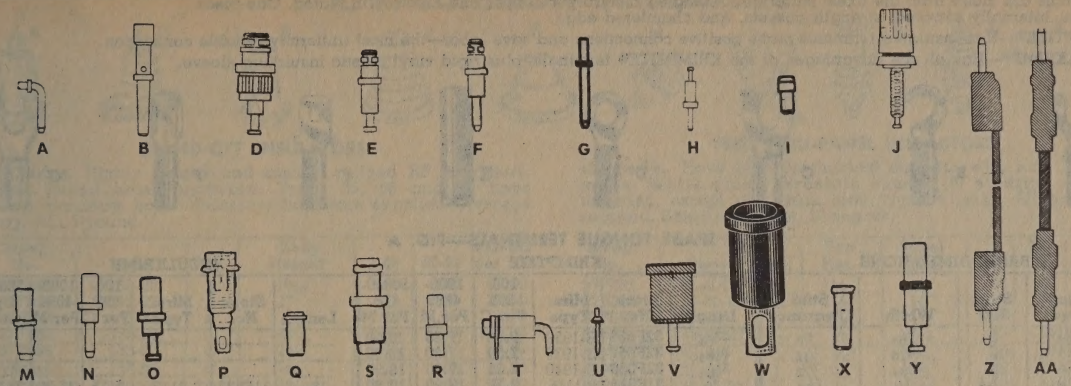
MOLDED POLYPROPYLENE VERT. P.C. MOUNT

40F1662	3623-1	1.15	.99	.86	.78
40F1663	3623-2				
40F3186	3623-3				
40F3187	3623-4				
40F1664	3623-6				
40F1665	3623-7				
40F3188	3624-1	1.17	1.00	.88	.79
40F3189	3624-2				
40F3190	3624-3				
40F3191	3624-4				
40F1660	3624-6				
40F1667	3624-7				

TUNING TOOLS—COILS AND COIL-FORMS

Stk. No.	Type	Tip Material	1-9	10-99
40F3893	1971-1	Brass	1.27	.85
40F3894	2033-1	Brass	1.27	.85
40F3895	2230-1	Nylon	1.65	1.10
40F3896	2375-1	Brass	1.27	.85

Connectors and Handles CAMBION



Wide variety of plugs and jacks make possible tight space-saving connections; offers reliable "pluggability" for individual components. Positive grip, with low contact resistance after many repeated insertions. Plugs (pins) and jacks are available for boards with different thicknesses. Suffix in type number indicates the size available. Order from Board Thickness Chart below adding the proper suffix to Type number for thickness desired.

Example: Type 1521-1 thru 3 is available for boards 1/32" thick (1521-1), 1/16" thick (1521-2) and 3/8" thick (1521-3).

Gold plated except: (†) Electro-solder and (**) Bright Alloy plating. Available with (††) black or red insulation, (†) black, red or blue wire insulation (#) black, red or white insulation.

BOARD THICKNESS CHART

DashNo. Suffix.	Board Thickness	DashNo. Suffix	Board Thickness	DashNo. Suffix.	Board Thickness
-1	1/32"	-3	3/32"	-5	3/16"
-2	1/16"	-4	1/8"	-6	1/4"

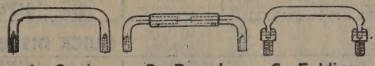
Stk. No.	Type	Fig.	Descrip.	*Per Pkg. of 10	*Per 100 Lot 100-400	500-900	1000-2500
40F6090	1521-1 thru 3	A	Pin-plug	2.09	7.68	7.19	6.29
40F6091	1781-1	B	Taper-pin	1.05	7.32	6.85	5.99
40F6093	2265-1 thru 4	D	Jack	4.20	32.00	29.00	26.00
40F6094	2378-1 thru 5	E	Jack	4.20	32.00	29.00	26.00
40F6095	2378-1 thru 5**	E	Jack	3.50	26.00	24.00	21.00
40F6096	2650-1 thru 5	F	Plug-jack	4.80	36.00	33.00	30.00
40F6097	2970-1 thru 3	G	Pin	.54	4.11	3.84	3.36
40F6098	2971-1 thru 3	G	Pin	.46	3.47	3.24	2.84
40F6099	3202-1 thru 3	H	Pin	.46	3.41	3.19	2.79
40F6100	3220-1 thru 4†	G	Pin	.33	2.51	2.35	2.05
40F6101	3231-1 thru 3	I	Jack	.66	4.97	4.65	4.07
40F6102	3230-1	G	Pin	3.50	26.00	24.00	21.00
40F6103	3232-1 thru 3	G	Pin	.63	4.77	4.46	3.91
40F6104	3233-1 thru 3	G	Pin	.53	4.01	3.75	3.28
40F6105	3284-1††	J	Insul Post w/Jack	11.90	91.00	84.00	74.00
40F6106	3285-1††	J	Insul Post w/Jack	15.00	115.00	106.00	94.00
40F6107	3300-1 thru 3‡	Z	Patch Cord	8.10	68.00	60.00	54.00

*(Sold only in Pkg. Qty. Indicated)

Stk. No.	Type	Fig.	Descrip.	*Per Pkg. of 10	*Per 100 Lot 100-400	500-900	1000-2500
40F6108	3300-4 thru 5††	Z	Patch Cord	8.60	73.00	64.00	58.00
40F6109	3301-1‡	Z	Patch Cord	3.80	28.00	26.00	23.00
40F6110	3306-2 thru 3‡	AA	Patch Cord	5.10	43.00	38.00	34.00
40F6111	3308-1-03	B	Pin	1.13	8.09	7.08	6.29
40F6112	3309-1 thru 4	M	Jack-Jack	4.20	3.20	2.90	2.60
40F6113	3310-1 thru 5	N	Plug-Jack	4.00	3.00	2.80	2.50
40F6114	3320-1 thru 5	O	Jack	4.00	3.00	2.80	2.50
40F6115	3358-1††	P	Nylon-Insul Jack	5.20	3.90	3.60	3.20
40F6116	3359-1-0319	P	Teflon Insul Jack	5.20	3.90	3.60	3.20
40F6117	3381-1††	P	Nylon Insul Jack	5.20	3.90	3.60	3.20
40F6118	3382-1-0317	P	Teflon Insul Jack	5.20	3.90	3.60	3.20
40F6119	3388-1-03	Q	Jack	3.50	26.00	24.00	21.00
40F6300	3389-2 thru 4‡	Z	Patch Cord	8.10	68.00	60.00	54.00
40F6120	3392-1 thru 4	R	Jack	4.50	34.00	31.00	28.00
40F6121	3393-1 thru 4	G	Pin	.40	3.03	2.84	2.48
40F6122	3394-1 thru 4	S	Jack	3.50	26.00	24.00	21.00
40F6123	3375-3 thru 5			4.00	30.00	28.00	25.00
40F6124	3422-1-03	Q	Jack	.42	32.00	29.00	26.00
40F6125	3703-1-03	O	Side Mount	1.80	13.00	12.00	10.50
40F6303	3704-1-03	Q	Jack	1.80	13.00	12.00	10.50
40F6306	3705-1 thru 3‡	Z	Molded Pat Cord	8.90	76.00	66.00	60.00
40F6307	3705-4 thru 5‡	Z	Molded Pat Cord	8.90	76.00	66.00	60.00
40F6301	3745-1-03	BB	Jack	3.00	22.00	21.00	18.00
40F6302	3844-1-03	BB	Jack	3.00	22.00	21.00	18.00
40F6308	3889-1-03	U	Pin	.51	3.86	3.61	3.16
40F6309	4351-1#	V	Teflon Insul jack	6.20	47.00	43.00	38.00
40F6130	4352-1#	V	Teflon Insul jack	3.50	26.00	24.00	21.00
40F6131	4353-1#	V	Teflon Insul jack	3.50	26.00	24.00	21.00
40F6132	4354-1#	W	Teflon Insul jack	4.50	34.00	31.00	28.00
40F6133	4355-1#	W	Teflon Insul jack	2.50	18.00	17.00	15.00
40F6134	7004-1-03	X	Jack	3.50	26.00	24.00	21.00
40F6135	7005-1 thru 5	Y	Jack	4.00	30.00	28.00	25.00

HANDLES

Brass, nickel finish except; * alum. w/black anodize; † alum. semifrost; ** Fig. B mounting center is adjustable from 4.5" to 6.58". #stainless steel.



Stk. No.	Type	Mfg. Cntr.	Ht.	Fig.	1-9	10-99	100-499
40F2204	1075-01-02	4.56	1"	B	2.15	1.58	1.38
40F2311	1220-01-02	1.25	1"	B	2.07	1.50	1.34
40F2312	1220-02-02	2.0	1"	B	2.10	1.58	1.38
40F2313	1220-03-02	3.0	1"	B	2.25	1.65	1.44
40F2529	1250-01-02	2.0	1.312	B	1.91	1.32	1.16
40F2206	1250-02-02	3.0	1.312	B	1.98	1.43	1.25
40F6304	1258-01-02	0.875	0.520	A	.67	.59	.47
40F2314	1264-01-02	3.0	1.312	B	1.98	1.43	1.25
40F2201	1270-01-14	4.0	1.875	B*	2.25	1.65	1.44
40F2181	1280-03-02	4.0	1.50	B	2.25	1.65	1.44
40F2187	1290-02-14	3.0	1.50	B*	1.51	1.06	.93
40F2188	1290-02-18	3.0	1.5	B†	1.51	1.06	.93
40F2315	1290-03-14	4.0	1.5	B*	1.72	1.23	1.08
40F2527	1900- 1-02	4.0	1.85	B	5.05	3.85	3.35
40F2202	1965-01-02	6.43	1.75	B	5.55	1.65	1.44
40F2220	2062-01-02	4.0	1.85	C	4.85	3.70	3.25

Stk. No.	Type	Mtg. Cntr.	Ht.	Fig.	1-9	10-99	100-499
40F2222	2066-1-02	**	1.6	B	5.55	14.25	3.70
40F2208	2111-1-02	3.0	1.281	A	2.88	2.20	1.93
40F2211	2111-2-02	4.56	1.50	A	3.30	2.52	2.21
40F2316	2111-3-02	6.43	1.75	A	3.70	2.66	2.33
40F2217	2111-4-02	9.2	1.75	A	4.05	3.10	2.71
40F2213	2385-2-14	3.56	1.50	A*	2.46	1.79	1.57
40F2216	2385-3-14	6.43	1.75	A*	2.70	1.99	1.74
40F5142	2720-1-22	4.00	1.459	C#	7.35	5.35	4.70

Stk. No.	Type	Stk. No.	Type	Handle Series	Lots of 10 10-90	100-490	500-1000
40F2302	1212-01-14	40F2303	1212-10-18	1290#	.29	.26	.25
40F2304	1952-01-02	40F2305	1952-01-12	1220*	.16	.14	.13
.....	.....	40F2309	1954-01-12	†*	.16	.14	.13
40F2224	1988-01-02	.....	.....	†*	.21	.19	.18
.....	.....	40F2310	1989-01-18	1270, 71#	.29	.26	.25

waldom Solderless Terminals and Connectors

Terminals are made from the finest materials. Annealed Electrolytic copper and Electro-Tin plated. One-piece design, internally serrated, strength gussets, and chamfered edge.

KRIMPTITE®—Non-Insulated terminals make positive connections and save labor—the most uniformly reliable connection.

INSULKRIMP®—Has all the advantages of the KRIMPTITE® terminals, plus rigid vinyl plastic insulating sleeve.

SPADE TONGUE TERMINALS—FIG. A

BASIC DIMENSIONS				KRIMPTITE						INSULKRIMP					
Wire Range	Stud Size	Width	Stud Clearance	Length	Stock No.	Mfrs. Type	100-999 Per C	1000-4999 Per M	50000-Up Per M	Length	Stock No.	Mfrs. Type	100-999 Per C	1000-4999 Per M	5000-Up Per M
26-24	0	9/64	1/8	23/64	32F056	S-1938	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	2	3/16	7/32	31/64	32F057	S-1939	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	4	13/64	7/32	31/64	32F058	S-1940	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
22-18	3-4	1/4	7/32	5/8	31F518	S-1116	2.50	17.80	13.90	13/16	31F532	T-2116	5.15	38.00	29.75
22-18	5-6	19/64	7/32	5/8	31F519	S-1014	2.50	17.80	13.90	13/16	31F533	T-2014	5.15	38.00	29.75
22-18	8	19/64	7/32	5/8	31F520	S-1030	2.50	17.80	13.90	13/16	31F534	T-2030	5.15	38.00	29.75
22-18	10	5/16	5/16	3/4	31F521	S-1032	2.50	17.80	13.90	13/16	31F535	T-2032	5.15	38.00	29.75
16-14	5-6	19/64	7/32	5/8	31F522	S-1015	2.65	18.75	14.70	13/16	31F536	T-2015	5.15	38.00	29.75
16-14	8	19/64	7/32	5/8	31F523	S-1033	2.65	18.75	14.70	13/16	31F537	T-2033	5.15	38.00	29.75
16-14	10	23/64	9/32	3/4	31F524	S-1016	2.65	18.75	14.70	15/16	31F538	T-2016	5.15	38.00	29.75
12-10	10	3/8	5/16	25/32	31F525	S-1017	3.65	26.05	30.40	1 3/32	31F539	T-2017	6.70	49.20	38.45

HOOK TONGUE TERMINALS—FIG. B

22-18	5-6	5/16	5/16	23/32	30F626	S-1018*	2.50	17.80	13.90	29/32	30F627	T-2018	5.15	38.00	29.75

FLANGED SPADE TERMINALS—FIG. C

26-24	2	3/16	7/32	31/64	32F059	S-1941	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
22-18	5-6	19/64	7/32	5/8	31F526	S-1080	2.50	17.80	13.90	13/16	31F540	T-2080	5.15	38.00	29.75
22-18	8	19/64	7/32	5/8	31F527	S-1081	2.50	17.80	13.90	13/16	31F541	T-2081	5.15	38.00	29.75
22-18	10	3/8	1/4	23/32	31F528	S-1582	2.50	17.80	13.90	29/32	31F542	T-2582	5.15	38.00	29.75
16-14	5-6	19/64	7/32	5/8	31F529	S-1083	2.65	18.75	14.70	13/16	31F543	T-2083	5.15	38.00	29.75
16-14	8	19/64	7/32	5/8	31F530	S-1084	2.65	18.75	14.70	13/16	31F544	T-2084	5.15	38.00	29.75
16-14	10	3/8	1/4	23/32	31F531	S-1585	2.65	18.75	14.70	29/32	31F545	T-2585	5.15	38.00	29.75

RING TONGUE TERMINALS—FIG. D

22-18	1-2	7/32	5/32	33/64	31F546	S-1099	2.50	17.80	13.90	45/64	31F569	T-2099	5.15	38.00	29.75
22-18	3-4	7/32	5/32	33/64	31F547	S-1047	2.50	17.80	13.90	45/64	31F570	T-2047	5.15	38.00	29.75
22-18	5-6	9/32	1/4	41/64	31F548	S-1002	2.50	17.80	13.90	53/64	31F571	T-2002	5.15	38.00	29.75
22-18	8	5/16	5/16	23/32	31F549	S-1021	2.50	17.80	13.90	29/32	31F572	T-2021	5.15	38.00	29.75
22-18	10	5/16	5/16	23/32	31F550	S-1003	2.50	17.80	13.90	29/32	31F573	T-2003	5.15	38.00	29.75
22-18	1/4	15/32	.400	57/64	31F551	S-1004	3.45	24.60	19.25	15/64	31F574	T-2004	6.70	49.20	38.45
16-14	5-6	1/4	7/32	19/32	31F555	S-1006	2.65	18.75	14.70	25/32	31F578	T-2006	5.15	38.00	29.75
16-14	8	5/16	9/32	45/64	31F556	S-1024	2.65	18.75	14.70	57/64	31F579	T-2024	5.15	38.00	29.75
16-14	10	5/16	9/32	45/64	31F557	S-1008	2.65	18.75	14.70	57/64	31F580	T-2008	5.15	38.00	29.75
16-14	1/4	15/32	.400	57/64	31F558	S-1009	3.45	24.60	19.25	15/64	31F581	T-2009	6.70	49.20	38.45
12-10	10	3/8	5/16	3/4	31F562	S-1011	3.65	26.05	20.40	1 1/16	31F585	T-2011	6.70	49.20	38.45
12-10	1/4	17/32	13/32	59/64	31F563	S-1100	4.85	34.45	26.85	1 15/64	31F586	T-2100	7.10	52.15	40.70
12-10	5/16	17/32	13/32	59/64	31F564	S-1101	4.85	34.45	26.85	1 15/64	31F587	T-2101	7.10	52.15	40.70
12-10	3/8	19/32	31/64	1 1/32	31F565	S-1013	5.30	37.90	29.60	1 11/32	31F588	T-2013	7.85	57.95	45.25
26-24	0	9/64	1/8	23/64	32F060	S-1925	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	0	9/64	1/8	23/64	32F061	S-1926	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	2	13/64	7/32	31/64	32F062	S-1927	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	2	9/64	7/32	29/64	32F063	S-1928	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	4	13/64	7/32	31/64	32F064	S-1929	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	6	13/64	7/32	31/64	32F065	S-1930	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	6	1/4	19/64	37/64	32F066	S-1931	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	8	1/4	19/64	37/64	32F067	S-1932	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....
26-24	10	1/4	19/64	37/64	32F068	S-1933	2.50	17.80	13.90	.....	.....	.....	.....	.....	.....

BUTT CONNECTORS—FIG. E

22-18	.....	.....	.....	9/16	31F566	S-1019	2.40	17.10	13.35	15/16	31F589	T-2019+	6.10	44.90	35.15
16-14	.....	.....	.....	9/16	31F567	S-1020	2.40	17.10	13.35	15/16	31F590	T-2020	6.10	44.90	35.15
12-10	.....	.....	.....	9/16	31F568	S-1046	3.20	22.70	17.70	1 1/16	31F591	T-2046	8.30	61.35	44.90

QUICK DISCONNECT PUSH-ON TYPE—FIG. F

18-14	.....	.....	1/4 Male	21/32	31F592	S-1089	2.90	20.65	16.10	27/32	31F594	T-2089+	5.55	40.85	31.90
18-14	.....	.....	1/4 Female	41/64	31F593	SS-1090	2.90	20.65	16.10	27/32	31F595	ST-2090+	5.30	39.05	30.55
18-14	.....	.....	3/16 Female	17/32	30F070	SS-1187	2.90	20.65	16.10	47/64	30F072	ST-2187	5.30	39.05	30.55
18-14	.....	.....	1/8 Female	29/64	30F071	SS-1186	2.90	20.65	16.10	21/32	30F073	ST-2186	5.30	39.05	30.55

Barrier Block Solderless Terminals

To eliminate circuit failure in barrier blocks, WALDOM has produced exactly the right shape and width terminal to fit the above barrier blocks. They cannot turn sideways, loosen, arc, or fail. Give neat, line appearance.

KRIMPTITE®—NON-INSULATED TERMINALS

For Jones Series	Wire Range	Stud Size	Fig. A Spade Stk. No.	Fig. G Ing.Spade Stk. No.	Fig. B Rect. Stk. No.	Pkg. of 100	Pkg. of 1000
140	22-18	5	31F519	31F526	28F2022	2.50	17.80
	16-14		31F522	31F529	28F2023	2.65	18.75
141	22-18	6	28F2014	28F2018	28F2024	2.50	17.80
	16-14		28F2015	28F2019	28F2025	2.65	18.75
142	22-18	8	28F2016	28F2020	28F2026	2.50	17.80
	16-14		28F2017	28F2021	28F2027	2.65	18.75

INSULKRIMP—VINYL INSULATED TERMINALS

For Jones Series	Wire Range	Stud Size	Fig. A Spade Stk. No.	Fig. G Ing.Spade Stk. No.	Fig. B Rect. Stk. No.	Pkg. of 100	Pkg. of 1000
140	22-18	5	31F533	31F540	28F2008		
	16-14		31F536	31F543	28F2009		
141	22-18	6	28F2000	28F2004	28F2010	4.47	33.05
	16-14		28F2001	28F2005	28F2011		
142	22-18	8	28F2002	28F2006	28F2012		
	16-14		28F2003	28F2007	28F2013		

E. F. JOHNSON INSULATORS

STAND-OFF INSULATORS

135 Series. Highly glazed and smooth molded RF insulators. Nickel plated brass hardware. Types 65, 66 and 67 have drawn aluminum base. Necessary hardware supplied. Average shpg. wt., 1 pound.

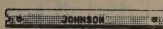
Stock No.	Type	Fig.	Body Height	1-49	50-99	100-499 per 100
37F050	135-20	A	1 9/16"	.50	.44	38.00
37F052	135-22	A	1"	.30	.26	22.50
37F054	135-24	A	5/8"	.22	.19	16.60
37F055	135-60	C	4 1/2"	1.60	1.40	124.00
37F056	135-62	C	2 3/4"	.90	.79	69.00
37F057	135-65	C	1 3/8"	.55	.48	42.40
37F059	135-66	D	2 3/4"	1.00	.88	77.00
37F061	135-67	D	4 1/2"	1.55	1.36	119.00

LEAD-IN BUSHINGS

Ideal for use as power supply and high voltage leads. Have many applications in transmitter and antenna installations. All are steatite except * white glaze porcelain 50, 51, 55 have nickeled brass rod and nuts. Average shipping weight, 8 ounces.

Stock No.	Type	Fig.	Top Hgt.	Panel Hole	1-49	50-99	100-499 per 100
37F071	135-50	H	1/2"	1/2"	.50	.44	39.00
37F072	135-51	H	13/16"	7/8"	.80	.70	61.50
37F073	135-52	H	1 1/8"	1 1/4"	1.15	1.01	88.20
37F074	135-53*	F	1 3/4"	1 7/8"	.50	.44	39.00
37F075	135-54*	E	4"	2 3/4"	1.75	1.53	135.00
37F076	135-55	G	1/4"	1/2"	.37	.32	27.00

FEEDER SPREADERS



Unglazed porcelain bars, 3/8x1/2", treated with Silicone to resist moisture. With No. 14 ga. wire, 2" size will provide a characteristic line impedance of approximately 500 ohms, 4" approx. 575 ohms, and 6" approx. 625 ohms. With No. 12 ga. wire, 2" approx. 475 ohms, 4" approx. 550 ohms, and 6" approx. 600 ohms. Shipping weight, 3 ounces.

Stock No.	Type	Length	1-49	50-99	100-499 Per 100
37F077	136-122	2"	.20	.17	15.00
37F078	136-124	4"	.35	.31	26.70
37F079	136-126	6"	.55	.47	41.00

FEED THRU-PANEL INSULATORS

135 Series. Have high mechanical strength with long leakage paths. White glaze porcelain except (†) steatite. All are threaded, except (*) which have type 74 jacks. All hardware supplied. Shipping weight, 12 ounces.

Stock No.	Type	Fig.	Top Hgt.	Panel Hole	1-49	50-99	100-499 per 100
37F081	135-40†	L	1 1/4"	1/2"	.55	.47	40.00
37F082	135-40-2†*	L	1 1/4"	1/2"	.80	.72	62.80
37F083	135-42†	L	7/8"	7/16"	.60	.53	46.00
37F084	135-42-2†*	L	7/8"	7/16"	.75	.65	57.00
37F085	135-44†	L	5/8"	5/16"	.40	.34	32.00
37F086	135-45	J	1 3/8"	1/2"	.85	.75	65.50
37F087	135-45-2*	K	1 3/8"	1/2"	.90	.81	71.00
37F088	135-46	J	2 3/4"	3/4"	1.80	1.60	140.00
37F090	135-47	J	4 1/2"	1"	2.90	2.54	223.00

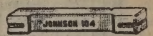
STEATITE CONE INSULATORS

135 Series. Recommended for use at high frequencies. Low moisture absorption. Threads tapped directly into steatite. Complete with screws, brass washers and cushion washer. Average shpg. wt., 5 oz.

Stock No.	Type	Size	Thread	1-49	50-99	100-499 Per 100
37F063	135-500	5/8"	6-32	.26	.23	21.00
37F064	135-501	1"	8-32	.35	.30	27.00
37F065	135-502	1 1/2"	8-32	.65	.57	49.90
37F066	135-503	2"	10-32	1.00	.88	77.00
37F067	135-504	3"	10-32	1.95	1.71	150.00

ANTENNA INSULATORS

All are wet-process porcelain, with white glazing and 800 lbs. breaking strength except * dry process, 400 lbs. breaking.



Stock No.	Type	Size	Wt.	1-49	50-99	100-499 Per 100
37F068	136-104*	4x5 3/8" sq.	4 oz.	.35	.31	27.80
37F069	136-107	7x1" dia.	10 oz.	1.75	1.55	135.00
37F070	136-112	12x1" dia.	1 1/4 lbs.	2.10	1.84	161.00

WALDOM PLATES

DIRECT-DRIVE DIALS

For transmitting and test equip. 2 3/4" and 4" types have knob skirts. 1 1/8" have small knurled knob only instead of fluted type. 2 3/4" and 4" have micrometer for 1/10 of one division logging. Fit 1/4" control shafts and 0-100 scale except 302A has 0-360 scale. 12 oz.

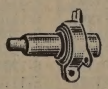
Stk. No.	Type	Dia.	Rot.	NET
25F639	27084	1 1/8"	180°	1.75
25F640	27085	1 1/8"	270°	
25F641	27086	1 1/8"	325°	
25F642	27087	1 1/8"	360°	
25F630	27068	1 3/4"	180°	1.90
25F631	27069	1 3/4"	270°	
25F643	27080	1 3/4"	325°	
25F644	27081	1 3/4"	360°	
25F632	294	2 3/4"	180°	3.20
25F633	295	2 3/4"	270°	3.20
25F645	27082	2 3/4"	325°	3.05
25F646	303	2 3/4"	360°	3.20
25F634	292	4"	180°	3.80
25F635	293	4"	270°	3.80
25F647	27083	4"	325°	4.00
25F648	302	4"	360°	3.80
25F638	302A	4"	360°	3.80

AZIMUTH DIALS

Outer numerals read 0 to 360 c.-c. w. Inner numerals read 0 to 360 c. w. Etched on heavy aluminum with black graduations. Shpg. wt., 2 oz.

Stk. No.	Type	Dia.	Shaft. Dia.	NET
25F691	27010	6"	3/8"	5.95
25F692	27011	6"	1/4"	5.95
25F693	KD-12	4"	1/4"	4.00

PLANETARY DRIVES



599

6665

Type 599. Two speed. Slow: 5:1, high: 1-1. Use as a single speed drive by omitting knobs on high speed sleeve. Sizes; inner 7/16", outer 1/4" diameter. Dimensions: 2 1/64x1 9/16. Shpg. wt., 3 oz.
25F636. NET **12.80**

Type 6665. Concentric Pair of Knobs. For two-speed planetary unit above.
25F621. NET 1.40

Type 27067. One speed. Same as 599 but with threaded sleeve for high speed knob. 1/4" dia. knob shaft and fits 1/4" dia. shaft.
25F628. NET 12.15

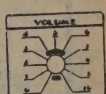
ETCHED ALUMINUM PLATES

A B C

Dial plates calibrated *0-10 in 300°, **0-100 in 180°, †0-100 in 270°, except 905, "volume" only. Dia. ctr. hole: 260-164 1/2", 272 13/32", 551 & 905 13/32". ††3/8" dia.

No.	Type	Fig.	Description	NET
25F700	260	A	3" dia.**	1.02
25F701	261	A	3" dia.†	1.02
25F702	262	A	1 7/8" dia.**	.52
25F703	263	A	1 7/8" dia.†	.52
25F704	264	A	2 1/4" dia.*	1.02
25F715	272	C	On-Off††	.20
25F718	278	B	On-Off††	.20
25F772	551	A	1 7/8" Dia.†	1.55
25F773	905	A	1 3/4" Dia.†	.34

POLISHED ALUMINUM PLATES



Lithographed Aluminum Dial Plates. Distinctive black lettering. All 2 5/16" high x 2 9/16" wide. Wt., 3 oz.

No.	Type	Title	NET
25F720	410A	Plain 0-10	.50
25F724	414A	Record 0-10	
25F729	423A	Arrow-Increase	
25F732	426A	Volume 0-10	

Kurz-Kasch Knobs

A

B

C

D

E

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POINTERS AND BAR KNOBS

Stock No.	Part No.	Fig.	Size OD	Inches Height	1-99	100-499	500-999
35F1300	S-292-1L	A	1¼	⅝	.12	.09	.08
35F1301	S-292-3L	A	1¼	⅝	.18	.14	.13
35F1302	S-293-1L	A	2¼	⅝	.20	.15	.14
35F1303	S-293-3L	A	2¼	⅝	.31	.23	.22
35F1304	S-246-1L	A	1½	⅞	.23	.18	.16
35F1305	S-246-3L	A	1½	⅞	.33	.25	.23
35F1306	AN-3219-1	A	1¼	⅝	.26	.20	.18
35F1307	AN-3220-1	A	1½	⅞	.37	.29	.27
35F1308	AN-3220-3	A	1½	⅞	.27	.21	.19
35F1309	S-658-1L	B	1⅛	11/16	.14	.10	.09
35F1310	S-626-1L	C	1½	⅝	.22	.16	.15
35F1311	S-400-1L	D	1 5/16	¾	.33	.25	.23
35F1312	S-657-1L	E	1⅛	⅝	.26	.19	.18
35F1313	S-657-3L	E	1⅛	⅝	.33	.25	.23
35F1314	S-1657-1L	E	1⅛	⅝	.49	.37	.32
35F1315	S-1657-3L	E	1⅛	⅝	.59	.45	.39

PUSH BUTTONS

35F1316	S-328-30	G	½	15/32	.10	.07	.06
35F1317	S-330-30	G	7/16	15/32	.10	.08	.07
35F1318	S-343-30	G	7/16	5/8	.10	.08	.07

INSTRUMENT KNOBS SERIES 600 (Without Inlay)

Standard with white indicator line.

35F1319	S-645-1L	H	¾	7/16	.19	.14	.13
35F1320	S-645-3L	H	¾	7/16	.27	.20	.19
35F1321	S-645-5L	H	¾	7/16	.27	.20	.19
35F1322	S-645-21L	H	¾	7/16	.20	.15	.14
35F1323	S-647-1L	H	1	19/32	.19	.14	.13
33F1324	S-647-3L	H	1	19/32	.39	.30	.28
35F1325	S-648-1L	H	1¼	21/32	.20	.15	.14
35F1326	S-648-3L	H	1¼	21/32	.27	.20	.19
35F1327	S-653-1L	H	1½	¾	.22	.16	.15
35F1328	S-653-3L	H	1½	¾	.30	.23	.21
35F1329	S-649-1L	H	2	⅞	.52	.39	.34
35F1330	S-649-3L	H	2	⅞	.63	.47	.41

INSTRUMENT KNOBS SERIES 1600 (With Aluminum Inlay)

Supplied with standard white indicator line.

35F1331	S-1645-1L	H	¾	7/16	.38	.29	.27
35F1332	S-1645-3L	H	¾	7/16	.48	.36	.31
35F1333	S-1645-5L	H	¾	7/16	.48	.36	.31
35F1334	S-1645-21L	H	¾	7/16	.40	.30	.28
35F1335	S-1647-1L	H	1	19/32	.39	.29	.27
35F1336	S-1647-3L	H	1	19/32	.47	.36	.31
35F1337	S-1648-1L	H	1¼	21/32	.41	.31	.29
35F1338	S-1648-3L	H	1¼	21/32	.50	.38	.33
35F1339	S-1653-1L	H	1½	¾	.43	.33	.28
35F1340	S-1653-3L	H	1½	¾	.54	.40	.35
35F1341	S-1649-1L	H	2	⅞	.76	.57	.50
35F1342	S-1649-3L	H	2	⅞	.90	.68	.59

ALUMINUM KNOBS SERIES 1000

Supplied with standard white indicator line.

35F1343	S-1000-21L	P	7/16	⅝			
35F1344	S-1001-21L	P	¾	9/16			
35F1345	S-1001-1L	P	¾	9/16			
35F1346	S-1002-1L	P	1	11/16			
35F1347	S-1003-1L	P	1¼	¾			
35F1348	S-1004-1L	P	1½	13/16			

SUFFIX CODE

1—Molded hole for ¼" shaft.
3—Brass insert for ¼" shaft.
5—Brass insert for ⅛" shaft.
21—Molded hole for ⅛" shaft.
30—Molded hole for .52 x 3/16 shaft
70—Heavy duty brass insert for ¼" shaft.
BB—2 slotted head set screws available at extra cost:
Add to regular cost. 1-99 80.00 per 1000;
100-499 60.00 per 1000, 500-999 56.00 per 1000.
L—Painted indicator line

INSTRUMENT KNOBS SERIES 700 (Without Inlay)

Supplied with standard white indicator line.

Stock No.	Part No.	Fig.	Size OD	Inches Height	1-99	100-499	500-999
35F1349	S-745-1L	I	⅝	7/16	.26	.20	.18
35F1350	S-745-3L	I	⅝	7/16	.35	.26	.24
35F1351	S-745-5L	I	⅝	7/16	.35	.26	.24
35F1352	S-745-21L	I	⅝	7/16	.27	.21	.19
35F1353	S-747-1L	I	13/16	19/32	.19	.14	.13
35F1354	S-747-3L	I	13/16	19/32	.26	.20	.19
35F1355	S-748-1L	I	1	21/32	.29	.22	.20
35F1356	S-748-3L	I	1	21/32	.36	.27	.26
35F1357	S-753-1L	I	1¼	¾	.31	.23	.22
35F1358	S-753-3L	I	1¼	¾	.40	.30	.28
35F1359	S-749-1L	I	1⅝	⅞	.62	.47	.40

instrument knobs series 1700 (With Aluminum Inlay)

Supplied with standard white indicator line

Stock No.	Part No.	Fig.	Size OD	Inches Heights	1-99	100-499	500-999
35F1361	S-1745-1L	I	⅝	7/16	.46	.34	.30
35F1362	S-1745-3L	I	⅝	7/16	.56	.42	.36
35F1363	S-1745-5L	I	⅝	7/16	.56	.42	.36
35F1364	S-1745-21L	I	⅝	7/16	.48	.36	.31
35F1365	S-1747-1L	I	13/16	19/32	.37	.29	.27
35F1366	S-1747-3L	I	13/16	19/32	.47	.36	.31
35F1367	S-1748-1L	I	1	21/32	.50	.38	.33
35F1368	S-1748-3L	I	1	21/32	.59	.45	.39
35F1369	S-1753-1L	I	1¼	¾	.53	.40	.27
35F1370	S-1753-3L	I	1¼	¾	.64	.48	.41
35F1372	S-1749-3L	I	1⅝	⅞	1.01	.76	.66

WING KNOB SERIES

S-1750-3L-BB,S-1751-3L-BB with decorative aluminum inlay.

Stock No.	Part No.	Fig.	Size OD	Inches Height	1-99	100-499	500-999
35F1373	S-750-3L-BB	J	1¼	¾	.83	.62	.54
35F1374	S-751-3L-BB	J	1½	¾	.86	.64	.56
35F1375	S-1750-3L-BB	J	1¼	¾	.98	.74	.64
35F1378	S-1751-3L-BB	J	1½	¾	1.01	.76	.66

CONCENTRIC SERIES

†Use with S-645, 1645 as top knob. ††Use with 1745 as top knob.

35F1379	S-656-1L†	K	1	39/64	.35	.27	.25
35F1380	S-656-3L†	K	1	39/64	.45	.34	.30
35F1381	S-750-3L-BB††	L	1¼	¾	.83	.62	.54
35F1382	S-751-3L-BB†	L	1½	¾	.86	.64	.56

HEAVY DUTY INSTRUMENT KNOBS

(*) With white inductor (†) With decorative aluminum inlay.

35F1383	S-319-3	M	1	⅝	.26	.20	.18
35F1384	S-308-3	M	1⅛	⅝	.27	.20	.19
35F1385	S-385-3	M	1⅜	11/16	.42	.31	.29
35F1386	S-309-3	M	1⅝	¾	.36	.27	.25
35F1387	S-310-3	M	2⅜	⅞	.54	.41	.35
35F1388	S-380-3L*	N	1½	13/16	.72	.54	.47
35F1389	S-381-70L*	N	1¾	26/32	.88	.65	.57
35F1390	S-311-3L*	N	2 1/16	⅞	.80	.60	.52
35F1391	S-312-70L*	N	3	1 5/16	1.40	1.05	.91
35F1392	S-1319-3†	O	1	⅝	.49	.37	.32
35F1393	S-1308-3†	O	1⅛	⅝	.50	.38	.32
35F1394	S-1385-3†	O	1⅜	11/16	.73	.55	.48
35F1395	S-1309-3†	O	1⅝	¾	.63	.47	.41
35F1396	S-1310-3†	O	2⅜	⅞	.86	.65	.56

GEAR AND CONTROL KNOBS

Supplied with molded threads.

Stock No.	Part No.	Fig.	OD	Size Height	Thread	1-99	100-499	500-999
35F1397	S-446-3	R	1¾	1¾	3/8-16	.39	.29	.27
35F1398	S-446-5	R	1¾	1¾	½-13	.39	.29	.27
35F1399	S-442-4	R	2	1 5/16	3/8-24	.30	.22	.21
35F1400	S-801-15C	R	1	1	5/16-18	.17	.13	.12
35F1401	S-801-15D	R	1	1	#10-32	.15	.11	.10
35F1402	S-801-15E	R	1	1	#10-24	.15	.11	.10
35F1404	S-801-15G	R	1	1	#8-32	.15	.11	.10
35F1406	S-801-15T	R	1	1	¼-20	.17	.13	.12

Knobs and Cases, Plates, Dials and Drives

KURZ-KASCH SNOB KNOBS

Suffix 1—indicates molded hole to fit standard ¼" shaft. **Suffix 3**—indicates flush type brass insert to fit ¼" shaft. **Suffix 21**— indicates molded hole to fit standard ⅛" shaft. Supplied with slotted set screw. Color: Blk. Wt. from 1.8 grams to 24.1 grams.

900—supplied standard with plain top.
1900—has spun aluminum inlay on top.
2900—has a spun aluminum cap on top.
3900—a metallic aluminum ring on top.

Stock No.	Type	Dimensions Ht. x Diam.	1-99	100-499	500-999
35F3200	S-902-1L	⅝"x½"	.26	.19	.18
35F3201	S-902-21L	⅝"x½"	.29	.22	.20
35F3202	S-903-1L	⅝"x¾"	.29	.22	.20
35F3203	S-903-3L	⅝"x¾"	.42	.32	.27
35F3204	S-904-1L	⅝"x⅞"	.32	.24	.22
35F3205	S-904-3L	⅝"x⅞"	.45	.34	.29
35F3206	S-905-1L	11/16"x1⅛"	.34	.25	.24
35F3207	S-905-3L	11/16"x1⅛"	.47	.35	.30
35F3208	S-906-1L	¾"x1⅜"	.34	.26	.24
35F3209	S-906-3L	¾"x1⅜"	.49	.37	.32
35F3210	S-907-1L	13/16"x1¾"	.44	.33	.28
35F3211	S-907-3L	13/16"x1¾"	.57	.44	.38
35F3212	S-1902-1L	⅝"x½"	.45	.34	.29
35F3213	S-1902-21L	⅝"x½"	.49	.36	.32
35F3214	S-1903-1L	⅝"x¾"	.49	.36	.32
35F3215	S-1903-3L	⅝"x¾"	.62	.46	.40
35F3216	S-1904-1L	⅝"x⅞"	.51	.38	.33
35F3217	S-1904-3L	⅝"x⅞"	.64	.48	.42
35F3218	S-1905-1L	11/16"x1⅛"	.53	.40	.34
35F3219	S-1905-3L	11/16"x1⅛"	.66	.50	.43
35F3220	S-1906-1L	¾"x1⅜"	.57	.42	.36
35F3221	S-1906-3L	¾"x1⅜"	.71	.53	.46
35F3222	S-1907-1L	13/16"x1¾"	.67	.50	.44
35F3223	S-1907-3L	13/16"x1¾"	.82	.62	.53
35F3224	S-2902-1L	⅝"x½"	.48	.36	.31
35F3225	S-2902-21L	⅝"x½"	.52	.39	.34
35F3226	S-2903-1L	⅝"x¾"	.52	.39	.34
35F3227	S-2903-3L	⅝"x¾"	.65	.49	.42
35F3228	S-2904-1L	⅝"x⅞"	.54	.41	.35
35F3229	S-2904-3L	⅝"x⅞"	.67	.50	.44
35F3230	S-2905-1L	11/16"x1⅛"	.58	.44	.38
35F3231	S-2905-3L	11/16"x1⅛"	.71	.53	.46
35F3232	S-2906-1L	¾"x1⅜"	.61	.46	.40
35F3233	S-2906-3L	¾"x1⅜"	.76	.57	.49
35F3234	S-2907-1L	13/16"x1¾"	.75	.56	.49
35F3235	S-2907-3L	13/16"x1¾"	.89	.67	.58

HARRY DAVIES

POINTER KNOBS

Black bakelite knobs for volume and tone controls. All have white indicator lines. Will fit ¼" shaft. All parts can be made available to JAN specifications at 10% extra. *Brass insert. †2 oz. ‡1 oz.

Stock No.	Type	Fig.	Size In.	1-24	25-99	100-499	500-999	1000-Up
26F100	2300	AA‡	1¼	.12	.10	.08	.074	.066
26F101	2300A*	AA‡	1¼	.17	.15	.13	.12	.11
26F102	2350A*	BB‡	2	.26	.22	.19	.18	.16
26F103	2350	BB‡	2	.19	.17	.15	.136	.121
26F107	2150	A†	1¼	.14	.12	.11	.10	.09
26F115	1550	B†	1⅛	.14	.12	.11	.10	.09
26F116	1550*	B†	1⅛	.21	.18	.16	.15	.13
26F117	1500	C†	1⅛	.14	.12	.11	.10	.09
26F214	1510	C†	¾	.19	.16	.14	.13	.12

INSTRUMENT KNOBS

Black Bakelite finger grip knobs for use on ¼" shafts Complete with brass insert and set screw. Can be supplied to Jan specs. at 10% extra, as well as in compliance with MS-91531. Can also be furnished with imprinted skirt. Shpg. Wt., 3 oz.

Stk No.	Type	Fig.	Dia. Skirt	1-24	25-99	100-499	500-999	1000-Up
26F014	4102	I	1⅝	.34	.29	.25	.24	.21
26F016	4100	I	1⅛	.29	.25	.21	.20	.18
26F018	4102Q	...	1⅝	.44	.39	.33	.31	.28
26F020	4100Q	...	1⅛	.44	.39	.33	.31	.28

KNOBS WITH SKIRTS

Stk. No.	Type	Fig.	Knob Size	1-24	25-99	100-499	500-999	1000-Up
26F022	4108	J	2 1/16"	.66	.58	.50	.46	.41
26F024	4104	J	1½"	.54	.47	.40	.38	.34

FINGER GRIP KNOBS

Finger Grip Knobs. Are Black bakelite fluted knobs for use on ¼" shafts. Set screw mounting. *Brass insert. Some are available with Spring Mount and CRL Knurl—(Write for prices). Can be furnished in compliance with government specifications—M-14E. Shpg. Wt., 1 oz.

Stock No.	Type	Fig.	Knob Size Dia.	Ht.	Hole Size	1-24	25-99	100-499	500-999	1000-Up
26F126	1910	G	¾"	½"	¼"	.20	.17	.15	.14	.12
26F127	1910-C*	G	¾"	½"	¼"	.40	.35	.30	.28	.25
26F140	1914-C*	F	¾"	½"	¼"	.41	.36	.31	.29	.26
26F135	1919	H	1¼"	⅝"	¼"	.27	.24	.20	.19	.17
26F136	1919-C*	H	1¼"	⅝"	¼"	.36	.32	.27	.25	.23

CONTROL KNOBS

Black Bakelite knobs for all control and indicating uses. For ¼" shaft. Set screw furnished. Types 1470 and 1400 have molded pointers, 1600 and 1610 have paint filled indicator lines on skirt. Brass insert. Wt. 1 oz.

Stock No.	Type	Fig.	Bot. Dia.	Hole Depth	1-24	25-99	100-499	500-999	1000-Up
26F110	1470	D	1"	7/16"	.17	.15	.13	.12	.11
26F109	1475	E	1"	7/16"	.14	.12	.10	.095	.085
26F123	1450	E	11/16"	11/32"	.11	.09	.08	.07	.06
26F122	1400	D	11/16"	11/32"	.11	.09	.08	.07	.06
26F120	1610	G	15/16"	7/16"	.17	.15	.13	.12	.11

LEVER KNOBS

Black bakelite lever knobs for any lever application. With metal pointer. Fit ¼" shaft. Furnished with set screw. *Brass insert. Meets Mil specs. Wt., 2 oz.

Stock No.	Type	Fig.	Size	1-24	25-99	100-499	500-999	1000-Up
26F111	2100*	K	1⅝"	.25	.22	.19	.17	.16
26F112	2100E	K	2½"	.18	.16	.13	.12	.11
26F113	2110*	K	1⅝"	.26	.26	.20	.18	.16
26F114	2110E	K	1⅝"	.14	.14	.11	.101	.094

INSTRUMENT CASES

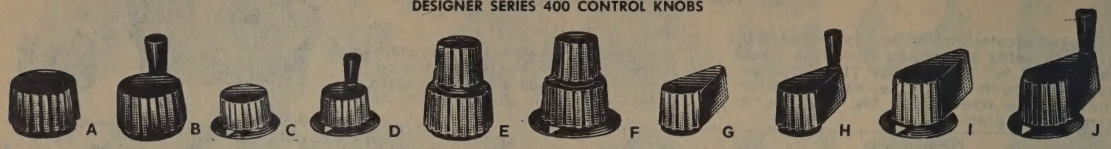
Made of molded plastic they can be drilled ouf to take any type of instrument. Covers available for all cases. Wt. 1 lb. Type 260: 6 13/16x5 9/32x2 5/32". Type 240: 3¾x6¼x1⅞". Type 220: 2⅞x4x1 5/32".

Stk. No.	Type	1-49	50-99	100-499	500-999	1000-Up
26F124	260	1.04	.91	.78	.73	.65
26F125	240	.74	.65	.56	.52	.46
26F145	220	.46	.40	.35	.32	.29
Covers for Cases						
25F670	261 for 260	.78	.68	.59	.55	.48
25F669	241 for 240	.56	.49	.42	.39	.35
26F149	221 for 220	.28	.26	.23	.21	.19

Control Knobs

RAYTHEON

DESIGNER SERIES 400 CONTROL KNOBS



High impact acrylonitrile-styrene (ABS), with lustreless black, finish. Supplied with metal bushings and two set screws.

407 SERIES—⅛" SHAFTS—.720 DIA.

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F671	407R1K1	Round	A	.42	.36	.34
26F672	407D1K1	Round dial skirted	C	.52	.44	.42

407 SERIES—¼" SHAFTS—.720 DIA.

26F675	1407R2K1	Round	A	.39	.33	.31
26F676	407D2K1	Round dial skirted	C	.48	.41	.38
26F677	407P2K1	Bar pointer	G	.44	.37	.34
26F678	407PD2K1	Bar pointer dial skirted	I	.53	.45	.42

409 SERIES—⅛" SHAFTS—.875 DIA.

26F679	409R1K1		A	.44	.37	.35

409 SERIES-¼" SHAFTS-.875 CIA.

26F682	409R2K1	Round	A	.41	.35	.33
26F683	409D2K1	Round dial skirted	C	.51	.43	.41
26F684	409RB2K1	Round—for assemblies	A	.45	.38	.36
26F685	409P2K1	Bar pointer	G	.48	.41	.38
26F686	409PC2K1	Bar pointer w/crank	H	.65	.55	.52
26F687	409PD2K1	Bar pointer dialskirted	I	.58	.49	.46
26F688	409PDC2K1	Bar pointer/crank dial skirted	J	.75	.64	.60
26F689	409DB2K1	Round dial skirted—for assemblies	C	.52	.44	.42

412 SERIES—¼" SHAFTS—1.25 DIA.

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F690	412R2K1	Round	A	.43	.37	.34
26F691	412RC2K1	Round w/crank	B	.60	.51	.48
26F692	412D2K1	Round dial skirted	C	.53	.45	.42
26F693	412DC2K1	Rnd. dial sktd. w/crank	D	.69	.59	.55
26F694	412RB2K1	Round—for assemblies	A	.47	.40	.38
26F695	412P2K1	Bar pointer	G	.54	.46	.43
26F696	412PC2K1	Bar pointer w/crank	H	.70	.60	.56
26F697	412PD2K1	Bar pointer dial skirted	I	.64	.54	.51
26F698	412PDC2K1	Bar pointer dial skirted w/crank	J	.80	.68	.64
26F699	412DB2K1	Rnd. dial sktd. for assem.	C	.54	.46	.43

CONCENTRIC ASSEMBLIES—FIG. E AND F

Consists of two separate knobs which should be ORDERED SEPARATELY FROM SERIES 407, 409, AND 412 LISTED ON THIS PAGE. Easily assembled.

FIG. E—ROUND/ROUND

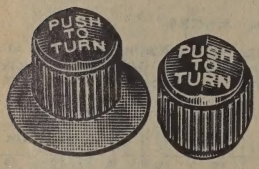
Top Knob—⅛" Shaft	Bottom Knob—¼" Shafts
407R1K1 .720 dia.	409RB2K1 .875 dia.
409R1K1 .875 dia.	412RB2K1 1.25 dia.

FIG. F.—ROUND/ROUND DIAL SKIRTED

407R1K1 .720 dia.	409DB2K1 .875
409R1K1 .875 dia.	412DB2K1 1.25

PUSH TO TURN KNOBS

DIAL RING



Knobs are designed for applications in which control settings must be maintained under shock and vibration conditions. Accidental change setting cannot be made because knob must be fully depressed before movement. Knobs are made of polycarbonate plastic with an internal mechanism of stainless steel. Available in black and gray. "G" suffix on type no. indicates matte finish, others are mirror finish.

Stk. No.	Type No.	Knob Dia.	Knob H	Shaft Dia.	Color	1-24	25-49	50-249
26F437	PT70-2-1	.730	.830	⅛"	B1	12.10	10.90	9.70
26F438	PT70-2-1G	.730	.830	⅛"	B1	12.00	10.80	9.60
26F439	PT70-2-2	.730	.830	¼"	B1	12.20	11.00	9.75
26F440	PT70-2-2G	.730	.830	¼"	B1	12.10	10.90	9.70
26F441	PT70-2-3	.730	.830	3/16"	B1	12.25	11.00	9.80
26F442	PT70-2-3G	.730	.830	3/16"	B1	12.15	10.95	9.75
26F443	PTG70-2-1	.730	.830	⅛"	G	12.20	11.00	9.75
26F091	PTG70-2-1G	.730	.830	⅛"	G	12.10	10.90	9.70
26F092	PTG70-2-2	.730	.830	¼"	G	12.30	11.10	9.85
26F093	PTG70-2-2G	.730	.830	¼"	G	12.20	11.00	9.75
26F094	PTG70-2-3	.730	.830	3/16"	G	12.25	11.00	9.80

Stk. No.	Type No.	Knob Dia.	Knob H	Shaft Dia.	Color	1-24	25-49	50-249
26F667	PT70-3-2G	.730	.950	¼"	B1	12.25	11.00	9.80
26F668	PT70-3-3	.730	.950	3/16"	B1	12.45	11.20	9.95
26F669	PT70-3-3G	.730	.950	3/16"	B1	12.35	11.10	9.90
26F670	PTG70-3NP-1	.730	.950	⅛"	G	12.25	11.00	9.80
26F743	PTG70-3NP-1G	.730	.950	⅛"	G	12.20	11.00	9.75
26F744	PTG70-3NP-2	.730	.950	¼"	G	12.40	11.15	9.90
26F795	PTG70-3NP-2G	.730	.950	¼"	G	12.30	11.05	9.85
26F796	PTG70-3NP-3	.730	.950	3/16"	G	12.50	11.25	10.00
26F797	PTG70-3NP-3G	.730	.950	3/16"	G	12.40	11.15	9.90
26F798	PTG70-3-1	.730	.950	⅛"	G	12.35	11.10	9.90
26F799	PTG70-3-1G	.730	.950	⅛"	G	12.25	11.00	9.80
26F896	PTG-70-3-2	.730	.950	¼"	G	12.40	11.15	9.95
26F897	PTG70-3-2G	.730	.950	¼"	G	12.35	11.10	9.90
26F898	PTG70-3-3	.730	.950	3/16"	G	12.55	11.30	10.05
26F899	PTG170-3-3G	.730	.950	3/16"	G	12.45	11.20	9.95

Stk. No.	Type No.	Knob Dia.	Knob H	Shaft Dia.	Color	1-24	25-49	50-249
26F095	PTG70-2-3G	.730	.830	3/16"	G	12.15	10.95	9.70
26F096	PT70-3NP-1	.730	.950	⅛"	B1	12.20	11.00	9.75
26F097	PT70-3NP-1G	.739	.950	⅛"	B1	12.10	10.90	9.70
26F098	PT70-3NP-2	.730	.950	¼"	B1	12.30	11.05	9.85
26F099	PT70-3NP-2G	.730	.950	¼"	B1	12.20	11.00	9.75
26F406	PT70-3NP-3	.730	.950	3/16"	B1	12.40	11.15	9.90
26F407	PT70-3NP-3G	.730	.950	3/16"	B1	12.30	11.05	9.85
26F648	PT70-3-1	.730	.950	⅛"	B1	12.25	11.00	9.80
26F649	PT70-3-1G	.730	.950	⅛"	B1	12.15	10.95	9.70
26F666	PT70-3-2	.730	.950	¼"	B1	12.35	11.10	9.90

ALCO ELECTRONICS

KNURLED ALUMINUM KNOBS

KN-700

KD-900

Knurled Aluminum knobs natural aluminum anodizall are for ¼" shafts except those with suffix B. for ⅛ for ⅛" shafts.

Stk. No.	Model	O.D.	Style Knurl	1-99	100-249	250-499	500-999
61F1171	KD-500A	.500"	Diamond	.55	.50	.47	.44
61F1172	KD-500-⅛A	.500"	Diamond	.55	.50	.47	.44
61F1173	KD-700A	.750"	Diamond	.60	.54	.51	.48
61F1174	KD-900A	.937"	Diamond	.70	.63	.60	.56
61F1175	KD-1250A	1.250"	Diamond	.85	.77	.73	.68
61F1176	KN-500A	.500	Straight	.55	.50	.47	.44
61F1177	KN-500-⅛A	.500"	Straight	.55	.50	.47	.44
61F1178	KN-700A	.750"	Straight	.60	.54	.51	.48
61F1179	KN-900A	.937"	Straight	.70	.63	.60	.56
61F1180	KN-1250A	1,250"	Straight	.85	.77	.73	.68
61F1181	KN-500AB	.500"	Straight	.75	.68	.64	.60
61F1182	KN-700AB	.750"	Pointer	.80	.72	.68	.64
61F1183	KN-900AB	.750"	Pointer	.90	.81	.77	.72

ALUMINUM KNOBS FOR ¼" SHAFTS

(*WITH ALUMINUM SKIRTS, ‡ CLEAR PLASTIC SKIRTS)

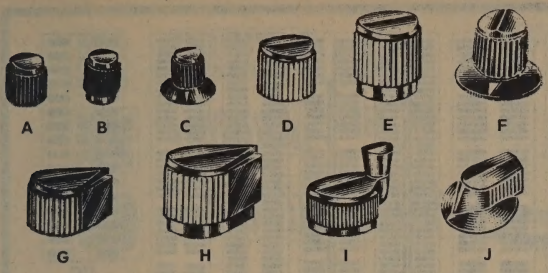
K-500A

KS-500A

KSP-700A

Stk. No.	Type	Dia.	Color	1-99	100-249	250-499	500-999
61F917	K-500A	½"	Natural	.45	.41	.39	.36
61F918	K-500B	½"	Black	.45	.41	.39	.36
61F937	K-700A	¾"	Natural	.50	.45	.43	.40
61F938	K-700B	¾"	Black	.50	.45	.43	.40
61F939	K-900A	⅞"	Natural	.55	.50	.47	.44
61F940	K-900B	⅞"	Black	.55	.50	.47	.44
61F920	KS-500A	½"*	Natural	.60	.54	.51	.48
61F921	KS-500B	½"*	Black	.60	.54	.51	.48
61F941	KS-700A	¾"*	Natural	.65	.59	.56	.52
61F942	KS-700B	¾"*	Black	.65	.59	.56	.52
61F922	KSP-700A	¾"†	Natural	.60	.54	.51	.48
61F923	KSP-700B	¾"†	Black	.60	.54	.51	.48
61F943	KSP-900A	⅞"†	Natural	.65	.59	.56	.52
61F944	KSP-900B	⅞"†	Black	.65	.59	.56	.52

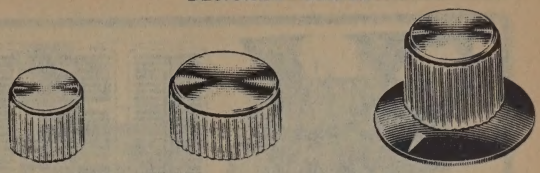
STANDARD CONTROL KNOBS MEETS MS91528 REV C. SPECS.



Molded plastic knobs fitted with an aluminum insert. Two Allen head set screws fasten to the control shaft. * after type number indicates mirror finish for commercial equipment. G after type number indicates a non-reflecting "matte" finish, which conforms to military specifications. Ave. shpg. wt. 3 oz.

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
50 Series—.45" Dia. For 1/8" shafts						
26F194	50-1-1*	Unskirted knob	A	.55	.47	.44
26F195	50-1-1G	Unskirted knob	A	.61	.52	.49
26F196	50-2-1*	Skirted knob	B	.64	.54	.51
26F197	50-2-1G	Skirted knob	B	.70	.60	.56
26F198	50-3-1*	Dil. Skt. Rd. w/pt.	C	.72	.61	.58
26F199	50-3-1G	Dil. Skt. Rd. w/pt.	C	.78	.66	.62
70 Series—.72" Dia. 1/8" Shaft Knobs						
26F339	70-1-1*	Round	D	.76	.65	.61
26F341	70-1-1G	Round	D	.82	.70	.66
26F342	70-2-1G	Skirted Round	E	.91	.77	.73
26F343	70-3-1G	Dil. Skt. Rd. w/pt.	F	1.00	.85	.80
26F344	70-5-1*	Skirted Pointer	H	.85	.72	.68
26F345	70-4-1G	Pointer	G	82	.70	.66
26F346	70-5-1G	Skirted Pointer	H	.91	.77	.73
70 Series—.72" Dia. For 1/4" shafts						
26F150	70-1-2*	Round	D	.70	.60	.56
26F151	70-1-2G	Round	D	.76	.65	.61
26F152	70-2-2*	Skirted Round	E	.79	.67	.63
26F153	70-2-2G	Skirted Round	E	.85	.72	.68
26F154	70-3-2*	Dil. Skt. Rd. w/pt.	F	.88	.75	.70
26F155	70-32G	Dil. Skt. Rd. w/pt.	F	.94	.80	.75
26F156	70-4-2*	Pointer	G	.70	.60	.56
26F157	70-4-2G	Pointer	G	.76	.65	.61
26F158	70-5-2*	Skirted Pointer	H	.79	.67	.63
26F159	70-5-2G	Skirted Pointer	H	.85	.72	.68
26F673	70-8WL-2	Dil. Skt. Bar Pt.	J	1.05	.89	.84
26F674	70-8WL-2G	Dil. Skt. Bar Pt.	J	1.12	.95	.90
90 Series—.928" Dia. For 1/4" shafts						
26F160	90-1-2*	Round	D	.74	.63	.59
26F161	90-1-2G	Round	D	.80	.68	.64
26F162	90-2-2*	Skirted Round	E	.83	.71	.66
26F163	90-2-2G	Skirted Round	E	.89	.76	.71
26F164	90-3-2*	Dil. Skt. Rd. w/pt.	F	.92	.78	.74
26F165	90-3-2G	Dil. Skt. Rd. w/pt.	F	.98	.66	.78
26F166	90-4-2*	Pointer	G	.79	.67	.63
26F167	90-4-2G	Pointer	G	.85	.72	.68
26F168	90-5-2*	Skirted Pointer	H	.88	.75	.70
26F169	90-5-2G	Skirted Pointer	H	.94	.80	.75
125 Series—1.269" Dia. For 1/4" shafts						
26F170		Round	D	.79	.67	.63
26F171	125-1-2G	Round	D	.85	.72	.68
26F172	125-2-2*	Skirted Round	E	.88	.75	.70
26F173	125-2-2G	Skirted Round	E	.94	.80	.75
26F174	125-3-2*	Dil. Skt. Rd. w/pt.	F	.96	.82	.77
26F175	125-3-2G	Dil. Skt. Rd. w/pt.	F	1.02	.87	.82
26F176	125-6-2*	Crank	I	2.32	1.97	1.86
26F177	125-6-2G	Crank	I	2.35	2.00	1.88
125 Series—2.516" Dia. For 1/4" shafts—No skirt						
26F338	125-7-2G	Bar Pointer	....	1.32	1.12	1.06
175 Series—1.772" Dia. For 1/4" shafts						
26F178	175-1-2*	Round	D	1.12	.95	1.02
26F181	175-2-2G	Skirted Round	E	1.27	1.08	1.02
26F182	175-3-2*	Dil. Skt. Rd. w/pt.	E	1.34	1.14	1.07
26F183	175-3-2G	Dil. Skt. Rd. w/pt.	F	1.41	1.20	1.13
26F184	175-6-2*	Crank	I	2.51	2.13	2.01
26F185	175-6-2G	Crank	I	2.58	2.19	2.06
225 Series—2.272" Dia. For 1/4" shafts						
25F186	225-1-2*	Round	D	1.29	1.10	1.03
26F187	225-1-2G	Round	D	1.36	1.16	1.09
26F190	225-3-2*	Dil. Skt. Rd. w/pt.	F	1.49	1.27	1.19
26F191	225-3-2G	Dil. Skt. Rd. w/pt.	F	1.57	1.33	1.26
26F192	225-6-2*	Crank	I	2.61	2.22	2.09
26F193	225-6-2G	Crank	I	2.67	2.27	2.14

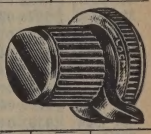
"DESIGNER" SERIES



Molded black plastic knobs with spun aluminum cap inserts. Knobs withstand 25 in/lbs. of torque. Temperature: —55°C to 125°C. Ave. shp. wt. 3 oz.

Stk. No.	Type	Description	1-99	100-199	200-499
70 Series—.252 Shafts					
26F464	DS 70-1BD-2	Rd. No Skt. Dot	.88	.81	.77
26F465	DS 70-1BD-2G	Rd. No Skt. Dot	.90	.83	.78
26F466	DS 70-1-2	Rd. No Skt.	.78	.72	.68
26F467	DS 70-1-2G	Rd. No Skt.	.80	.74	.70
26F468	DS 70-2-2	Rd. Pln. Skt.	.91	.84	.79
26F469	DS 70-2-2G	Rd. Pln. Skt.	.95	.87	.83
26F470	DS 70-2BD-2	Rd. Pln. Skt. Dot	1.08	.99	.94
26F471	DS 70-2BD-2G	Rd. Pln. Skt. Dot	1.10	1.01	.96
26F472	DS 70-3-2	Dl. Skt. Rd. w/pt.	.96	.88	.84
26F473	DS 70-3-2G	DL. Skt. Rd.w/pt.	.98	.90	.85
26F474	DS 70-4-2	Pt. No Skt.	.85	.78	.74
26F475	DS 70-4-2G	Pt. No Skt.	.88	.81	.77
26F476	DS 70-5-2	Pt. Pln. Skt.	.95	.87	.83
26F477	DS 70-5-2G	Pt. Pln. Skt.	.99	.91	.86
70 Series—.190 Shafts					
26F478	DS 70-1-3	Rd. No Skt.	.88	.81	.77
26F479	DS 70-1-3G	Rd. No Skt.	.90	.83	.78
90 Series—.252 Shafts					
26F484	DS 90-1-2	Rd. No Skt.	.88	.81	.77
26F485	DS 90-1-2G	Rd. No Skt.	.90	.83	.83
26F486	DS 90-1BD-2	Rd. No Skt. Dot	1.05	.97	.91
26F487	DS 90-1BD-2G	Rd. No Skt. Dot.	1.10	1.01	.96
26F488	DS 90-2-2	Rd. Pln. Skt.	1.08	.99	.94
26F489	DS 90-2-2G	Rd. Pln. Skt.	1.10	1.01	.96
26F490	DS 90-2BD-2	Rd. Pln. Skt. Dot	1.10	1.01	.96
26F491	DS 90-2BD-2G	Rd. Pln. Skt. Dot	1.20	1.10	1.04
26F492	DS 90-3-2	Rd. Dl. Skt. w/pt.	1.05	.97	.91
26F493	DS 90-3-2G	Dl. Skt. Rd. w/pt.	1.07	.98	.93
26F494	DS 90-4-2	Pt. No Skt.	1.03	.95	.90
26F495	DS 90-4-2G	Pt. No Skt.	1.05	.97	.91
26F496	DS 90-5-2	Pt. Pln. Skt.	1.12	1.03	.97
26F497	DS 90-5-2G	Pt. Pln. Skt.	1.15	1.06	1.00
90 Series—.190 Shafts					
26F498	DS 90-1-3	Rd. No. Skt.	1.08	.99	.94
46F499	DS 90-1-3G	Rd. No Skt.	1.10	1.01	.96
125 Series—.252 Shafts					
26F444	DS 125-1-2	Rd. No. Skt.	1.08	.99	.94
26F445	DS 125-1-2G	Rd. No. Skt.	1.10	1.01	.96
26F446	DS 125-2-2	Rd. Pln. Skt.	1.18	1.09	1.03
26F447	DS 125-2-2G	Rd. Pln. Skt.	1.21	1.11	1.05
26F448	DS 125-3-2	Dl. Skt. Rd. w/pt.	1.25	1.15	1.09
26F449	DS 125-3-2G	Dl. Skt. Rd. w/pt.	1.28	1.18	1.11

SPECIAL POINTER KNOB



With knob lock listed below. Knob features pointer arm which curves over skirt at lock toward chassis to increase accuracy. For 1/4" shafts. Shpg. wt. 2 oz.

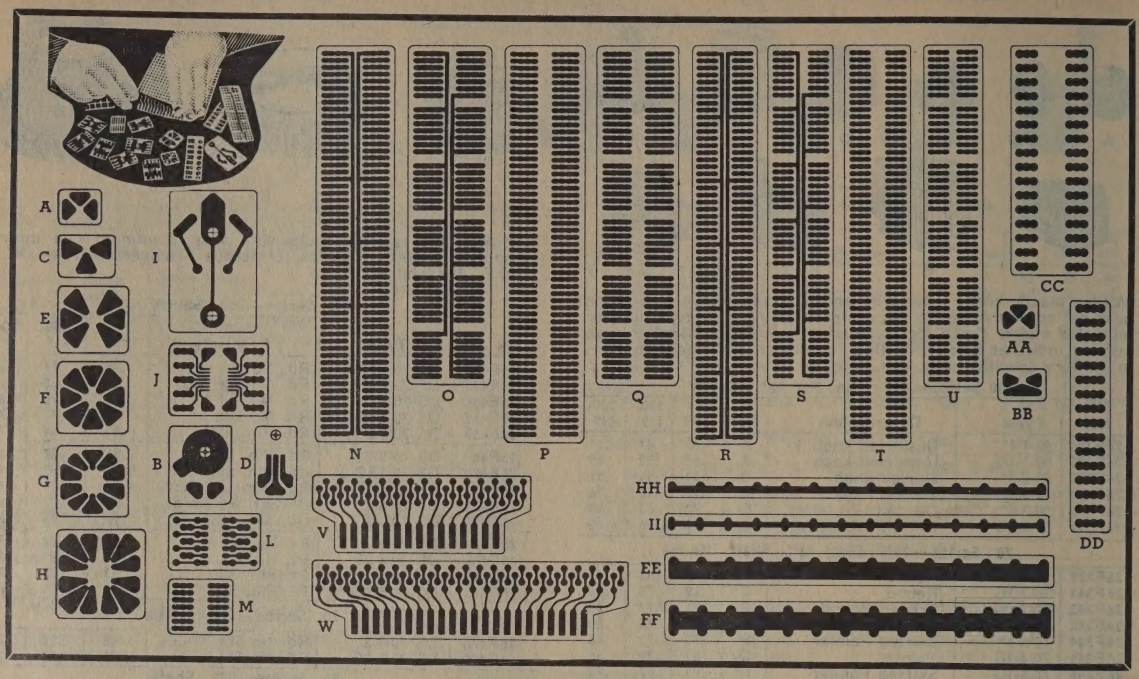
26F302	70-1LK-2	Mirror Finish	.93	.79	.74
26F303	70-1LK-2G	Matte Finish	.99	.84	.79
26F307	125-1LK-2G	Matte Finish	1.24	1.05	.99

KNOB LOCKS

For standard control knobs. Holds precise or critical control settings under shock or vibration. Use with 70, 90, and 125 round standard control knobs. Mirror finish except * Matte. *-32 thread. Shpg. wt. 2 oz.

Stk. No.	Type	Series & Dia.	1-99	100-199	200-499	500-999
26F308	60kl701	Series: 70 1" dia.	.87	.74	.70	.61
28F309	KL701G*	Series: 70 1" dia.	.93	.79	.74	.65
28F310	KL901	Series: 90 1 5/16" dia.	1.02	.87	.82	.71
26F310	KL901G*	Series: 90 1 5/16" dia.	1.07	.91	.86	.75
26F311	KL1251	Series: 125 1 5/8" dia.	1.02	.87	.82	.71
26F312	KL1251G*	Series: 125 1 5/8" dia.	1.09	.93	.87	.76

circuit-stik® Instant Circuit Boards



This new concept in circuit packaging now permits rapid assembly of all prototypes and limited quantity production systems directly from engineering schematics and logic flow diagrams.

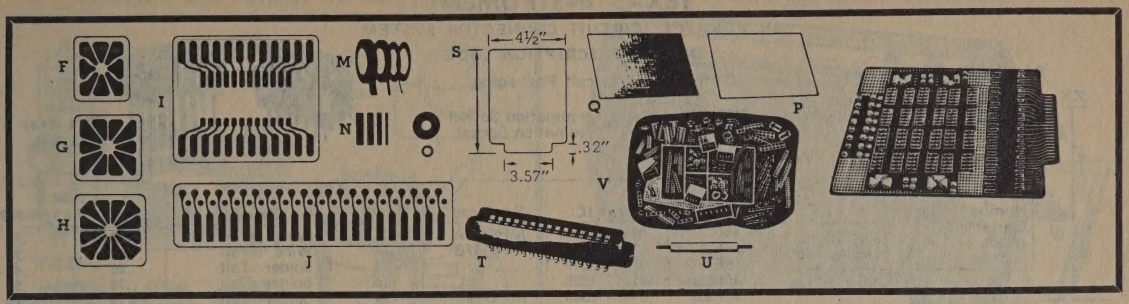
All sub-element conductors are preplated and ready for soldering. The conductive circuit sub-elements are supplied on thin substances which have a pressure sensitive adhesive backing. They are designed to withstand soldering temperatures, and offer exceptionally good ahesion strength, yet can be quickly and easily removed when changes require a Circuit-Stik "instant" modification.

THE "1000" SERIES (MFR'S. TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE PRE-DRILLED ON .100-INCH GRID— REQUIRE NO DRILLING AND NO TERMINALS.

Stock No.	Type	Fig.	Pcs. Per Pkg.	Description	Per Pkg.
38F1237	1001-010	A	10	TO-18 3 Lead	2.50
38F1238	1001-030	A	30	TO-18 3 Lead	6.75
38F1239	1021-010	C	10	TO-5 3 Lead	2.50
38F1240	1021-030	C	30	TO-5 3 Lead	6.75
38F1241	1023-010	E	10	TO-5 6 Lead	3.00
38F1242	1023-030	E	30	TO-5 6 Lead	8.10
38F1243	1024-010	F	10	TO-5 8 Lead	3.00
38F1244	1024-030	F	30	TO-5 8 Lead	8.10
38F1245	1025-010	G	10	TO-5 10 Lead	3.00
38F1246	1025-030	G	30	TO-5 10 Lead	8.10
38F1247	1026-010	H	10	TO-5 12 Lead	3.50
38F1248	1026-030	H	30	TO-5 12 Lead	9.45
38F1249	2401-010	I	10	TO-3	5.00
38F1250	2402-010	B	10	SCR Stud Mtg.	3.00
38F1251	2403-010	D	10	SCR Flat Pkg. Mtg.	3.00
38F1252	1062-010	J	10	Flat Pack 14 Lead	3.00
38F1253	1062-030	J	30	Flat Pack 14 Lead	8.10
38F1254	1101-010	L	10	Dual in Line 14 Lead	3.00
38F1255	1101-030	L	30	Dual In Line 14 Lead	8.10
38F1256	1102-010	M	10	Dual In Line 14 Lead	3.00
38F1257	1102-030	M	30	Dual In Line 14 Lead	8.10
38F1258	1201-005	N	5	6 DIP's/Strip 16 Lead	9.00
38F1259	1203-005	O	5	6 DIP's/Strip 14 Lead	7.50
38F1260	1205-005	P	5	Universal DIP Strip	9.00
38F1261	1207-005	Q	5	6 DIP's/Strip, 14 Lead	7.50
38F1262	1202-005	R	5	6 DIP's/Strip, 16 Lead	7.75
38F1263	1204-005	S	5	6 DIP's/Strip, 14 Lead	6.50
38F1264	1206-005	T	5	Universal DIP Strip	7.75
38F1265	1208-005	U	5	6 DIP's/Strip, 14 Lead	6.50
				Plug-In Connector Strips	
38F1266	1351-005	V	5	15 Pin, .100 Spacing Component Side	6.25
38F1267	1352-005	V	5	15 Pin, .100 Spacing Circuit Side	6.25
38F1268	1353-005	V	5	15 Pin, .125 Spacing Component Side	6.25
38F1269	1354-005	V	5	15 Pin, .125 Spacing Circuit Side	6.25
38F1270	1355-005	V	5	15 Pin, .156 Spacing Component Side	6.25
38F1271	1356-005	V	5	15 Pin, .156 Spacing Circuit Side	6.25
38F1272	1361-005	W	5	22 Pin, .100 Spacing Component Side	7.50
38F1273	1362-005	W	5	22 Pin, .100 Spacing Circuit Side	7.50
38F1274	1363-005	W	5	22 Pin .125 Spacing, Component Side	7.50
38F1275	1364-005	W	5	22 Pin, .125 Spacing Circuit Side	7.50
38F1276	1365-005	W	5	22 Pin, .156 Spacing Component Side	7.50
38F1277	1366-005	W	5	22 Pin, .156 Spacing Circuit Side	7.50
38F1278	1302-005	CC	5	16 Discrete, Components Strip	5.50
38F1279	1311-010	DD	10	Universal Strip	6.00
38F1280	1321-010	HH	10	Distribution Strip .100 wide	3.50
38F1281	1323-010	EE	10	Distribution Strip .250 wide	4.50
38F1282	1322-010	II	10	Distribution Strip .063 wide	4.10
38F1283	1324-010	FF	10	Distribution Strip .250 wide	5.00
38F1284	2001-010	AA	10	TO-18 3 Lead	2.00
38F1285	2001-030	AA	30	TO-18 3 Lead	5.40
38F1286	2021-010	BB	10	TO-5 3 Lead	2.00
38F1287	2021-030	BB	30	TO-5 3 Lead	5.40

NEWARK - FOR FAST SERVICE

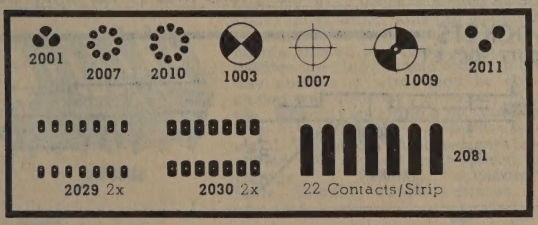
Instant Circuit Boards by circuit-stik



THE "2000" SERIES (MFR'S TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE DESIGNED FOR COMPACTNESS AND ARE NOT DRILLED

Stock No.	Type	Fig.	Pcs. Per Pkg.	Description	Per Pkg.
38F1288	2024-010	F	10	TO-5 8 Lead	2.50
38F1289	2024-030	F	30	TO-5 8 Lead	6.75
38F1290	2025-010	G	10	TO-5 10 Lead	2.50
38F1291	2025-030	G	30	TO-5 10 Lead	6.75
38F1292	2026-010	H	10	TO-5 12 Lead	3.00
38F1293	2026-030	H	30	TO-5 12 Lead	8.10
38F1294	2102-010	I	10	MSI Dual-In-Line 24 Lead	6.00
38F1295	2367-005	J	5	22 Pin Connector .156 Spacing Component Side	6.25
38F1296	2368-005	K	5	22 Pin Connector Strip .156 Spacing Circuit Side	6.25
38F1297	2301-005	L	5	21 Discrete Components, Strip	4.75
38F1298	7101	M	1	Copper Tape .062"x9 ft. long	.75
38F1299	7102	M	1	Copper Tape .100"x9 ft. long	.90
38F1300	7103	M	1	Copper Tape .187"x9 ft. long	1.00
38F1301	7104	M	1	Copper Tape .250"x9 ft. long	2.00
38F1302	7151	N	1	Mylar Tape .100"x30 ft. long	1.00
38F1303	7152	N	1	Mylar Tape .150"x30 ft. long	1.25
38F1304	7153	N	1	Mylar Tape .200"x30 ft. long	1.50
38F1305	7154	N	1	Mylar Tape .300"x30 ft. long	2.00
38F1306	7201	O	250	Copper Donut Pads .100" dia.	2.50
38F1307	7202	O	250	Copper Donut Pads .125" dia.	2.50
38F1220	7203	O	250	Copper Donut Pads .187" dia.	3.00
38F1221	7204	O	250	Copper Donut Pads .250" dia.	3.50
38F1222	7251	P	5	Copper Sheet, 5"x6", Adhesive Backing	5.75
38F1223	7301	Q	1	Pre-punched Epoxy Board 8½"x17" .100 Spacing	8.00
38F1224	7351	R	1	Plain Epoxy Glass Board 6"x12"	1.95
38F1225	7352	R	1	Plain Epoxy Glass Board 12"x18"	5.35
38F1226	7402	S	1	Shaped Punched Board 4½"x6½"	5.25
38F1227	7403	S	1	Shaped Punched Board 4½"x4"	4.25
38F1228	7453	S	1	Shaped Plain Board 4½"x4"	2.35
38F1229	7452	S	1	Shaped, Plain Board 4½"x6½"	2.95
38F1230	7501	T	1	Connector, .156 Spacing, 15 Pins	2.35
38F1231	7502	T	1	Connector, .156 Spacing, 30 Pins	2.75
38F1232	7503	T	1	Connector, .156 Spacing, 22 Pins	3.00
38F1233	7504	T	1	Connector .156 Spacing, 44 Pins	3.50
38F1234	8901	U	200	Jumpers, Combination of Lengths	6.75
38F1235	8902	U	500	Jumpers, Combination of Lengths	14.50
38F1236	8951	V		Complete Evaluation Kit	89.50

PRECISION PRINTED ARTWORK SYMBOLS FROM CENTRON ENGINEERING, INC.



Stock No.	Type	Description	Symb. Per Pkg.	Per Package Price 1-24	25-99	100-UP
38F1200	2001	TO-18 2x 3 Lead	250	6.50	6.18	5.85
38F1201	2011	TO-5 2x 3 Lead	250	6.50	6.18	5.85
38F1202	2007	TO-5 2x 8 Lead	250	6.50	6.18	5.85
38F1203	2010	TO-5 2x 10 Lead	250	6.50	6.18	5.85
38F1204	1003	Reg. Target	250	6.50	6.18	5.85
38F1206	1007	Reg. Target	250	6.50	6.18	5.85
38F1207	1009	Reg. Target	250	6.50	6.18	5.85
38F1208	2029	14 Lead Plug-In	250	7.50	7.13	6.75
38F1209	2030	14 Lead Plug-In	250	7.50	7.13	6.75
	2081	Connector Strips .156 Spacing, 2x	30	5.00	4.75	4.50

CIRCUIT ARTWORK TAPE (BLACK CREPE) 20 YARD ROLL

Stock No.	Type	Size	Rolls Per Pkg.	Per Package Price 1-24	25-99	100-UP
38F1210	CT 100-031	.031"	3	2.25	2.14	2.03
38F1211	CT 100-040	.040"	3	2.40	2.28	2.16
38F1212	CT 100-050	.050"	3	2.40	2.28	2.16
38F1213	CT 100-062	.062"	3	2.40	2.28	2.16
38F1214	CT 100-080	.080"	3	2.40	2.28	2.16
38F1215	CT 100-093	.093"	3	2.40	2.28	2.16
38F1216	CT 100-100	.100"	2	1.50	1.43	1.35
38F1217	CT 100-125	.125"	2	1.50	1.43	1.35
38F1218	CT 100-156	.156"	2	1.60	1.52	1.44
38F1219	CT 100-187	.187"	2	1.60	1.52	1.44
38F1308	CT 100-200	.200"	2	1.60	1.52	1.44
38F1309	CT 100-250	.250"	2	1.60	1.52	1.44

DONUT PADS (BLACK)

Stock No.	Type	O.D.	I.D.	Donut Pads Per Pkg.	Per Package Price 1-24	25-99	100-UP
38F1310	P-7100	.100	.031	500	2.50	2.38	2.25
38F1311	P-7140	.125	.031	500	2.00	1.90	1.80
38F1312	P-7260	.187	.040	500	2.00	1.90	1.80
38F1313	P-7300	.200	.040	500	2.00	1.90	1.80
38F1314	P-7400	.250	.062	500	2.00	1.90	1.80
38F1315	P-7460	.300	.062	500	2.50	2.38	2.25
38F1316	P-7500	.312	.062	500	2.50	2.38	2.25
38F1317	P-7540	.375	.062	500	2.50	2.38	2.25
38F1318	P-7600	.400	.062	500	3.25	3.09	2.93
38F1319	P-7720	.500	.062	500	3.75	3.56	3.38

Integrated Circuit Sockets

TEXAS INSTRUMENT

INTEGRATED CIRCUIT CONNECTOR SYSTEM

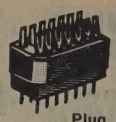
PART NUMBER CODES

XX — 000XX — 0000

- XX — Product Family
- 000XX — Number of Contacts Leads or Sockets
- 0000 — Variations Designation
- Device Description

DEVICE DESCRIPTION CODE

IC = Integrated Circuit Packaging Systems
WP = Wrap Type Termination Socket
ST = Solder Tail Termination Socket
SC = Solder Cup


Plug

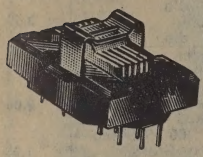
Wire Wrap Socket

Stk. No.	Type IC-	Replaces	Term.	Descrip.	1-99	100-999
58F350	014WP-7611	MPC-17A	14	Wire Wrap	.99	.78
58F351	016WP-7613	MPC-17B	16	Wire Wrap	1.19	.94
58F354	014ST-7519	.....	14	Solder Tail	.65	.48
58F355	016ST-7520	.....	16	Solder Tail	.78	.58
58F356	014ST-7506	MPC-9A	14	Solder Tail	1.20	.90
58F357	016ST-7507	MPC-9B	16	Solder Tail	1.40	1.05
58F359	014IP-7512	MPC-16	14	Intercon Plugs	4.15	3.30
58F360	016IP-7508	MPC-12	16	Intercon Plugs	4.50	3.55

CAMBION

FLAT PACK HOLDERS

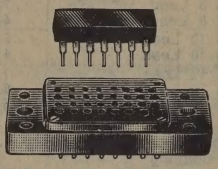
Accepts any std. 14-lead flat pack.



Molded diallyl base; raised platforms prevent moisture trapping. Available with .025" gold plated pins for soldering, or plug-in, or .025 square wire wrapped contacts. Size: 1.200" x .776" x .625" (less pins.)

Stk. No.	Type No.	Contact Type	1-9	10-49	50-99
40F3996	3773-1	.025" dia. pin plug	2.65	2.39	2.12
49F3997	3774-1	.025" sq. wire wrap	3.45	3.10	2.76

HIGH RELIABILITY IN-LINE SOCKETS



Molded diallyl — .100" contact spacing. Patented gold plated jacks with ribbon insert for use with .200" or .300" standard 14/16 flat pin modules. Size: 1.500" by .600"; molded height .275". Removable headers, replaceable pins. For continued re-use in laboratory, R & R and design breadboarding use.

Stk. No.	Type No.	Socket Contact	1-9	10-49	50-99
40F3998	3793-2-0316	Solder Terminals	3.60	3.25	2.88
40F3999	3795-2-0316	Sol. Pot Terminals	5.10	4.60	4.10
40F4007	3797-2-0316	Wire Wrap Terms.	4.00	3.60	3.20
40F4008	3799-2-0316	.025 Pin Plug	3.60	3.25	2.88

DUAL IN-LINE SOCKETS

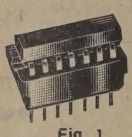


Fig. 1

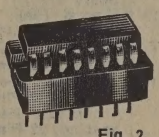


Fig. 2

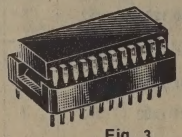


Fig. 3

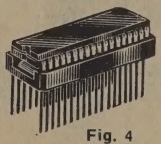


Fig. 4

Fig. 5

Fig. 6

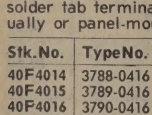
Fig. 7

High Density IC Sockets, which accept 14, 16, 24 and 36-pin dual in-line integrated circuits, are available with either wire-wrap or solder tab terminations. These new sockets may be used individually or panel-mounted for production or breadboarding applications. Features such as one-piece wire-wrap contacts, accepting round or flat leads up to .024" (0.61mm), and a one-piece molded diallyl insulator insure excellent conductivity and mechanical stability.

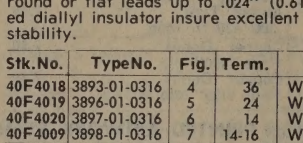
Stk.No.	TypeNo.	Fig.	Term.	Desc.	1-9	10-49	50-99
40F4014	3788-0416	1	14	Solid Tab	.98	.88	.78
40F4015	3789-0416	2	14-16	Solid Tab	1.05	.95	.84
40F4016	3790-0416	3	24	Solid Tab	1.94	1.75	1.55
40F4017	3791-0416	3	36	Solid Tab	2.54	2.29	2.03
40F4018	3893-01-0316	4	36	Wire Wrap	2.76	2.48	2.21
40F4019	3896-01-0316	5	24	Wire Wrap	2.19	1.97	1.75
40F4020	3897-01-0316	6	14	Wire Wrap	1.09	.98	.87
40F4009	3898-01-0316	7	14-16	Wire Wrap	1.22	1.10	.98

QUALITY SOCKETS

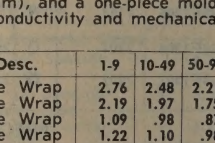
INTEGRATED CIRCUIT SOCKET



Molded phenolic base with up to 16 leads (.125" spacing) for Texas Instruments and IBM integrated circuits. Brass Cad. plated terminals. W mntg. ears: 1⅜x⅜x15/64; w/o, ⅜ x ⅜ x 15/64. No. of pins for 51-1300 is 13, 51-16000 has 16.



51-13000

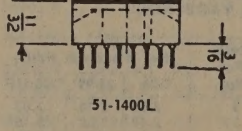


51-16000

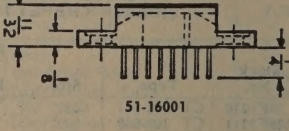
Stk.No.	Type	Terminals	1-49	50-99	100-249	250-499	500-Up
40F4046	51-13000	Solder	.50	.45	.40	.32	.22
40F4047	51-16000	Printed Cir.	.58	.52	.46	.37	.25

IN LINE SOCKET

Accepts any standard 14 or 16 lead dual-in-line integrated circuit. Molded phenolic base; phos. bronze cadmium plated terminals .100" spacing. Size: solder term. with mntg. ears—1 7/16 x 13/16x9/32"; Printed cir. w/o mtng. ears—13/16x½x9/32". No. of pins for both 51-16001 16 pins and 51-1400L is 14.



51-1400L

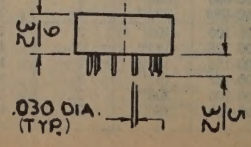


51-16001

Stk.No.	Type	Terminals	1-49	50-99	100-249	250-499	500-Up
40F4044	51-14000	Printed Cir.	.54	.49	.43	.34	.23
40F4048	51-160001L	Solder	1.00	.90	.80	.65	.50
40F4049	51-16002L	Printed Cir.	.54	.52	.43	.34	.25

TO-5 INTEGRATED CIRCUITS SOCKETS

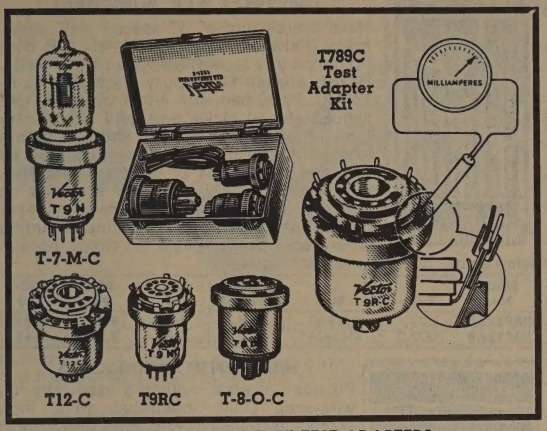
IC sockets have contacts made of brass, cadmium plated. Are molded of mical filled phenolic. Accepts ten .017 diameter pins.



51-10000

Stk. No.	Type	Terminals	1-49	50-99	100-249	250-499	500-Up
40F4045	51-10000	Printed Cir.	.40	.36	.32	.26	.18

CURRENT AND VOLTAGE TEST ADAPTERS



COMBINATION TYPE TEST ADAPTERS

Permit measuring current and/or voltage in operating circuits from tube side of chassis without cutting leads. Adapter is placed in tube socket between tube and chassis. Measurements are made by inserting special dual sided probe into adapter tabs which opens circuit and provides current reading at any pin position wherever inserted. Voltage and waveform checks may be made by joining probe leads and connecting to meter. Adapters fit inside shield bases and tube clamps. Long lived Beryllium copper silver plated contacts and mica filled phenolic castings used throughout for long life.

Stock No.	Type	1-19	20-99	100-199	200-999
38F1041	T-7-M-C 7 pin Min.	2.53	2.28	2.12	1.63
38F1042	T-9-N-C 9 pin Min.	2.70	2.43	2.27	1.80
38F1043	T-8-O-C Octal	3.19	2.87	2.68	2.13
38F1044	P-2 Probe-Required with above	.79	.79	.79	.79
38F1045	T789C Kit of all above in case	9.74	7.46	8.17	6.52
38F1084	T9RC Novar	3.65	3.29	3.07	2.45
38F1085	T12C Compactron	3.85	3.47	3.23	2.58
38F1044	P-2 Probe-Required with above	.79	.79	.79	.79
38F1352	T912C Kit of Novar, Compactron, Probe in case.	8.29	8.75	6.96	5.55

VOLTAGE TYPE TEST ADAPTERS

Similar to above, but designed for making voltage and wave form checks only.

Stock No.	Type	1-19	20-99	100-199	200-999
38F617	T-7-M 7 Pin Min.	1.65	1.49	1.39	1.11
38F616	T-8-0 8 Pin Octal	1.75	1.58	1.47	1.17
38F615	T-9-N 9 Pin Octal	1.85	1.67	1.55	1.24
38F466	P1-Probe for above	.52	.47	.44	.35
38F618	T-789 Set of above in case*	5.90	5.31	4.96	3.95

SOLDERLESS I.C. BREADBOARD SOCKETS

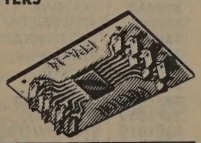
570G

Consists of I.C. socket mounted on an epoxy glass wafer, tabs are soldered to patented solderless numbered terminals located at wafer's edge. I.C. devices are plugged into socket, then any number of wires may be connected and disconnected to any I.C. pin without soldering, by putting wire in corresponding solderless terminal. Wafers are furnished with installed .093" diameter pins spaced to engage "A" pattern Vectorbord* holes. Shipping weight 5 ounces.

Stock No.	Type	Description	1-49	50-199	200-499
38F1090	570G	For 14 pin dual-in lines 2.63x1.33	3.95	3.60	3.20
38F1092	570F	For 12 lead round T0-5 Pkg. I.C. 2⅜x1⅝"			

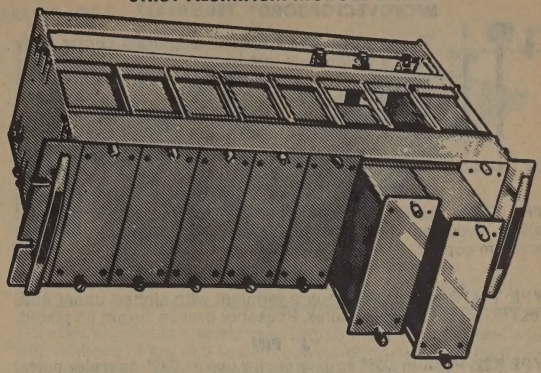
FLAT PACK I.C. ADAPTERS

Wafers provide easy way of mounting 14 pin flat packs I.C. circuits to "P" pattern Micro-Vectorbord* Connections to any flat pack lead may be made to corresponding terminal. Also supplied for mounting 12 flats, without terminals. Shipping weight, 4 ounces.



Stock No.	Description	1-49	50-199
38F1354	FPA-14 Pkg. 4 wafers 1 x 1.6"	2.10 per pkg.	1.89
38F1355	FPA-14-1 Wafer 4.8 x 4.5"	3.36 each	3.02

STRUT ALUMINUM MODULE CAGES



CAGE WITH EFP CASES

Module cages provide a means of modularizing or housing plug-in circuit cards 4½" wide by 6½" long, or shorter, in length will mount cages which are 5¼" high by 8.9" deep and may be mounted in any standard rack or cabinet. Made from anodized aluminum, cage walls are .080" thick and jointed together by 6 strong extruded aluminum "triple tee" struts which have captive grooves for easy mounting of connectors at the rear, and module guides in the forward section. Cages are available partially assembled or in kit form to accommodate eight 2" wide or ten 1.6" wide EFP modules listed below.

Stock No.	Type	Description	1.49
38F1356	CMA-3-20	Cage, assembled, guides accommodate 8 2" wide EFP Modules	49.24
38F1357	CMK-3/ CMG-7	Cage, kit form, guides accommodate 8 2" wide EFP Modules	37.08
38F1358	CMA-3-16	Cage, assembled, guides accommodate 10 1.6" wide EFP Modules	53.40
38F1359	CMK-3/ CMG	Cage, kit form, guides accommodate 10 1.6" wide EFP Modules	37.08

EFP MODULES FOR VECTOR STRUT CAGES

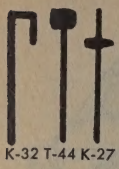
Modules accommodate 4½ x 6½" circuit cards completely inside which mount in .150" spaced extruded grooves running lengthwise in the cases. 1.6" wide modules have 6 circuit card grooves; 2" wide modules have 9 grooves. Module front panels are .080" thick and furnished with two captive 10-32 thumb screws which engage nuts provided with above cages. Sides of the modules slide off toward the rear for easy access to circuit cards inside. Back panels of modules are solid and may be slotted for circuit card emergence, or may have BNC connector etc. mounted. Modules provide about 80 db. of shielding and are natural anodized finish and are supplied unassembled. Ten of the 1.6" or eight of the 2.0" wide modules will fit in the module cages shown. above. Shipping weight 1 lb. per module.

Stock No.	Description	1-49	50-199
38F1360	EFP Module 1.6" wide x 6.6" long x 4.6" high for max. card size 4½ x 6½x1/16" Model EFP 104-6.6	5.76	5.18
38F1361	EFP Module 2.0" wide x 6.6" long x 4.6" high for max. card size 4½ x 6½ x 1/16" long Model EFP 204-6.6	6.07	5.46

NEWARK Carries complete lines of top quality electronic equipment. Newark can supply all your needs, whether or not they are listed in this catalog.

Vector Structures For Circuitry

MICROVECTORBORD® TERMINALS


K-32 T-44 K-27

Types K24A and K27A have knurled center body flange which cuts into insulating board and lightly holds pin which protrudes from both side of board. Pins are phosphor bronze nickel and gold plated and function as compact wiring posts and test points. Retainers, listed below may be pushed over pin ends for permanent retention in board.

ZIP MICRO KLIP TERMINAL

TYPE T42-1. Pushes into .022" diameter holes and holds without staking. Provided with slot on one end and hole on post end. Beryllium copper, bright tin plated.

MINI-WRAP

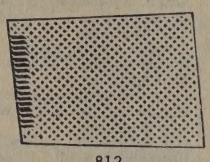
TYPE T44. Push-in .025" square terminal with slotted upper end. Press fit into .042" square holes. Phosphor bronze, bright tin plated.

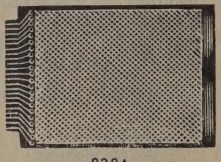
"J" PIN

TYPE K32. Push-in .025" square pin for use in .042" diameter holes. Use with T42-1 to make wire-wrap tail or bend over short leg to stake terminal in board. Phosphor bronze, tin plated.

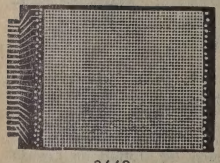
Stock No.	Type	Description	Diam.	Length	Bag of 50	Bag of 100	Bag of 1000
38F1071	K27A	Pin	.025"	3/8"	.86	.....	.....
38F1072	K24A	Pin	.040"	5/8"	1.44	.....	.....
38F1362	K32	Pin	.042"	2 1/32"	.....	1.49	10.35
38F1363	T42-1	Terminal	.042"	2 3/64"	.....	1.82	13.51
38F1364	T44	Terminal	.042"	1 1/16"	.....	3.00	25.70

"PLUGBORDS" AND RECEPTACLES

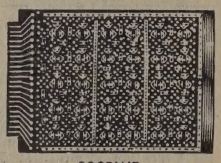

R616-1


812

838A


3662

For Test Circuits, PC Prototypes, Short Runs


838PWE

Wide variety of plugbords accomodates all types of components from integrated circuits packaged in TO-5 cases or DIP style thru discrete components. All listed types are 1/16" thick and have overall grids of pre-punched holes to accept component or I.C. leads, sockets or available terminals, and plug tips on bottom edge, either Elco Varicon type or copper etched type.

PLUGBORDS WITH INSTALLED ELCO VARICON CONTACT

Stock No.	Type	Size	Contacts	1-19	20-99	100-199
38F471	837	3x4 1/2"	12	2.33	2.10	1.96
38F472	812	4 1/2 x6 1/2"	16	2.98	2.68	2.50
38F482	837WE	3x4 1/2"	12	2.58	2.32	2.17
38F483	812WE	4 1/2 x6 1/2"	16	2.53	3.18	2.97
38F395	848WE	4 1/2 x6 1/2"	35	6.09	5.48	5.12
38F1365	848PWE	4 1/2 x6 1/2"	35	6.09	5.48	5.12

ETCHED CONTACT PLUGBORDS

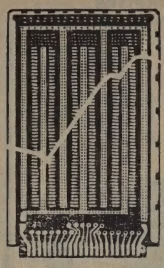
38F484	838A	4 1/2 x6 1/2"	22	2.81	2.53	2.36
38F485	838	4 1/2 x6 1/2"	43	3.89	3.50	3.27
38F1079	838AWE	4 1/2 x6 1/2"	22	3.17	2.85	2.66
38F1080	838WE	4 1/2 x6 1/2"	43	3.86	3.47	3.24
38F1366	366Z	4 1/2 x6 1/2"	44	6.95	6.26	5.84
38F1081	838AWE-1GN	4 1/2 x6 1/2"	22	4.70	4.23	3.95
38F1082	838AWE-1GN	4 1/2 x6 1/2"	43	5.81	5.23	4.88

RECEPTACLES FOR VARICON PLUGBORDS ABOVE

Stock No.	Type	Size	Contacts	1-99	100-249
38F397	R612-1	2.880"	12	1.89	1.47
38F396	R616-1	2.680"	16	2.36	1.83
38F394	R635	3.934"	35	4.91	3.27

RECEPTACLES FOR ALL ETCHED PLUGBORDS

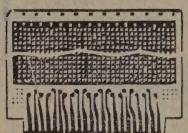
38F487	R644	3.584"	44	2.62	.....



UNIVERSAL D.I.P. PLUGBORDS

Have overall grid of .1" spaced .042" diam. holes (Pattern "P"). Ideal for all DIP configuration IC's regardless of number of leads. Boards are tan FR-4 epoxy glass per MIL-P-18177C. Furnished with either 22 or 44 .156" spaced etched nickle and gold plated contacts. Bus patterns for VCC and Ground are interleaved and tinned. Numbered coordinates provided on borders of boards with buses. Out line of the buses is silk screened on opposite side of board for easy component layout. Push-in terminals and pins, including wire-wrap types available for circuit hookup using solder or wire wrap techniques.

Stock No.	Type	Size	Contacts	1-19	20-99	100-199
38F1367	3677	4.5x9.6"	44	9.89	8.90	8.31
38F1368	3677-2	4 1/2 x6 1/2"	44	8.84	7.96	7.43



HIGH-DENSITY PLUGBORDS

Provide universal mounting especially for: wire-wrap D.I.P. integrated units; high component density; production, prototype or breadboard. Also suitable for solder type construction. Boards may be trimmed to 4.23" without detriment to printed circuitry.

Stock No.	Type	Description	1-19	20-99	100-199
38F1369	3682	4.5x9.6", 44 contacts bus pattern/side	9.50	8.55	7.98
38F1370	3682-2	4.5x6.5", 44 contacts bus pattern/side	8.49	7.64	7.13
38F1371	3682-4*	4.5x6.5", bus pattern/side	9.25	8.33	7.77

*Tinned ground plane opposite side with etched clearance around holes.

VECTORBORD* and MICRO-VECTORBORD*

Pre-punched terminal boards provide overall grids of holes useful in breadboarding as well as production. "P" pattern boards are useful for "DIP's" because DIP's or DIP socket leads pass directly through the holes for easy mounting. *2 oz. copper 1 side **2 oz. copper 2 sides boards are desirable for "ground plane" construction when used with pad cutter tools. Boards meet following mil. specs. Phenolic, MIL-P-1135, Max. Temp. 250°; Epoxy paper MIL-P-22324 Max. Temp. 250°; Epoxy Glass, Type FR 4, Grade G-10, MIL-P-18177; Copper Clad Phenolic Boards, MIL-P-13949.

BOARD PATTERNS

Patterns	A	B	C	F	G	H	P	M
Size	.093	.062	.093	.062	.062	.062	.042	.025
Spacing	.265	.187	.2	.2	.1x.2	.1	.1	.05

EPOXY PAPER

Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F423	64AA18EP	AA	3/32x4 13/16x17"	3.05	2.75	2.56
38F425	32AA18EP	AA	3/32x4 13/16x8 1/2	1.64	1.48	1.38
38F426	85F24EP	F	1/16x4 13/16x17"	2.28	2.05	1.92
38F1047	85F42EP	F	1/16x8 1/2 x17"	3.95	3.56	3.32
38F427	85G24EP	G	1/16x4 13/16x17"	2.28	2.05	1.92
38F459	85G42EP	G	1/16x17x8 1/2"	3.95	3.56	3.32
38F1372	64P44-062EP	P	1/16x4 1/2 x6 1/2"	1.69	1.52	1.42
38F1373	169P44-062EP	P	1/16x4 1/2 x17"	3.83	3.45	3.22
38F1374	64P44-062EPC1*	P	1/16x4 1/2 x6 1/2"	2.19	1.97	1.84
38F1375	64P44-062EPC2*	P	1/16x4 1/2 x6 1/2"	2.34	2.11	1.97

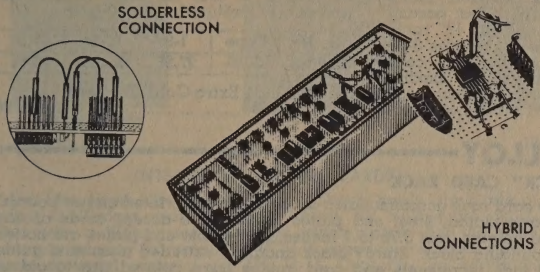
XXXP PHENOLIC

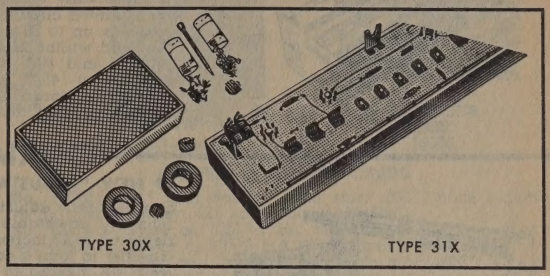
Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F422	64AA18	AA	3/32x4 13/16x17"	1.66	1.49	1.39
38F424	32AA18	AA	3/32x4 13/16x8 1/2"	.87	.78	.73
38F420	32AA9	AA	3/32x7 1/16x8 1/2"	.62	.56	.52
38F421	64A18	A	1/16x4 13/16x17"	1.30	1.17	1.09
38F460	64AA32	AA	3/32x17x8 1/2"	2.86	2.57	2.40
38F1048	45B30	B	1/16x5.69x8.51"	.87	.78	.73
38F1049	90B30	B	1/16x5.69x16.97"	1.68	1.51	1.41
38F393	42F22C1*	F	8 1/2 x4 1/2 x1/16"	1.04	.94	.87
38F392	42F22C2**	F8	8 1/2 x4 1/2 x1/16"	1.37	1.23	1.15

EPOXY GLASS

38F463	64A18WE	A	1/16x4 13/16x17"	3.87	3.48	3.25
38F391	42G22WEC1	G	8 1/2 x4 1/2 x1/16"	2.65	2.39	2.23
38F390	42G22WECZ**	G	8 1/2 x4 1/2 x1/16"	2.70	2.43	2.27
38F1050	42G24WE	G	1/16x4.8x8.5"	1.97	1.77	1.65
38F464	85G24WE	G	1/16x4 13/16x17"	3.96	3.56	3.33
38F1051	85G42WE	G	1/16x8.5x17"	5.64	5.08	4.74
38F1052	166M76/032	M	1/32x8.5x4"	2.89	2.60	2.43
38F1053	169P59/032	P	1/32x17x6"	5.79	5.21	4.86
38F1019	170H48WE/032	H	17x4 1/16x1/32"	3.57	3.21	3.00
38F1070	170H48WE	G	17x4 13/16x1/16"	4.23	3.01	3.55
38F1376	64P44-062	P	6 1/2 x4 1/2 x1/16"	1.79	1.61	1.50
38F1377	169P44-062	P	17x4 1/2 x1/16"	4.36	3.92	3.61
38F1378	169P44-062C1*	P	17x4 1/2 x1/16"	5.36	4.82	4.56
38F1379	169P44-062C2*	P	17x4 1/2 x1/16"	6.27	5.64	5.27

INTEGRATED CIRCUIT KITS





Designed for quick and easy hookup of integrated circuits in various package configuration and/or discrete components. Kits are built around 1/16" thick pre-punched epoxy paper chassis which has .042" diameter holes located on .1" centers, 2" high supporting extruded aluminum chassis rails (which may be turned into a box with addition of top and bottom covers) solderless and solderable terminals, plus other accessories listed below.

PROFESSIONAL SIZED INTEGRATED CIRCUIT KITS

Type 29X. Epoxy paper chassis, 2" high extruded aluminum supporting rails, solderless "Daisy Chain" contacts to slip over furnished pins, bare tinned and "Beliol" solder thru insulated wire, push-in wire wrap terminals, push-in Micro-Klip solderable terminals and installing tool, solderless contact lugs, micro bus slip, 14 and 16 pin DIP sockets, transistor sockets, 8 and 10 lead I.C. sockets, mounting pads for 12 lead round packaged IC's. Shipping wt. 2 lbs.

Stock No.	Type	Size	1-49	50-199
38F1091	29X	4½ x13.9"	59.75	53.78

INTEGRATED CIRCUIT BREADBOARD KIT

Type 30X. Includes chassis rails, Microbus strip, 100 T42-1 terminals and installation tool, 50 K-32 type wire wrap terminals, bare tinned wire and "Beliol" solder thru insulated wire, layout paper instruction sheets. Shipping weight 1 lb.

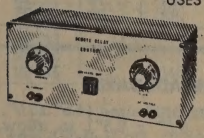
Type 31X. Large chassis with same materials as above, plus, K24C inbord pins, 2 pot and switch brackets. Shipping weight 1 lb.

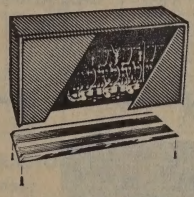
Stock No.	Type	Size	1-49	50-199
38F1350	30X	4½ x8½"	10.75	9.68
38F1351	31X	4½ x17"	17.50	15.75

MODULAR CASES FOR CARD MOUNTED CIRCUITRY

Strong extruded aluminum cases with continuous 1/16" slots on inner walls hold circuit cards (or between card shielding plates) without drilling holes or special brackets. Cases have an anodized satin finish and feature a quickly removable end piece and slide out sides for easy access to cards. Slide out side panels are .062" aluminum and may be punched for mounting meters, lights, and etc. Main case body is a one piece "U" shaped member. Modules without cutouts provide about 80 db. of shielding. Shipping weight is 1 lb., average.

MULTI-MOD TYPE



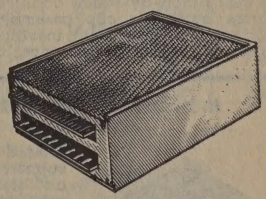


Useful for instruments and requirements for portable cases employing card mounted circuitry. Any side of case may be used as front, back, top or bottom. Modules have .150" spaced .075" wide slots on all inner surfaces running parallel to longest case dimension.

Stock No.	Type	Size	Card Dimen.	1-49	50-199	200-499
38F582	W20-46-31	2x4.61x3.10"	4½ x6½"	3.93	3.54	2.75
38F583	W20-66-46	2x6.61x4.61"	6½ x4½"	5.15	4.64	3.61
38F584	W30-66-46	3x6.61x4.61"	6½ x4½"	5.95	5.36	4.17
38F585	W30-86-46	3x8.61x4.61"	8½ x4½"	6.50	5.85	4.55
38F586	W45-86-46	4.5x8.61x4.61"	8½ x4½"	6.95	6.26	4.87

VECTOR PAK TYPE

- **Designed to accommodate cards and be used as plug-in**
- **May be clotted to pass circuit board plug tips.**



Same material and finish as Multi-Mod cases, but specially designed to accommodate cards and for plug-in use. Removable base plate is flat .062" stock and may readily be clotted to pass circuit board plug tips. Sides can be slid open without removing base plate for inspection of circuitry.

Stock No.	Type	Size	Max. Card Dimen.	1-49	50-199	200-499
38F587	HF20-46-62/1	2x4.62x6.21"	4½ x6"	4.40	3.96	3.08
38F588	HF20-31-42/1	2x3.12x4.21"	3x4"	3.74	3.37	2.62
38F589	HF20-31-86/1	2x3.12x8.68"	3x8½"	5.50	4.65	3.85

MODULAR PLUG IN CASES

Case consists of ring mounted 8 pin mica filled octal plug mounted in base, cover and various internal structures. "N" or "NN" indicates one or two nine pin miniature sockets mounted in top of case with shield bases with supporting turret with 12 lugs below socket. Types with "T" have inside turret post with no socket. New low cost type has 8 pin bakelite plug swaged in base with two mounting holes to accept diagonally mounting terminal wall. Terminal wall 511 is 2.7" x 1.9" with 7 x 10 .093" hole pattern. 513 terminal wall is 2.7" x1.9" with 9 x 13 x 2 .062" hole pattern.

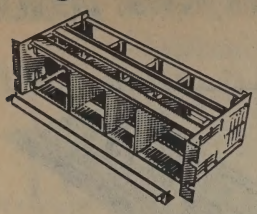
Stock No.	Type	Size	1-49	50-199	200-499	500-999
38F440	B-8	1⅜ x2x1⅜"	1.56	1.40	1.09	1.05
38F441	B-10	1⅜ x2½ x1⅜"	1.57	1.41	1.10	1.05
38F610	B-10-N	1⅜ x2½ x1⅜"	2.46	2.22	1.73	1.65
38F443	B-10-T	1⅜ x2½ x1⅜"	1.90	1.72	1.33	1.28
38F445	C-10	2x2½ x2½"	1.50	1.35	1.05	1.01
38F447	C-12	2x3x2"	1.44	1.30	1.01	.97

Stock No.	Type	Description	1-49	50-199	200-499	500-999
38F448	C-12-T	2x3x2"	2.11	1.90	1.47	1.42
38F612	C-10-NN	2x2½ x2"	3.39	3.05	2.38	2.27
38F595	C-12K1.02	2x3x2"	1.10	.99	.77	.74
38F591	511	Terminal Wall	.69	.62	.47	.46
38F592	513	Terminal Wall	.81	.73	.57	.54

Integrated Circuit Equipment

H. H. SMITH

ADJUSTABLE PRINTED CIRCUIT RACK



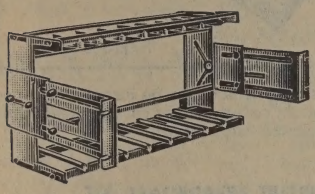
A universally adjustable extruded aluminum printed circuit card rack that accommodates up to 39 cards and fits 19" rack. For card widths 2⅜" to 4¾", lengths 3½" to 7¼" and ⅛" thick. Adjustable card spacing at .400" increments. A locking bar holds cards securely against rear connectors. Includes card guides of molded plastic — four for each card. Size: (assemb.) 19x5¼x8". Wt. 2½ lbs.

Stk. No.	Type	1-9	10-24	25-99
65F020	3050	27.95	25.95	23.95

39F1780. 3051 Extra Card Guides. Pkg. of 100 ..... 5.00

THERMALLOY

● *NEW* "ADJUSTARACK" CARD RACK



Symmetrically adjustable card rack accommodates all popular size printed circuit boards. Infinitely adjustable chrome-plated, steel end plates enable it to accept cards of any depth up to 10 inches and heights from 3.75 to 7 inches. Adjustable end plates are bolted together to form a solid building block. Sturdy black anodized extruded aluminum guide rails are marked in 0.10 inch increments and card guides have pointed tips to aid in aligning them along marked guide rails. This feature makes card spacing infinitely variable down to 3 inch. Shipped completely assembled.

Stock No.	Type	Description	1-24	24-49	50-99	100-Up
43F668	5201	Complete Card Rack (Adjustable)	24.95	21.95	21.95	20.95
43F669	5200-4P	Card Guide 5" long	.25	.20	.18	.17

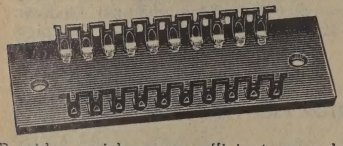
ERIE

INTEGRATED CIRCUIT CARDS

Unit constructed of G-10 glass epoxy. 1/16" thick and standard board is 4" x4". Gold plated contacts with solder plated circuitry. Utilizes the standard twenty-two position double readout edge tabs which can be used in multiples. Basic applications are considered for counters, shift registers, adders, subtractors, and other digital and linear systems.

Stk. No.	Type	Description	I.C. Modules	1-49	50-99
19F3441	4206-201	14 pin dual in-line (power on)	8	10.00	9.00
19F3442	4206-202	8 pin T. O. 5 (power on)	12	10.00	9.00
19F3443	4206-205	14 pin dual in-line (power off)	8	10.00	9.00
19F3444	4206-206	8 pin T. O. 5 (power off)	12	10.00	9.00
19F3445	4206-207	10 pin T. O. 5 (power off)	12	10.00	9.00

STRIP PACKAGE SYSTEM

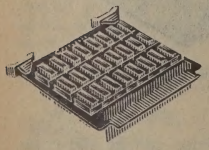


Provides quick, more efficient assembly than with piece-by-piece construction. Features automatic clip assembly, connector cutting, component insertion, and component soldering. Tolerance: ±.005.

Stk. No.	Type	Stat.	Overall Length	Dist. Bwtn. Mtg. Ctrns.	1-49	50-99	100-249	250-499	500-999
19F3069	3976-205-1	5	1.875	1.362	.36	.30	.26	.22	.19
19F545	3976-205-2	10	2.875	2.362	.42	.36	.29	.25	.21
19F546	3976-205-3	15	3.875	3.362	.45	.40	.33	.24	.25
19F547	3976-205-4	20	4.875	4.362	.50	.44	.40	.34	.29
19F548	3976-205-5	25	5.875	5.362	.60	.54	.48	.44	.38
19F549	3976-205-6	30	6.875	6.362	.66	.60	.54	.48	.42
19F1770	3976-228-2	10	2.875	1.800	.75	.68	.58	.54	.50
19F1771	3976-228-3	15	3.875	2.800	.83	.75	.68	.61	.56
19F1772	3976-228-4	20	4.875	3.800	.89	.83	.75	.68	.63
19F1773	3976-228-5	25	5.875	4.800	1.00	.90	.83	.78	.70
19F1774	3976-228-6	30	6.875	5.800	1.08	1.00	.93	.88	.75

CAMBION

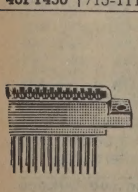
HIGH DENSITY WIRE-WRAP* CAMBI-CARDS



Printed circuit boards designed to support integrated circuits, discretes and electronic components in tightly arranged package for wire-wrap interconnections. 70-pin in-put, out-put edge connector standard. When supplied with power and ground planes, two auxiliary pins are provided beside each socket so integrated circuits can be connected to these planes.

Stock No.	Type	Card Size	No. of Sockets	No. of Pins	1-4	5-9
40F1447	715-1013-01	4.5 x 4.5	24	14	56.70	51.00
40F1448	715-1113-01	4.5 x 9.25	64	14	99.80	89.80
40F1449	715-1011-01	4.5 x 4.5	64	16	58.80	52.90
40F1450	715-1111-01	4.5 x 9.25	24	16	104.00	93.60

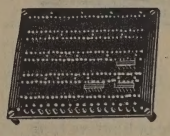
CARD CONNECTORS



Available in two styles, each having 70 contacts. Designed specifically for Cambi-Card circuit breadboards. Wire-wrap version permits automatic programming, as terminals are spaced .100" apart and arranged double column on .200" centers. Mounting holes of both connectors are spaced 4.062" on centers and are .125" diameter. Connectors are gold plated.

Stk. No.	Type	Description	1-9	10-49
40F1451	706-7015-01	Wire-Wrap Terminals	7.50	6.75
40F1452	706-7029-01	Solder-Lug Terminals	6.45	5.80

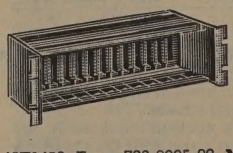
BREADBOARDS



Available in three sizes (4.5" x5.0", 8.0" x 5.0", 8.0" x 9.5") to allow plug-in interchangeability of 16, 32, or 64 standard 14 lead in-line IC's. Boards come with either jacks or terminals. For all IC packages. Except Sylvania.

Stk. No.	Type	For No. Of IC/Board	Description	1-4	5-9
40F6170	0164-01	64 Pattern	Plug-Patchable	289.90	275.40
40F6174	0264-01	32 Pattern	Plug-Patchable	158.80	150.90
40F6178	0364-01	16 Pattern	Plug-Patchable	90.90	86.40

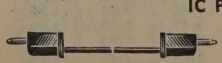
CARD FILES FOR WIRE-WRAP CAMBI-CARD PACKAGING



Card Files are completely assembled for automatic or hand wiring. 19" card file with 13 Cambi-Cards of 64 sockets each, yields a possible total of 832 integrated circuits. Wire-wrap packaging system provides high density, high operating frequency and noise rejection in an economic package.

40F1453. Type 706-9005-02. **NET** **196.40**

IC PATCH CORD KIT

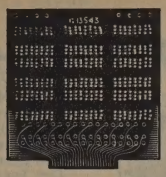


Kit contains one hundred assorted .040" diameter pin patch cords. Cord comes in 4 lengths from 2" to 8".

40F690. Type 446-3892-01. **NET** **49.95**

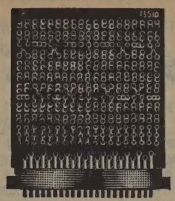
Circuit Cards and Accessories

CO-13540

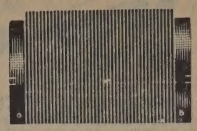


13543

13546



CO-13510-1



EXTENDER CARD 13600

INTEGRATED CIRCUIT CARDS

Triad Integrated Circuit and Printed Circuit cards are made of either G-10 glass epoxy or paper epoxy. All models are available with a Winchester connector which mates with the edge contacts for plug-in versatility. PCM connectors are molded from flame resistant material per MIL-M-14. Contacts are beryllium copper, gold plated, maintaining constant contact.

No. 13540. 25 contact double readout type with 6 flat-pack pads on one side and 6 TO-5 pads on the other. Made of G-10 glass epoxy, gold plated.

No. 13541. Same as 13540 but with 18 contacts on .156" centers.

No. 13542. G-10 glass epoxy board for dual in-line packages. Size: 2.976" x 3.273". Used with an 18 contact double-sided type of connector with bifurcated contacts on .156" centers.

No. 13543. Board for dual in-line packages. Size: 3" x 3.187". Uses double-sided connector with 25 contacts on .050" centers. Meets MIL-M-14, type SDG-F.

No. 13544. Sixteen 8-pin TO-5 mounting pads. Size: 3" x 4.86", 1/16" thick G-10 glass epoxy.

No. 13545. Six 8-pin TO-5 pads on one side and six 14-pin flat pack pads on the other. Size: 3" x 3.187".Connector has 25 contacts and meets MIL-M-14, Type SDG-F, G-10 glass epoxy.

No. 13546. Same as 13545, but with overall dimensions 2.976" x 3.273", has 18 contact type.

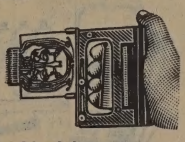
INTEGRATED CIRCUIT CARDS

Stk. No.	Type	1-9	10-24	25-49	50-99
2F976	13540	7.60	6.84	6.16	5.73
2F977	13541	7.60	6.84	6.16	5.73
2F985	13542	7.60	6.84	6.16	5.73
2F986	13543	7.60	6.84	6.16	5.73
2F850	13544	17.65	15.89	14.30	13.29
2F851	13545	7.60	6.84	6.16	5.73
2F852	13546	7.60	6.84	6.16	5.73

INTEGRATED CIRCUIT CARDS WITH WINCHESTER CONNECTORS

2F980	CO-13540	15.85	14.27	12.84	11.94
2F981	CO-13541	10.25	9.23	8.31	7.73
2F983	CO-13542	10.25	9.23	8.31	7.73
2F984	CO-13543	13.60	12.24	11.02	10.25
2F853	CO-13544	26.00	23.40	21.06	19.59
2F854	CO-13545	15.85	14.27	12.84	11.94
2F855	CO-13546	10.25	9.23	8.31	7.73

CIRCUIT CARD EXTRACTORS



Type CE-1. Cam action quick release. One-handed operation with 60-lb. pull. Small space requirement. Becomes integral part of card until release. Sturdy plastic 4 1/4x2 1/2".

Type CE-4. Adjusts to fit card widths from 4 to 6". Heavy gauge steel nickel finish. 6 1/2x4 3/8".

Type CE-5. For cards from 1" to 4" in width. Ideal for miniature integrated circuit cards and modules. Measured 4 1/4 x 4 1/2".

Stk. No.	Type	1-9	10-24	25-49	50-99
2F967	CE-1	11.40	10.26	9.23	8.58
2F968	CE-4	11.88	10.69	9.62	8.95
2F872	CE-5	11.67	10.50	9.45	8.79

UNIVERSAL CIRCUIT CARDS

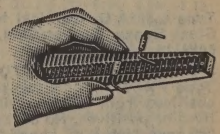
No. 13510-1. 0.1" grid design. Hole size: .052". Base material is 1/16" paper epoxy, 421 holes. Sizes: 4"x4 1/2".
No. 13510-2. Same as 13510-1 but made of G-10 glass epoxy.
No. 13500-1. Similar to 13510 but 223 mounting pads, 444 holes. 22 plug-in fingers on .156" spacing. Hole size: .052". Overall size: 4" x 4 1/2". Made of 1/16" paper epoxy.
No. 13500-2. Same as 13500-1 but made of G-10 glass epoxy.
No. 13511. Similar to 13510 but with 300 mounting pads, 650 holes. Size: 4" x 7".
No. 13125. NASA soldering training board. Made of G-10 glass epoxy, 1/16" thick. Size: 3 1/2" x 6 1/4". Copper one side; conductor widths .062" and .031".
No. 13600-1. Extender card. Used to extend the fingers of a card into otherwise inaccessible places. Size: 5" x 8" with 43 extention strips per side. Made of paper-epoxy.
No. 13600-2. Same as above but made of G-10 glass epoxy.
No. 13750. Prototype fabrication board. Accepts 300 terminals in 7 rows of 1/2" spacing. 22 gold-plated fingers spaced .156". Size: 4" x 4 1/2". 1/16" paper epoxy. .093 dia. holes.
No. 13751. Same as 13750 but with .063" holes.
No. 13800. An overall grid of holes for breadboarding. 646 holes (19 x 34) on 0.20" centers. 1/16" paper epoxy. Size: 4" x 7". .062" holes.
No. 13801. Same as 13800 but with 093" holes.

Stk. No.	Type	1-9	10-24	25-49	50-99
2F969	13510-1	7.10	6.39	5.75	5.35
2F856	13510-2	7.60	6.84	6.16	5.73
2F971	13500-1	7.10	6.39	5.75	5.35
2F857	13500-2	7.60	6.84	6.16	5.73
2F970	13511	12.65	11.39	10.25	9.53
2F859	13600-1	10.65	9.59	8.63	8.03
2F860	13600-2	12.35	11.12	10.01	9.31
2F861	13750	3.92	3.53	3.18	2.96
2F862	13751	3.92	3.53	3.18	2.96
2F864	13801	1.40	1.26	1.13	1.05

UNIVERSAL CIRCUIT CARDS WITH WINCHESTER CONNECTORS

2F982	CO-13500-1	10.17	9.15	8.24	7.66
2F865	CO-13500-2	10.65	9.59	8.63	8.03
2F866	CO-13511-A	15.70	14.13	12.72	11.83
2F867	CO-13511-B	18.77	16.89	15.20	14.14
2F868	CO-13510-1	10.17	9.15	8.24	7.66
2F869	CO-13510-2	10.65		8.63	8.03
2F870	CO-13750	6.65	6.00	5.40	5.00

LEAD BENDING GAUGES



Type MK-1. For 1/4 watt resistors.
Type MK-2. For 1/2 watt resistors.
Type MK-3. For 1 watt resistors.
Type MK-4. For 2 watt resistors.
MK gauges may also be used on other similar components. Each has 40 different numbered positions, the sizes of which vary between the limits in the size column in the tab below.

Stk. No.	Type	Size	1-9	10-24	25-49	50-99
2F972	MK-1	.375-1.50	3.25	2 92	2.73	2.44
2F973	MK-2	.50-1.50	3.25	2.92	2.73	2.44
2F974	MK-3	.75-2.50	4.10	3.67	3.30	3.07
2F975	MK-4	.875-2.50	4.10	3.67	3.30	3.07

MAKE NEWARK YOUR DEPENDABLE SOURCE FOR ALL ELECTRONIC PARTS & EQUIPMENT

Whether ordering in quantity for production, or in small lots for special projects, make NEWARK your headquarters for electronic supplies—Get the exact part you need from an inventory of over 70,000 items.

FAST — DEPENDABLE SERVICE

Kepro P. C. Kits & Materials

KEPRO PRINTED CIRCUIT KITS AND MATERIALS

Provide industrials with every means for establishing printed circuit facilities to answer the demands of bread-boarding, prototype productions and full quantity production. Kepro kits supply the materials, equipment and know-how to assure successful professional results from the initial stages of your program. Write for Quantity Prices.

STANDARD KIT

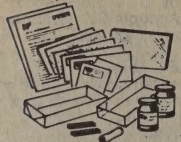
Type S-101A. An etching kit designed to custom fabricate your own circuit board. A liquid or tape resistant is manually applied to the XXXP Phenolic copper clad sheet in the desired pattern, then etched. A perforated copper clad panel is supplied with this kit to speed component mounting. Contents: 2 sheets 3x6x1/16" copper clad phenolic, unsensitized. 1 sheet 3x6x1/16" perforated copper clad phenolic, unsensitized 1-Resist. Marking Pen. 1-Package assorted Tapes and Dots. 2-Bottles Etching Solution. 1-Plastic Etching Tray. 1-Cleaning Pad and instructions. Shpg. wt., 2 lbs.

19F2000. NET **3.95**

Type S-101A-G. Identical to S-101A Kit except, base material is G-10 Glass Epoxy. Copper Clad.

19F2001. NET 5.25

PROFESSIONAL KIT



Type P-101A. An etching kit designed to custom fabricate your own circuit board utilizing a photo engraving process. A sensitized sheet of XXXP Phenolic copper clad is exposed through your prepared negative, then developed and etched. Contents: 2 sheets 3x6x1/16" photosensitized copper clad phenolic, 1 sheet 3x3x1/16" photosensitized copper clad phenolic, 3 sheets Mech. Neg. 1-Print Frame Glass. 2-Print Frame Clamps. 1-Bottle Developer. 2-Bottles Etching Solution. 1-Aluminum Developing Tray. 1-Plastic Etching Tray. 1-Cleaning Pad. With complete instructions. Shpg. wt., 3 lbs.

19F2002. NET **5.85**

Type P-101A-G. As above except base is G-10 Glass Epoxy. Copper Clad.

19F2003. NET 7.40

ETCHED CIRCUIT LAB

Type L-505A. A complete lab which contains all materials required for circuit board development. Uses high quality photo processing. Contains: 1-8½x12 Developing Tray. 1-8½x12 Etching Tray. 1-Safelight. 1-Printing Frame. 1-Photo Flood Lamp. 1-KEPRO Photo Layout Kit (PL-2A). 1-40-10 Mech. Neg. 1-Etching Solution (1 Pint). 1-Developing Solution (1 Pint). Resist. marking pen. 1-3⅛x7⅛x1½" Plastic Tray and Lid. 1-Aluminum Tray, 1-Etching Solution (4 oz.) 1-Developing Solution (4 oz.). 1-Eyelet Assortment. 1-Cleaning Pad. 1-Set of Instructions, Shpg. wt., 19 lbs.

80W125. NET **34.75**

Type L-505A-G. Identical to L505A, except, base material is G-10 Glass Epoxy, Copper Clad. Shipping weight 20 pounds.

80W126. NET 42.95

PHOTO REVERSING KIT

Type FK-701. Simple two-step process prepares line negatives and positives from taped or inked artwork or reverses existing negatives or positives. No darkroom needed. Includes two pieces 10" x 24" reversing film, chemicals and instructions. Shpg. wt., 2 lbs.

19F2010. NET **7.20**

KEPRO FLEXIBLE ETCHED CIRCUIT KIT

Kit provides three pieces of Westinghouse type 5K02 .004" thick flexible film, clad one side with 2 ounce copper and photosensitized, ready for exposure through a prepared high-contrast negative. Included are materials for producing artwork and /or mechanical negative, exposure frame components, developing and etching solutions, and trays. Shpg. wt. 2 lb. 10 oz. Complete instructions included.

78F082. NET **5.95**

ETCHED CIRCUIT PROCESSING CHEMICALS

Stk. No.	Type	Description	Weight	EACH
19F2038	RMP700	Resist Marking Pen	.....	.75
78F084	PRS-1PT	Photo Resist Stripper	2lb. 2oz.	1.95
78F085	PRS-1G	Photo Resist Stripper	15 lb.	7.50
19F2032	D-1PT	1 pt. Developing Solution	2¾ lb.	1.15
19F2033	D-1G	1 gal. Developing Solution	16 lb.	5.50
19F2034	E-1PT	1 pt. Etching Solution	2½ lb.	.85
80W128	E-1G	1 gal. Etching Solution	16 lb.	3.50
19F2039	EP-1G	Etching Powder	1 gal.	3.25
19F2040	EP-5G	Etching Powder	4 gal.	9.40

PHOTO LAYOUT KIT

Type PL-2A. For preparing camera-ready artwork without inking and lettering. Reduced layout time by use of pressure-sensitive tapes, dots, letters and numerals. Contents: 96-¼" Tape Dot Terminations. 108"-⅛" Tape Conductor Strips. 216"-1/16" tape Conductor Strips. 1-translucent-type (letters and numerals, assorted sizes) sheet. 1-Acetate Sheet (8"x10"). 1-Mech. Neg. (8"x10"). 2-Sheets of Graph paper, 1/10" grid 8x10". 1-Instruction sheet. Wt., 1 lb.

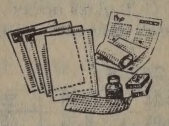
19F2006. NET **3.95**

MASTER PHOTO LAYOUT KIT

Type PL-200A. This package includes all necessary materials to make Master artwork on stable base drafting films. Utilizes the same time saving methods as the PL-2A. Contents: 2 pcs. 18"x24" Matte Surface Mylar, 2 pcs.—18"x24" Mech. Neg. mylar 1 pc 1/10" grid mylar sheet 18"x24" base. 4 pcs.—17"x21" Graph paper, 1/10" grid. 432-⅛" tape dot termination. 576-¼" tape dot termination. 252-½" dot terminations. 18 yds.-1/16" taper conductor strips. 21 yds.-⅛" tape conductor strips. 18 yds. ¼" tape conductor strips. 1 sheet—8½"x11" translucent (letters and numerals, assorted sizes) sheet. 1 btl.— Opaquing fluid. 1-Brush. 1-Bow Compass (with knife cutters) 1-Center Dot Cutter. 1-Tweezers. 1-Cutting Knife Set. 1-Peeling Stylus. 1-instruction and Data Sheet. Shpg. wt., 4 lbs.

19F2007. NET **38.70**

NAMEPLATE & PANEL KIT



Type NP-303A. Kit permits you to prepare name-plate by a simple photographic process. Plates are exposed to light source through artwork made from supplied materials. Panels art then dev., no fixing nec. Finished plates are aluminum and contrasting dk. blue. Contents: 2-8"x10" Aluminum Sheet, 1-8"x10". Acetate Sheet. ¼-Sheet translucent-type. 1-8"x10" Print Glass. 1-1 oz. Bottle developer, 2-2x2x¾" Appls. (sponges). 2-(8x10") pressure sensitive adhesive. Shpg. wt. 1 lb. 1 oz.

19F2008 NET **7.25**

ETCHED ANODIZED NAMEPLATE & PANEL KIT

Type NP-404. Produces etched nameplates and panels using anodized aluminum stock. Processed by exposing, developing, and etching plates. Finished plates are black anodized aluminum and natural color aluminum finish. Contents: 3-3x6" Aluminum Panels. 3-3x6" Acetate Sheets. ¼-Sheet translucent type. 1-Print Glass. 2-3" Clamps. 1-4 oz. Bottle Developer. 1-2 oz. Package Etchant. 1-Dev. Tray. 1-Etch Tray. 3-(3x6") pressure sensitive adhesive. 1½ lbs.

19F2009. NET **6.55**

SILK SCREEN KIT

Type SC-601A. Professional materials and equipment for producing lacquer resistant film type photo stencils with print area up to 7"x9"" and to use these stencils to screen-print 1000 or more impressions per day. No dark room needed. Kit includes screen printing frame with one stretched silk in place plus silk and emulsion for two additional patterns, mounting hinges, squeegee, black and white inks, film printing frame, safe-light, photo-flood lamp, trays and all necessary chemicals and solutions. Shpg. wt., 13 lbs.

80W127. NET **35.00**

ELECTROLESS PC BOARD TIN PLATING KIT

Model ITP-801. Simple immersion process deposits thin coating of essentially pure tin to etched copper circuit to protect from oxidation and to provide exceptional solderability. Immersion tin plating is a chemical process and requires no expensive electroplating equipment. Tin solution is heated to 160 deg. F. in high-temperature glass tray and circuit board is immersed for 3-5 minutes. Board is removed from tray, rinsed 3 minutes under running hot water, then another 3 minutes under running cold water. Kit includes high-temperature glass tray, accomodating board sizes up to 7" x 10"; board handling rack; thermometer; 1 qt. immersion tin solution (sufficient for plating patterns on approx. 25 sq. ft. of etched panels) and complete instructions. Shpg. wt., 5½ lbs.

78F086. NET **8.40**

EXTRA MATERIALS FOR ITP-801 KIT

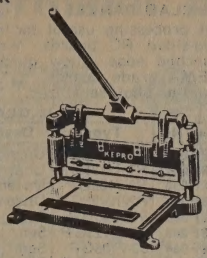
Stk. No.	Type	Description	Weight	Net
78F087	ITP-1PT	Immersion Tin Solution	5.5 lbs.	8.40
78F088	ITP-1G	Immersion Tin Solution	10 lbs.	14.00

Tools & Printed Circuit Boards

Kepro

MULTI-6 SHEAR

Multi-6 Shear. For cutting clad or unclad plastic materials up to 1/16" thick, or sheet metals to .040" thick. With accessories, may also be used to punch pre-registered pilot pin holes, punch randomly located holes, punch corner notches up to 1" x 1", drill circuit boards or form 90 degree bends in sheet metal for producing small chassis. Supplied with precision machined side squaring guage and adjustable back length guage for accurage shearing. Equipped with shearing blades, squaring guage and length guage. Shpg. wt., 24 lbs.
78F150 NET 119.00



ACCESSORIES FOR MULTI-6-SHEAR

PS-2-2 HOLE PUNCH SET. Two 125" dia. punches. May be spaced from 1¾" to 10" apart.
78F15 NET 44.00

NA-1 NOTCHING ATTACHMENT. For materials up to-1/16"th. Wt., 3 lbs.
78F152 NET 48.00

PB-PRESS BRAKE ATTACHMENT. Sheet metal former, for making 90 degree bends. Wt. 3 lbs.
78F153 NET 42.00

DA-1 DRILLING ATTACHMENT. 1/17th HP 115 VAC motor with type O chuck. 10,000 RPM unit is designed for use with carbide drills from .125" to .030" dia. with 6' cord. 4 lbs.
78F154 NET 62.00

COPPER CLAD GLASS EPOXY BOARDS

G-10 glass epoxy circuit boards, 1 oz. copper clad. 1/16" thick, Meet standard NEMA grade tolerances. Supplied unsensitized (Unsen.) for screen processed parts, or photosensitized (Sen.) for photo processed boards. Photosensitized materials are ready for exposure with no other sensitizing required.

INDIVIDUALLY PACKAGED

Stk. No.	Type	Description	Size	Wt. (oz.)	Each
19F2022	P1-36G	Unsen. 1 side	3x6"	3⅛	1.08
78F155	P1-46G	Unsen. 1 side	4x6"	1	1.20
19F2023	P1-1212G	Unsen. 1 side	12x12"	10¾	6.76
19F3213	P2-36G	Unsen. 2 sides	3x6"	3⅛	1.12
78F156	P2-46G	Unsen. 2 sides	4x6"	1	1.26
19F2024	P2-1212G	Unsen. 2 sides	12x12"	11½	7.06
19F2025	S1-36G	Sen. 1 side	3x6"	3⅛	1.44
78F157	S1-46G	Sen. 1 side	4x6"	1	1.66
19F3214	S1-66G	Sen. 1 side	6x6"	4½	2.58
19F2026	S1-710G	Sen. 1 side	7x10"	6¾	4.80
19F2027	S1-1212G	Sen. 1 side	12x12"	10¾	9.64
19F2028	S2-36G	Sen. 2 sides	3x6"	3⅛	1.70
78F158	S2-46G	Sen. 1 side	4x6"	1	2.02
19F3215	S2-66G	Sen. 2 sides	6x6"	4½	3.16
19F2029	S2-1212G	Sen. 2 sides	12x12"	11½	11.72

5 PIECES PER PACKAGE

Stk. No.	Type	Description	Inches	1-4	5-9	10-19	20-up
19F3216	P1-365G	Unsen. 1 side	3x6	4.75	4.20	3.80	3.45
78F159	P1-465G	Unsen. 1 side	4x6	5.30	4.65	4.25	3.85
19F3217	P1-12125G	Unsen. 1 side	12x12	32.55	27.65	21.50	20.50
19F3218	P2-365G	Unsen. 2 sides	3x6	4.95	4.35	3.95	3.60
78F160	P2-465G	Unsen. 2 sides	4x6	5.60	4.90	4.90	4.10
19F3219	P2-12125G	Unsen. 2 sides	12x12	34.05	28.95	22.45	21.45
19F3220	S1-365G	Sen. 1 side	3x6	6.55	5.75	5.25	4.80
78F161	S1-465G	Sen. 1 side	4x6	7.60	6.70	6.10	5.55
19F3221	S1-665G	Sen. 1 side	6x6	12.10	10.65	9.70	8.85
19F2037	S1-7105G	Sen. 1 side	7x10	22.95	19.75	17.90	16.55
19F3222	S1-12125G	Sen. 1 side	12x12	46.95	38.95	31.00	29.55
19F3223	S2-365G	Sen. 2 sides	3x6	7.85	6.90	6.30	5.75
78F162	S2-465G	Sen. 2 sides	4x6	9.40	8.25	7.50	6.85
19F3224	S2-665G	Sen. 2 sides	6x6	15.00	13.20	12.00	10.95
19F3225	S2-12125G	Sen. 2 sides	12x12	57.35	47.60	37.85	36.10

COPPER CLAD LAMINATED-G-10-GLOSS EPOXY, 2 OZ.

78F163	P12-36G	Unsen. 1 side	3x6"	5	1.10
78F164	P12-46G	Unsen. 1 side	4x6"	6	1.24
78F165	P12-1212G	Unsen. 1 side	12x12"	16	7.02
78F166	P22-36G	Unsen. 2 sides	3x6"	6	1.14
78F167	P22-46G	Unsen. 2 sides	4x6"	7	1.28
78F168	P22-66G	Unsen. 2 sides	6x6"	8	2.06
78F209	P22-1212G	Unsen. 2 sides	12x12"	20	7.36
78F169	S12-36G	Sen. 1 side	3x6"	5	1.46
78F170	S12-46G	Sen. 1 side	4x6"	6	1.70
78F171	S12-66G	Sen. 1 side	6x6"	7	2.66
78F172	S12-710G	Sen. 1 side	7x10"	8	4.92
78F173	S12-1212G	Sen. 1 side	12x12"	16	9.90
78F174	S22-36G	Sen. 2 sides	3x6"	6	1.72
78F175	S22-46G	Sen. 2 sides	4x6"	7	2.04
78F176	S22-66G	Sen. 2 sides	6x6"	8	3.22
78F177	S22-1212G	Sen. 2 sides	12x12"	20	11.96

78F178	P12-365G	Unsen. 1 side	3x6"	1.45	1.25	1.15	1.05
78F179	P12-465G	Unsen. 1 side	4x6"	2.30	1.79	1.61	1.50
78F180	P12-12125G	Unsen. 1 side	12x12"	2.05	1.80	1.65	1.50
78F181	P22-365G	Unsen. 2 sides	3x6"	11.15	9.45	7.35	7.00
78F182	P22-465G	Unsen. 2 sides	4x6"	2.55	2.25	2.05	1.85
78F183	P22-665G	Unsen. 2 sides	6x6"	2.80	2.18	1.96	1.82
78F184	P22-12125G	Unsen. 2 sides	12x12"	14.85	12.60	9.80	9.35
78F185	S12-365G	Sen. 1 side	3x6"	3.85	3.30	3.00	2.80
78F186	S12-465G	Sen. 1 side	4x6"	4.60	3.59	3.22	2.99
78F187	S12-665G	Sen. 1 side	6x6"	6.80	5.85	5.30	4.90
78F188	S12-7105G	Sen. 1 side	7x10"	12.55	10.80	9.80	9.05
78F189	S12-12125G	Sen. 1 side	12x12"	25.55	21.20	16.85	16.10
78F190	S22-365G	Sen. 2 sides	3x6"	5.45	4.70	4.25	3.95
78F191	S22-465G	Sen. 2 sides	3x6"	10.10	8.70	7.90	7.30
78F192	S22-665G	Sen. 2 sides	6x6"	6.60	5.15	4.62	4.29
78F193	S22-12125G	Sen. 2 sides	12x12"	36.85	30.60	24.30	23.20

ETCHED CIRCUIT COPPER CLAD MATERIALS XXXP PAPER BASE PHENOLIC

Stk. No.	Type	Description	Size	Wt. (oz.)	Each
19F3200	P1-33	Unsen. 1 side	3x3"	1¾	.40
19F2012	P1-36	Unsen. 1 side	3x6"	2⅛	.54
78F194	P1-46	Unsen. 1 side	4x6"	1	.60
19F2013	P1-1212	Unsen. 1 side	12x12"	9¾	2.48
19F2014	P1-36PB	Unsen. 1 side	3x6"	2⅛	.62
78F195	P2-46	Unsen. 2 sides	4x6"	1	.70
19F2015	P2-1212	Unsen. 2 sides	12x12"	10½	3.22
19F2016	S1-36	Sen. 1 side	3x6"	2⅛	.90
78F196	S1-46	Sen. 1 side	4x6"	1	1.06
19F3201	S1-66	Sen. 1 side	6x6"	3½	1.52
19F2017	S1-710	Sen. 1 side	7x10"	5¾	2.72
19F2018	S1-1212	Sen. 1 side	12x12"	9¾	5.36
19F2019	S2-36	Sen. 2 side	6x6"	2⅛	1.22
78F197	S2-46	Sen. 2 side	4x6"	1	1.46
19F2020	S2-66	Sen. 2 side	6x6"	3½	2.18
19F2021	S2-1212	Sen. 2 side	12x12"	10	7.62

Stk. No.	Type	Description	Size	Wt.	1-4	5-9	10-19	20-Up
19F2036	P1-335	Unsen. 1 side	3x3"	12 oz.	4.85	4.30	3.90	3.55
78F198	P1-465	Unsen. 1 side	4x6"		5.50	4.85	4.55	4.00
19F3202	P1-365	Unsen. 1 side	3x6"	11 oz.	33.85	28.75	22.35	21.30
19F3203	P1-12125	Unsen. 1 side	12x12"	3 lb.	5.05	4.45	4.05	3.70
19F3204	P2-365	Unsen. 2 sides	3x6"	11 oz.	5.70	5.00	4.55	4.15
78F199	P2-465	Unsen. 2 sides	4x6"		9.50	8.40	7.60	6.95
19F3205	P2-12125	Unsen. 2 sides	12x12"	3.3 lb.	35.55	30.20	23.45	22.40
19F3206	S1-365	Sen. 1 side	3x6"	11 oz.	6.65	5.85	5.35	4.85
78F200	S1-465	Sen. 1 side	4x6"		7.80	6.85	6.25	5.70
19F3207	S1-665	Sen. 1 side	6x6"	1.4 lb.	12.50	11.00	10.00	9.15
19F3208	S1-7105	Sen. 1 side	7x10"	1.9 lb.	23.55	20.70	18.80	17.20
19F3209	S1-12125	Sen. 1 side	12x12"	3 lb.	48.25	40.05	31.85	30.40
19F3210	S2-365	Sen. 2 sides	3x6"	11 oz.	7.95	7.00	6.35	5.80
78F201	S2-465	Sen. 2 sides	6x6"	28 oz.	9.50	8.35	7.60	6.95
19F3211	S2-665	Sen. 2 sides	4x6"		15.30	13.50	12.55	11.20
19F3212	S2-12125	Sen. 2 sides	12x12"	3.3 lb.	58.55	48.60	38.65	36.90

POLYESTER LAMINATE CIRCUIT BOARDS

Stk. No.	Type	Description	Size	Wt. (oz)	Each
19F3226	P1-36M	Unsen. 1 side	3x6"	3⅛	.58
78F202	P1-46M	Unsen. 1 side	4x6"	1	.66
19F3227	P1-1212M	Unsen. 1 side	12x12"	10¾	2.84
19F3228	P2-36M	Unsen. 2 sides	3x6"	3⅛	.70
78F203	P2-46M	Unsen. 2 sides	4x6"	1	.80
19F3229	P2-1212M	Unsen. 2 sides	12x12"	11½	3.82
19F3230	S1-36M	Sen. 1 side	3x6"	3⅛	.94
78F204	S1-46M	Sen. 1 side	4x6"	1	1.12
19F3231	S1-66M	Sen. 1 side	6x6"	4½	1.62
19F3232	S1-1212M	Sen. 1 side	12x12"	10¾	5.72
19F3233	S2-36M	Sen. 2 sides	3x6"	3⅛	1.28
78F205	S2-46M	Sen. 2 sides	4x6"	1	1.56
19F3234	S2-1212M	Sen. 2 sides	12x12"	11½	8.42

Stk. No.	Type	Description	Size	Wt.	Net
78F206	P1-365M	Unsen. 1 side	3x6"	5.5, oz.	2.25
78F207	P1-465M	Unsen. 1 side	4x6"	5.0, oz.	2.60
78F208	P1-1212M	Unsen. 1 side	12x12"	3 lb 3 oz.	12.95
78F089	P2-365M	Unsen. 2 sides	3x6"	15.5, oz.	2.85
78F090	P2-465M	Unsen. 2 sides	4x6"	5.0, oz.	3.30
78F091	P2-1212M	Unsen. 2 sides	12x12"	3.5, lb.	17.85
78F092	S1-365M	Sen. 1 side	3x6"	15.5, oz.	4.05
78F093	S1-465M	Sen. 1 side	4x6"	5.0, oz.	4.90
78F094	S1-665M	Sen. 1 side	6x6"	1.2, lb.	7.30
78F095	S1-12125M	Sen. 1 side	12x12"	3.5, lb.	27.35
78F096	S2-365M	Sen. 2 sides	3x6"	15.5, oz.	5.75
78F097	S2-465M	Sen. 2 sides	4x6"	5.0, oz.	7.10
78F098	S2-12125M	Sen. 2 sides	12x12"	3.5, lb.	40.85

.004" COPPER CLAD MYLAR BOARDS

For flexible circuitry. Overall thickness .004" with one side one-ounce coppersclad.

Stk. No.	Type	Description	Size	Lbs.	EACH
19F3235	P1-621F	Unsen. 1 side	6x21"	1	2.52
19F3236	S1-621F	Photosen.1 side	-6x21"	1	4.95

Selected Quality Tools

KEPRO

PRE-PILOTED COPPER CLAD PANELS

Pilot holes for .125" dia. pilot pins are accurately punched at one inch intervals on a center line .125" from one precision sheared edge of copper clad boards to permit fast, accurate registration of boards to artwork, negative or silk screen. Holes provide reference points for drilling, routing or other mechanical processing useful for registering negatives when producing two-sided PC boards. V-notches, appearing every 3" along punched edge, allow quick alignment of holes for pilot pins. NEMA grade boards, 1/16" thick, clad one side or two, either plain or photosensitized.

PAPER BASE PHENOLIC - 1 OZ. COPPER

Stk. No.	Type	Description	Size	1-4	5-9	10-24	25-up
78F050	P1-7105P	Unsen. 1 side	7"x10"	6.30	5.56	5.03	4.55
78F051	P1-12125P	Unsen. 1 side	12"x12"	11.40	9.66	7.53	7.15
78F052	P2-7105P	Unsen. 2 sides	7"x10"	8.30	7.31	6.63	6.05
78F053	P2-12125P	Unsen. 2 sides	12"x12"	15.10	12.81	9.98	9.50
78F054	S1-7105P	Sen. 1 side	7"x10"	12.80	11.01	9.98	9.20
78F055	S1-12125P	Sen. 1 side	12"x12"	25.80	21.41	17.03	16.25
78F056	S2-7105P	Sen. 2 sides	7"x10"	18.50	15.91	14.43	13.30
78F057	S2-12125P	Sen. 2 sides	12"x12"	37.10	30.81	24.48	23.35

G-10 GLASS EPOXY - 2 OZ. COPPER

Stk. No.	Type	Description	Size	1-4	5-9	10-24	25-up
78F066	P12-7105GP	Unsen. 1 side	7"x10"	17.30	15.21	13.83	12.60
78F067	P12-12125GP	Unsen. 1 side	12"x12"	34.10	28.96	22.53	21.45
78F068	P22-7105GP	Unsen. 2 sides	7"x10"	18.10	15.91	14.48	13.20
78F069	P22-12125GP	Unsen. 2 sides	12"x12"	35.80	30.41	23.63	22.55
78F070	S12-7105GP	Sen. 1 side	7"x10"	23.80	20.91	18.98	17.35
78F071	S12-12125GP	Sen. 1 side	12"x12"	48.50	40.26	32.03	30.55
78F072	S22-7105GP	Sen. 2 sides	7"x10"	29.30	25.21	22.83	21.05
78F073	S22-12125GP	Sen. 2 sides	12"x12"	58.80	48.81	38.83	37.05

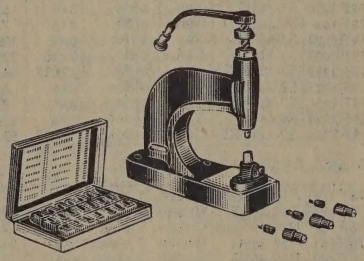
G-10 GLASS EPOXY - 1 OZ. COPPER

Stk. No.	Type	Description	Size	1-4	5-9	10-24	25-Up
78F058	P1-7105GP	Unsen. 1 side	7"x10"	16.70	14.71	13.33	12.15
78F059	P1-12125GP	Unsen. 1 side	12"x12"	32.80	27.86	21.68	20.35
78F060	P2-7105GP	Unsen. 2 sides	7"x10"	17.50	15.41	13.98	12.75
78F061	P2-12125GP	Unsen. 2 sides	12"x12"	34.30	29.16	22.63	21.60
78F062	S1-7105GP	Sen. 1 side	7"x10"	23.20	19.96	18.08	16.70
78F063	S1-12125GP	Sen. 1 side	12"x12"	47.20	39.16	31.18	29.70
78F064	S2-7105GP	Sen. 2 sides	7"x10"	28.70	24.71	22.38	20.65
78F065	S2-12125GP	Sen. 2 sides	12"x12"	57.60	47.81	38.03	36.25

GLASS MAT POLYESTER - 1 OZ. COPPER

Stk. No.	Type	Description	Size	1-4	5-9	10-24	25-up
78F074	P1-7105MP	Unsen. 1 side	7"x10"	7.10	6.26	5.68	5.15
78F075	P1-12125MP	Unsen. 1 side	12"x12"	13.20	11.21	8.73	8.30
78F076	P2-7105MP	Unsen. 2 sides	7"x10"	89.50	8.36	7.58	6.80
78F077	P2-12125MP	Unsen. 2 sides	12"x12"	118.10	15.36	11.93	11.40
78F078	S1-7105MP	Sen. 1 side	7"x10"	13.60	11.71	10.58	9.50
78F079	S1-12125MP	Sen. 1 side	12"x12"	27.60	22.91	18.23	17.35
78F080	S2-7105MP	Sen. 2 sides	7"x10"	20.70	17.81	16.13	14.90
78F081	S2-12125MP	Sen. 2 sides	12"x12"	41.10	34.11	30.13	25.90

ELECTRONIC S-5 HAND EYELETS



Features a simple hand-operated lever at the top of the machine to set the eyelet. An adjustable and removable set cap holder is included for simple alignment of setting tools. Reach of 5 3/16". Adjustable stop limits the travel of the setting tool to obtain setting desired. .10 3/8 inches long and only 3 5/16 inches wide. Mounting is achieved by bolting through three holes in the base of the unit. Includes S-5 eyeleter, with 4 pairs of setting tools and electronic eyelet selection kit of more than 15,000 eyelets in 21 standard sizes. Shpg. wt: 14 lbs.

35F1500. Model S-5E. **NET** **98.00**

ELECTRONIC EYELETS

Eyelets provide miniaturization and reliability in both single and double sided circuit boards. Eyelets are offered in brass ("B" Suffix in type No.) and oxygen-free high conductive copper ("C" Suffix in type No.) Both materials meet applicable Mil Standards. Eyelet heads supplied with either Flat or Funnel Flange for single or double clad circuit boards.

Flat flange eyelets may be used on either single or double clad materials. All eyelets listed are designed for 1/16" board thickness. 90 Miniature Electronic eyelet Barrel OD .059, Barrel ID .045, Flange size .095.

*Indicates eyelets designed for single clad board.

†Indicates eyelets used for double clad boards.

Type	Head Type	Pkg. of 1000 Stk. No.	Each	Type	Head Type	Pkg. of 1000 Stk. No.	Each
S-6125-B	*Flat	35F1502	3.08	S-6145-B	*Flat	35F1520	3.08
S-6125-C	*Flat	35F1505	3.08	S-6145-C	*Flat	35F1523	3.08
S-6025-B	*Funnel	35F1508	3.08	S-6045-B	*Funnel	35F1526	3.08
S-6025-C	*Funnel	35F1511	3.08	S-6045-C	*Funnel	35F1529	3.08
S-6064-B	†Funnel	35F1514	3.08	S-6084-B	†Funnel	35F1532	3.08
S-6064-C	†Funnel	35F1517	3.08	S-6084-C	†Funnel	35F1535	3.08

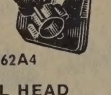
HUNTER TOOLS

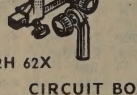
PRINTED CIRCUIT BOARD-HOLDERS AND VISES

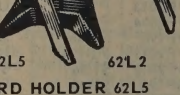
62E4

62E10

62-62A


62A4


62H 62X


62L5 62L2

QUICK ADJUST VISE

Type 62E4. Features quick adjust design which allows one of the two neoprene jaws to be instantly changed from its widest opening position to various closed positions. Max. jaw opening 9". 8 lb. weighted base. Shpg. wt. 13 lbs.
34F917. NET **34.13**

•NEW WIDE OPENING VERTICAL VISE

Model 62E10. Designed for positioning or holding electrical and electronic products in assembly and repair. Has replaceable neoprene jaws that open to a full 6 inches. Base is eight pound cast iron, has rubber feet. Permanently locked in mounting pin with 3/8-24 threaded end. Spring loaded so that it may be adjusted to correct tension to hold weight. Vise is chrome plated heavy gauge steel wire. Crank handle allows quick change from one position to another. Shpg. Wt. 10 lb.
34F345 NET **29.10**

PANA VISE VERTICAL HEAD

Type 62. Pana Vice. Bench type vise on Type 62A. 2 1/2" capacity, jaws 2 1/2" wide. Shpg. wt. 3.5 lbs.
34F766. NET **17.29**

PANA VISE-HORIZONTAL HEAD

Type 62B. Regular Pana-Positioner pivots 360°, holds work in any position, with horizontal head. 4" high, 10" long, 5" wide.
34F919. NET **17.30**

PANA POSITIONER

Type 62A. Pivots 360°on any tangent to a hemisphere. Achieves any compound angle. For use with fixtures listed below. Wt. 3 lbs.
34F449. NET **10.56**

• NEW NYLON JAWS

Model 62C. Special Nylon jaws to hold small circuits. For use with pana vise

Stk. No.	Type	1-4	5-up
34F344	62C	1.27	1.13

PANA POSITIONER—VACUUM BASE

Type 62A4. Vacuum base with Pan-head positioner mounted on top. Complete versatility in making work set-ups. Accomodates vises & circuit board holders.
34F920. NET **21.00**

CIRCUIT BOARD HOLDER 62L5

Special design spring load allows circuit board to be inserted or removed with one hand. Full 360 degree rotation for lead bend over. Friction bearing can be adjusted to desired tension for easy flip over or tightened so will not rotate. Holds boards up to 10" wide.
34F921. NET. **30.78**

DELUX CIRCUIT HOLDER

Type 62H. 10" wide. Printed circuit holder for use with Type 62A. Turns work 360° in any position. Circuit board easily inserted and removed. Shpg. wt. 1.8 lbs.
34F448. NET. **14.45**

CIRCUIT HOLDER

Type 62X. Spring loaded arm-snugs up boards, 7" capacity. For use with 62A.
34F922. NET **10.95**

MAKE NEWARK YOUR DEPENDABLE SOURCE FOR ALL ELECTRONIC NEEDS

Keystone Terminal Boards & Accessories

PLUG-IN HOUSING

Durable housings are ideally suited for packaging relays, logic packages, networks and miniature circuitry. Headers are molded of G.P. black phenolic. Pins are brass, nickel plated. Guide hole tapped 8-32 for terminal board mntg. stud. Materials: Polystyrene: use up to 170°F conditions. Butyrate: High impact strength, use at 210°F Nylon at 300°F. Complete with Octal Header and Screws.

Stk. No.	Type	Size	Mat'l	Color	1-19	20-99	100-240
35F1667	660	Mini	Butyrate	Clear	.85	.80	.75
35F1668	661	Mini	Nylon	White	.75	.70	.65
35F1669	662	Mini	Polyst	Clear	.75	.70	.65
35F1670	641	Mini	Polyst.	Opaq. Bl.	.65	.60	.55
35F1671	663	Small	Butyrate	Clear	.70	.67	.64
35F1672	664	Small	Nylon	White	.75	.70	.67
35F1673	665	Small	Polyst.	Clear	.70	.67	.64
35F1674	643	Small	Poylst.	Opaq. Bl.	.65	.60	.55
35F1675	650	Large	Butyrate	Clear	1.35	1.20	1.10
35F1676	668	Large	Polyst.	Clear	.80	.75	.70
35F1677	677	Large	Polyst.	Opaq. Bl.	.80	.75	.70
35F1678	639	X-L'ge	Polyst.	Clear	1.20	1.10	.93
35F1679	669	Small	Steel	El. Tin Pl.	.75	.70	.67

TERMINAL BOARDS (For Use With Above Housing)

Terminal boards are made of glass epoxy material. Spcaing of holes is .100 and .1200 alternates. An 8-32 threaded stud is firmly eyeletted to the board and is easily assembled into the tapped hole of the headers. Board thickness is 1/16". Diameter holes are .062. GEE MIL-P-18177.

Stk. No.	Type	Size—Board with Stud.	For Covers	1-19	20-99	100-up
35F1652	696	1x1 5/16"	Mini	.23	.18	.16
35F1653	697	1 1/16x1 3/4"	Small	.23	.18	.16
35F1654	698	1 1/2x2 3/4"	Large	.25	.21	.19
35F1655	699	1 1/16x1 7/16"	Metal	.23	.18	.16
35F1656	638	1 5/16x2 3/8"	X-L'ge	.26	.24	.22

ALL PURPOSE HAND PUNCH

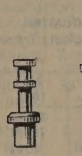
Equipped with adjustable gauge, this hand punch may be used as a nibbler. Also shears eyelets, punches holes for sheet material or tubing. 1¼" throat depth. Penetrates 1/16" thick untempered metal 3/32" phenolic, ¼" masonite. Interchangeable die sets from 1/16" dia. in increments of 1/32" with largest die set at ¼" dia. Punches tubing to ¾".

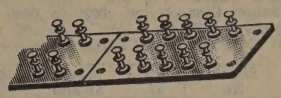
35F1680. Type 1330. NET **13.00**

INDIVIDUAL DIE SETS — Consists of Top and Bottom Tool

Stk. No.	Type	DIE SET For Hole	1-19
35F1659	1331	1/16	
35F1660	1332	.072	
35F1661	1333	3/32	
35F1662	1334	1/8	
35F1663	1335	5/32	**2.20**
35F1664	1336	3/16	
35F1665	1337	7/32	
35F1666	1338	¼	

STANDARDIZED TURRET TERMINAL BOARDS





Terminals are securely staked and hot tinned. QQ-B626, comp 22, ¼ hard. Hot dip solder finish. Mil-F-14072 Type 221. Materials: PBE indicates Paper base electrical, Mil-P-3115C, Temp. 250°F max. Type XXXP, GEE indicates Glass Epoxy Mil-P-18177, 300°F max. Type G-10. All are 3/32" thick and double row of terminals (50 total) on 3/8" centers except (*) which has a single row with 25 terminals. All are 13 1/8" long.

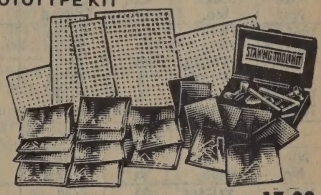
Double Turret—One Side

Stk. No.	Type	Width	Spacing 3tw Row	Mat'l	1-19	20-99	100-up
35F1640	15031*	½"	. . . .	PBE	1.03	.90	.79
35F1641	15036	1½"	1 3/16"	PBE	2.05	1.94	1.84
35F1642	15236	1½"	1 3/16"	GEE	2.78	2.63	2.52
35F1643	15033	2"	1½"	PBE	2.15	2.05	1.89
35F1644	15233	2"	1½"	GEE	3.26	3.05	2.94
35F1645	15034	2½"	2"	PBE	2.31	2.08	1.94
35F1646	15234	2½"	2"	GEE	3.47	3.31	3.15
35F1747	15035	3"	2½"	PBE	2.36	2.21	2.05

Feed Thru Double Turret—Both Sides

35F1648	15046	1½"	1 3/16"	PBE	4.10	3.78	3.68
35F1649	15043	2"	1½"	PBE	4.20	3.99	3.89
35F1650	15044	2½"	2"	PBE	4.36	4.15	3.99
35F1651	15045	3"	2½"	PBE	4.52	4.31	4.15

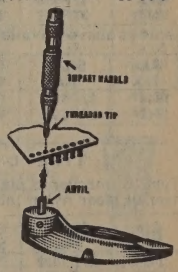
PROTOTYPE KIT



This complete assortment of basic materials and staking tools for experimental and production runs. For construction of 1/16" and 3/32" thick terminal boards. Eyelets, terminals, brackets, bushings and push-in terminals included with instructions.

35F1657. Type 1723 NET **17.00**

"IMPACT" STAKING KIT

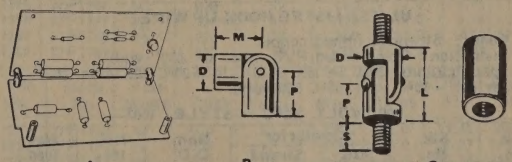


Produces a light or heavy blow which is adjustable by turning of the spring tension cap. Uniform striking action attained by pressing down handle Interchangeable tools supplied permit assembly of terminal boards, printed circuits and small components. Simple construction, automatic single hand operation. Kit includes: 1 No. 1301 Anvil Tool Holder, 1 impact handle (No. 1302), and the following tools: 1310, 1311, 1312, 1313, 1315, 1316, 1321, 1716, 1717, 1722, 1726. Instructions are also included. Stakes all dia. to 3/32" max.

35F1658. Type 1707 ..... **23.50**

•NEW HINGED STANDOFFS FOR TERMINAL BOARDS

Saves time, space and service cost. Interconnects circuits or services without danger of shorting. Wiring exposed for easy test. Made of brass per Mil Spec. QQ-B-626A, Comp. 22, ½ hard. Cadmium plated per QQ-P-416 Class 2, Type 2, and gold iridite.



A B C

FEMALE HINGED STANDOFFS (Fig. C)

Stock No.	Type Mfr's	Thread	Size D	Inches M	P	1-19	20-99	100-240
92F055	351	4-40*	.187	.375	.375	.34	.31	.28
92F056	352	4-40	.187	.375	.625	.36	.33	.30
92F057	353	6-32*	.250	.375	.375	.35	.32	.29
92F058	354	6-32	.250	.375	.625	.37	.34	.31
92F059	355	8-32*	.250	.375	.375	.35	.32	.29
92F060	356	8-32*	.250	.375	.625	.37	.34	.31

* .172 deep; all others .250 deep.

MALE HINGED STANDOFFS (Fig. B) All Have ½" Body Length

Stock No.	Type Mfr's.	Thread	Size D	Inches S	P	1-19	20-99	100-240
92F061	357	4-40	.187	¼	¼	.33	.30	.27
92F062	358	6-32	.250	5/16	¼	.34	.31	.28
92F063	359	8-32	.250	5/16	¼	.34	.31	.28

STANDOFFS FOR FRONT OF BOARDS (Fig. A)

Stock No.	Type Mfr's.	Use with Hinge #	Length	1-19	20-99	Per 100
92F064	1657A	351	¾"	.10	.09	8.40
92F065	1657B	352	1"	.12	.11	10.40
92F066	1548E	353	¾"	.11	.10	8.40
92F067	1548F	354	1"	.12	.11	10.40
92F068	1692D	355	¾"	.10	.09	8.40
92F069	1692E	356	1"	.12	.11	10.40
92F070	1657	357	½"	.08	.07	6.00
92F071	1548C	358	½"	.08	.07	6.00
92F072	1692C	359	½"	.08	.07	6.00

alpha Mil-Spec & UL Hook-Up Wire and Cable

Alpha Wire a division of Loral Corporation

PVC-HOOK-UP WIRE PER MIL-W-16878D

Cond: Stranded tinned copper
Insulation: Type B: Color Coded PVC, .010" wall. Type C: Color Coded PVC, .016" wall
Jacket: Clear Nylon, .002" to .004" wall where indicated.
Specs: —55°C to +105°C (+115°C with nylon jacket) Type B: 600 volts Type C: 1000 volts

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1850	37F593	32	7/40	.028"	2.16	12.47
1851	37F544	39	7/38	.032"	1.64	10.02
1852	37F545	28	7/36	.034"	1.64	9.11
1853	37F546	26	7/34	.038"	1.47	10.32
1854	37F547	24	7/32	.043"	1.47	9.62
1854/19	37F1326	24	19/36	.043"	1.91	11.30
1855	37F548	22	7/30	.050"	1.76	10.47
1855/19	37F1327	22	19/34	.050"	2.09	12.02
1856	37F549	20	7/28	.058"	1.91	12.47
1856/19	37F1328	20	19/32	.058"	2.22	14.81
1857	37F570	18	7/26	.068"	2.10	15.80
1857/19	37F1329	18	19/30	.068"	2.34	16.82
1858/19	37F571	16	19/29	.077"	2.69	20.73
1859/19	37F1331	14	19/27	.091"	4.88	36.12
On Tracer Colors add to above					.15	1.50

TYPE B WITH PRE-BONDED CONDUCTOR

Same specifications as standard Type B with addition of pre-bonded conductor. Double-tinned, then heated for easy stripping. Provides non-fraying ends for quick, neat terminations.

TYPE B PRE-BONDED UNCOVERED PLASTIC WIRE

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O. D.	Net 100	Net 1000
3154	37F1332	24	7/32	.044"	2.72	12.51
3155	37F1333	22	7/30	.051"	3.09	15.75
3156	37F1334	20	7/28	.059"	3.51	20.46
3157	37F1335	18	7/26	.070"	4.37	28.83

TYPE B NYLON JACKET

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1864/19	37F1321	24	19/36	.049"	2.09	15.54
1865/19	37F1322	22	19/34	.056"	2.61	17.81
1866/19	37F1323	20	19/32	.064"	2.78	19.19
1867/19	37F1324	18	19/30	.074"	3.42	24.35
1868/19	37F580	16	19/29	.085"	3.32	27.45
1869/19	37F1325	14	19/27	.099"	6.00	49.72

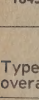
TYPE C—NYLON JACKET

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1841	37F555	22	7/30	.072"	2.57	18.62
1842	37F556	20	7/28	.079"	2.78	22.26
1843	37F557	18	7/26	.090"	3.14	25.89
Same as above—Available in white only .004" jkt.						
1844	37F558	16	19/29	.099"	3.74	34.34
1845	37F559	14	19/27	.114"	5.19	47.06

TYPE C—SHIELDED—NYLON JACKET

Type C uncovered plastic plus braided tinned copper shield and overall clear nylon jacket.

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1471	37F1030	22	7/30	.098"	7.80	64.49
1472	37F1031	20	7/28	.105"	8.43	70.29
1473	37F1032	18	19/30	.115"	8.90	76.58



UL/CSA LISTED HOOK-UP WIRE

Condr: Stranded tinned copper
Insulation: Color coded PVC, .016" or .032" wall
Specifications: 3050 Series: —10°C to +80°C 300 volts, 3071 Series: —10°C to +105°C 600 volts.

300 VOLT 80°C — STYLE 1007

Alp. No.	Stk. No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
3050	37F1300	24	7/32	.057"	2.43	9.72
3051	37F1301	22	7/30	.065"	2.85	12.12
3053	37F1302	20	10/30	.071"	2.91	12.77
3055	37F1303	18	16/30	.080"	3.38	17.45
3057	37F1304	16	26/30	.095"	4.13	27.33

UL STYLE 1015, CSA "TEW"

Alp. No.	Stk. No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
3071	37F1305	22	7/30	.095"	1.82	12.60
3073	37F1306	20	10/30	.102"	2.13	15.98
3075	37F1307	18	16/30	.112"	2.64	20.25
3077	37F1308	16	26/30	.125"	3.51	29.40
3079	37F1309	14	41/30	.142"	4.73	40.20

VINYL HOOK-UP WIRE PER MIL-W-76B TYPE MW

Conductor: Solid or stranded tinned copper
Insulation: Color coded PVC, .016" wall
Specs: -40°C. to +80°C., 1000 volts

Available In Colors 1-19 Specify color

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1550	37F500	24	7/32	.059"	1.40	9.14
1551	37F501	22	7/30	.064"	1.56	10.71
1553	37F502	20	10/30	.073"	1.79	12.08
1555	37F503	18	16/30	.084"	2.25	15.78
On Tracer Colors add to above					.15	1.50

Available in colors 1-10. Specify Color...

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1557	37F504	16	26/30	.095"	2.99	23.09
1559	37F505	14	41/30	.110"	4.19	36.15
1560	37F506	12	65/30	.125"	6.21	50.93

Available in colors 1-10. Specify Color.

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1561	37F507	22	. . . . .	.060"	1.31	8.48
1563	37F508	20	. . . . .	.066"	1.55	10.40
1565	37F509	18	. . . . .	.074"	1.98	13.23

NYLON JACKETED SHIELDED PER MIL-W-76B TYPE MW-SJ

Conductor: Stranded tinned copper
Insulation: Color coded PVC, .016" wall
Shield: Braided tinned copper, 80% coverage
Jacket: Clear nylon (White only)
Specs: -40°C. to +80°C., 1000 volts.

Alp. No.	Stk. No.	MIL Type	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1371	37F685	C22(7)SJ	22	7/30	.092"	5.98	50.76
1372	37F686	C20(7)SJ	20	7/28	.100"	6.68	58.22
1373	37F687	C18(19)SJ	18	19/30	.119"	7.46	66.02
1374	37F688	C16(19)SJ	16	19/29	.120"	9.45	86.07

MACHINE TOOL WIRE U.L. LISTED

Cond: Stranded bare copper
Insulation: PVC
Specs: Rated 90°C in air, 60°C in oil, 600 volts
Specify Color

Alpha No.	Stock No.	Co. Sz.	Cond. Strand	Nom O.D.	Wall	Net 100	Net 1000
3090	37F1850	16	26x30	.122"	2/64	3.23	23.63
3091	37F1857	14	19x.0147	.138"	2/64	4.13	31.50
3092	37F1851	14	19x.0147	.170"	3/64	4.50	34.28
3093	37F1852	12	19x.0185	.189"	3/64	5.85	46.95
3094	37F1853	10	19x.0234	.214"	3/64	8.25	71.70
3095	37F1854	8	19x.0295	.277"	4/64	13.28	115.95
3096	37F1855	6	19x.0372	.320"	4/64	21.83	184.65
3097	37F1856	4	19x.0469	.365"	4/64	32.10	268.35

RUBBER TEST LEAD WIRE

Condr: Extra flexible stranded tinned copper
Insulation: Red or Black rubber stain finish.
Specs: Standard, Heavy-duty or Mil-spec.—20°C to +60°C, 1500 volts to 10,000 volts

Heavy Duty Type

Alp. No.	Stock No.	Color	Cond. Size	Cond. Strand	Nom. O.D.	100 Ft.	1000 Ft.
1638	37F1403	Red	18	65/36	.230"	5.93	49.80
1638	37F1404	Black	18	65/36	.230"	5.93	49.80

Military Type Meet MIL-W-13169B

1639	37F1405	Red	18	65/36	.145"	4.88	37.05
1639	37F1406	Black	18	65/36	.145"	4.88	37.05

Standard Type

Alp. No.	Stock No.	Color	Cond. Size	Cond. Strand	Nom O.D.	100 Ft.	1000 Ft.
1632	37F1397	Red	20	41/36	.125"	3.53	26.85
1632	37F1398	Black	20	41/36	.125"	3.53	26.85
1635	37F1399	Red	20	41/36	.140"	3.68	27.90
1635	37F1400	Black	20	41/36	.140"	3.68	27.90
1636	37F1401	Red	18	65/36	.140"	4.20	32.25
1636	37F1402	Black	18	65/36	.140"	4.20	32.25

GENERAL STOCK COLORS—Check Specific Color Codes shown for wire types on this page and next page.

1—White
2—Black
3—Red
4—Green
5—Yellow
6—Light Blue
7—Brown
8—Orange
9—Gray (slate)
10—Violet (purple)
11—White/Black
12—White/Red
13—White/Green
14—White/Yellow
15—White/Blue
16—White/Brown
17—White/Orange
18—White/Gray
19—White/Violet

Wire and Cable—Shielding and Teflon

alpha
Alpha Wire a division of Loral Corporation

TEFLON HOOK-UP WIRE - Per MIL-W- 168780

Conductor: Solid or Stranded silver plated copper
Insulation: Extruded Teflon. Type ET-.006" wall; Type E-.010" wall. Type EE-.014" wall.
Color: Specify color 1 - 10
Specs: —65°C to + 200°C'

ET SOLID

Alpha No.	Stock No.	Cond. Size	Cond. Strand	Nom. O.D.	100 Ft.	1000 Ft.
2841/1	37F1950	30	1	.022"	3.09	23.40
2842/1	37F1951	28	1	.025"	3.06	23.10
2843/1	37F1952	26	1	.028"	3.41	26.48
2844/1	37F1953	24	1	.032"	3.51	27.60

ET STRANDED

2840/7	37F1954	32	7/40	.021"	3.27	25.20
2841/7	37F1955	30	7/38	.024"	3.27	25.20
2842/7	37F1956	28	7/36	.027"	3.21	24.60
2842/19	37F1957	28	19/40	.027"	3.39	26.40
2843/7	37F1958	26	7/34	.031"	3.62	28.65
2843/19	37F1959	26	19/38	.032"	3.92	31.58
2844/7	37F1960	24	7/32	.036"	3.80	30.45
2844/19	37F1961	24	19/36	.037"	4.28	35.25
2845/7	37F1962	22	7/30	.042"	4.22	34.65
2845/19	37F1963	22	19/34	.044"	4.49	37.35

E SOLID

5853/1	37F1964	26	1	.036"	3.03	22.85
5854/1	37F1965	24	1	.040"	3.36	26.13
5855/1	37F1966	22	1	.045"	3.95	31.92
5856/1	37F1967	20	1	.052"	4.79	40.38
5857/1	37F1968	18	1	.060"	6.14	53.84

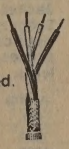
E-STRANDED

5851	37F650	30	7/38	.028"	4.08	22.94
5852	37F651	28	7/36	.031"	4.28	24.17
5853	37F652	26	7/34	.035"	4.62	27.50
5854	37F653	24	19/36	.040"	5.64	36.99
5854/7	37F561	24	7/32	.039"	4.89	29.06
5855	37F654	22	19/34	.046"	6.18	40.19
5855/7	37F562	22	7/30	.045"	5.64	35.40
5856	37F655	20	19/32	.054"	7.13	48.06
5856/7	37F563	20	7/28	.053"	6.72	46.29
5857	37F656	18	19/30	.064"	9.57	68.88
5858	37F657	16	19/29	.073"	11.67	86.48

EE-STRANDED

5874	37F564	24	19/36	.055"	7.34	50.91
5875	37F565	22	19/34	.062"	8.22	57.42
5877	37F567	18	19/30	.080"	11.40	88.95

TEFLON MULTICONDUCTOR CABLE
Per MIL-W-16878D



Conductor: Stranded silver plated copper
Insulation: Extruded, color-coded Type E Teflon, .010" wall
Jacket: White TFE cables tape wrapped FEP cables extruded.
Shield: Braided silver plated copper, 90° coverage
Specs: -65°C. to +200°C., 600 volts

TFE

Alpha No.	Stock No.	No. Cond.	Co. Sz.	Con. Strand	Nom. O.D.	100 Feet
2824	37F1029A	1	22	19/34	.102"	31.71
28242	37F1042A	2	22	19/34	.154"	47.30
2826	37F1028A	1	16	19/29	.130"	49.73
2826/2	37F1027A	2	16	19/29	.210"	85.94
2827	37F1045A	1	20	19/32	.110"	34.65
2827/2	37F1046A	2	20	19/32	.170"	52.16
2829	37F1049A	1	18	19/30	.120"	44.18
2829/2	37F1050A	2	18	19/30	.190"	70.17

FEP

2831	37F1053A	1	24	19/36	.085"	28.35
2831/2	37F1054A	2	24	19/36	.130"	37.89
2831/3	37F1055A	3	24	19/36	.135"	54.18
2834	37F1056A	1	22	19/34	.091"	28.35
2834/2	37F1057A	2	22	19/34	.150"	41.90
2834/3	37F1058A	3	22	19/34	.158"	61.28
2837	37F1059A	1	20	19/32	.100"	30.87
2837/2	37F1060A	2	20	19/32	.168"	46.31
2837/3	37F1061A	3	20	19/32	.178"	67.41

AIRCRAFT HOOK-UP WIRE - Per MIL-W-5086A

Conductor: Stranded Tinned Copper
Insulation: Type I: White PVC, clear nylon jacket.*Type II: White PVC, white glass braid, flame retardent nylon lacquered nylon braid.
Specs: —55°C to + 105°C., 600 volts

1381	37F532	AN-22	22	19/34	.068"	3.74	28.50
1382	37F533	AN-20	20	19/32	.078"	4.17	33.21
1383	37F534	AN-18	18	19/30	.088"	5.00	41.03
1384	37F535	AN-16	16	19/29	.098"	5.45	45.02
1385	37F536	AN-14	14	19/27	.117"	7.19	62.63
1386	37F537	AN-12	12	19/25	.137"	10.08	91.67
1387*	37F683	AN-10	10	49/27	.189"	18.15	172.43
1388*	37F684	AN- 8	8	133/29	.240"	34.49	326.70

MIL-SPEC CABLES - RIBBON CABLE - BRAID

MULTICONDUCTOR SHIELDED CABLE
Per MIL-W-16878D Type B

Conductor: Stranded tinned copper
Insulation: Color coded PVC, .010" wall, clear nylon jacket, cabled
Shield: Braided tinned copper, 90° coverage
Jacket: White PVC
Specs: -55°C. to + 105°C., 600 volts. Color code: 1 white, 2 - black, 3 - red

Alpha No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D."	100 Ft.	500 Ft.
3210	37F1260	1	24	19/36	.106	9.37	45.36
3211	37F1261	2	24	19/36	.165	14.22	69.01
3212	37F1262	3	24	19/36	.173	19.68	94.90
3220	37F1263	1	22	19/34	.117	10.32	47.84
3221	37F1264	2	22	19/34	.179	15.57	73.89
3222	37F1265	3	22	19/34	.192	21.59	104.25
3230	37F1266	1	20	19/32	.125	10.80	50.22
3231	37F1505	2	20	19/32	.203	17.10	81.63
3232	37F1268	3	20	19/32	.213	23.12	111.89
3240	37F1269	1	18	19/30	.189	12.05	55.28
3241	37F1270	2	18	19/30	.227	19.98	96.47
3242	37F1271	3	18	19/30	.239	26.73	129.84
3245	37F1508	1	16	19/29	.150	12.84	60.20
3246	37F1509	2	16	19/29	.245	21.18	102.56
3247	37F1510	3	16	19/29	.258	20.55	143.40

RIBBON CABLE

Conductor: #22 (7/30) Tinned copper
Insulation: Color coded PVC, .016" wall, laid parallel and bonded
Specs: -55°C. to +105°C., 1000 volts. Easily separated for neat terminations

Alpha No.	Stock No.	No. of Cond.	Nom O.D.	100' Spl. Each	1000' Spl. Each
3504	37F1255	4	.065x .260"	16.17	164.60
3508	37F1256	8	.065x .520"	28.71	274.56
3512	37F1257	12	.065x .780"	46.53	453.15
3516	37F1258	16	.065x1.040"	63.69	623.37
3520	37F1259	20	.065x1.300"	78.38	771.21

TINNED COPPER TUBULAR BRAID
Per MIL QQ-B-575

Round woven braid providing 95% minimum coverage. Amp. rating is in free air at 86°F

Alp. No.	Stock No.	I.D.	AWG Equiv.	Cir. MIL	Amp.	100 Ft.
2160	37F1156	1/32"	22	600	7	4.20
2162	37F1157	1/16"	19	1200	11	8.85
2164	37F1158	7/64"	16	2400	19	13.80
2166	37F1159	1/8"	15	3000	25	14.40
2168	37F1160	11/64"	14	4200	32	18.00
2170	37F1161	13/64"	11	7630	46	25.50
2172	37F1162	3/8"	10	9600	53	35.55
2174	37F1163	1/2"	9	13200	62	48.75
2176	37F1164	25/32"	7	21600	88	66.00

TINNED COPPER FLAT BRAID

Woven braid rolled flat at time of manufacture to a specific width. High current carrying capacity. Extremely flexible.

Alp. No.	Stock No.	Flat Width	Thick	AWG Equiv.	Cir. MILS	Amps	100 Ft.	1000 Ft.
1221	37F1144	.025"	.015	27	200	4.0	5.43	45.12
1222	37F1145	1/32"	.020	24	400	6.0	5.84	48.27
1223	37F1146	3/64"	.020	22	600	7.0	6.15	51.51
1224	37F1147	3/32"	.020	19	1200	11.0	6.86	60.48
1229	37F1148	1/8"	.020	18	1800	16.0	7.73	67.58
1230	37F1149	3/16"	.020	15	3000	25.0	8.43	75.21

Alp. No.	Stock No.	Flat Width	Thick	AWG Equiv.	Cir. MILS	Amps	100 Ft.	1000 Ft.
1231	37F1150	1/4"	.030	14	4200	32.0	11.42	104.97
1232	37F1151	3/8"	.030	12	7200	46.0	18.27	173.10
1233/2	37F1152	1/2"	.030	10	9600	53.0	23.16	223.19
1233	37F1153	5/8"	.030	10	9600	53.0	24.50	235.79
1234	37F1154	3/4"	.040	7	20800	85.0	56.15	542.51
1235	37F1155	1"	.045	7	20800	85.0	60.09	581.97
1239	37F1547	1 3/8"	.050	5	33700	100.0	68.12	662.37
1240	37F1548	1 1/2"	.060	3	53064	150.0	95.46	.....
1241	37F1549	1 3/4"	.080	00	125424	280.0	190.89	.....
1242	37F1550	2"	.120	000	154368	310.0	239.57	.....
1242/4	37F1554	3"	.200	0000	225000	390.0	462.18	.....

YOU CAN DEPEND ON NEWARK
FOR
EVERYTHING IN INDUSTRIAL ELECTRONICS

alpha Audio and Instrumentation Cable

Alpha Wire a division of Lorel Corporation

INDIVIDUALLY SHIELDED-MULTI-PAIR CABLE PLASTIC JACKET

Conductor: Solid and stranded tinned copper
Insulation: Color coded polyethylene, conductors paired, .010" wall.
Shield: Mylar supported Aluminum foil over each pair plus #22 tinned copper drain wire
Jacket: Chrome grey PVC
Spec: Mutual capacitance (between conductors and a pair) 25 pf/ft
Applications: Audio, RF and pulse applications requiring superior circuit isiolation

Alp. No.	Stock No.	No. Cond.	Cond. Strand.	Nom. Jkt. Tichk. (In.)	Nom. O.D. (In.)	100 Feet	500 Feet
6002	37F1536	12	1	.030	.318	26.73	127.97
6004	37F1537	18	1	.030	.371	36.45	178.50
6010	37F1540	6	7/30	.025	.252	17.34	80.64
6012	37F1541	12	7/30	.030	.342	28.88	135.75
6014	37F1542	18	7/30	.035	.410	43.50	211.50
6016	37F1543	22	7/30	.040	.457	51.24	259.38
6018	37F1544	30	7/30	.040	.523	67.82	334.71
6020	37F1545	38	7/30	.050	.570	93.39	462.00
6022	37F1546	54	7/30	.055	.687	129.00	637.50

MULTICONDUCTOR SHIELDED CABLE Per MIL-W-16878D

Conductor: Stranded tinner copper
Insulation: Color coded PVC, cabled, mylar wrap
Shield: Braided tinned copper, 90% coverage
Jacket: Chrome-gray PVC
Specs: -55°C. to +105°C., 600 volts and 1000 volts
Applications: Instrumentation and control, telemetry data transmission. Remote control of sensitive recording instruments.

MINIATURE-600 VOLTS

Alpha No.	Stock No.	Cond. No.	Nom. Jacket	Nom. O.D.	100 Feet	1000 Feet
3302	37F1272	2	.012"	.125"	13.47	125.93
3303	37F1273	3	.012"	.130"	17.81	168.14
3304	37F1274	4	.012"	.140"	21.50	205.23
3306	37F1275	6	.015"	.170"	27.17	262.32
3308	37F1276	8	.015"	.175"	30.80	298.70
3310	37F1277	10	.018"	.210"	38.91	379.34
3312	37F1278	12	.018"	.215"	44.81	429.35
3315	37F1279	15	.020"	.230"	53.87	521.72
3320	37F1280	20	.022"	.260"	66.95	651.27

HEAVY DUTY-1000 VOLTS -UA

3405	37F1281	5	.025"	.300"	54.57	529.05
3410	37F1282	10	.035"	.405"	96.47	945.95
3415	37F1283	15	.040"	.470"	131.04	1291.58
3420	37F1284	20	.045"	.530"	176.48	1746.36
3430	37F1285	30	.050"	.650"	263.82	2583.17

RUBBER AND NEOPRENE JACKETED—SHIELDED CABLES

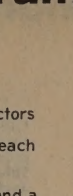
Conductor: Stranded thinned copper
Insulation: Color coded rubber (.020" wall), cabled with fillers, cotton wrap.
Shield: Braided tinned copper, cotton wrap
Jacket: Black rubber or heavy duty neoprene
Specs: -20°C. to +60°C., 300 volts

Applications: Video and audio interconnecting cable, broadcast and heavy duty studio use.

Alp. No.	Stock No.	No. Cond.	Cond. Size	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
1250/18	37F1519	2	18	41/34	.295"	25.92	126.72
1250	37F1520	2	20	26/34	.270"	15.98	77.19
1251	37F1521	3	20	26/34	.285"	17.73	85.86
1252	37F1522	4	20	26/34	.305"	20.04	97.31
1253	37F1523	5	20	26/34	.330"	25.92	126.72
1254	37F1524	6	20	26/34	.345"	31.97	152.40
1255/8	37F1526	8	20	26/34	.385"	39.51	191.91
1255/10	37F1527	10	20	26/34	.440"	85.35	407.49
1255/12	37F1528	12	20	26/34	.525"	118.35	572.46
1255/15	37F1529	15	20	26/34	.595"	153.30	747.02
1255/20	37F1530	20	20	26/34	.660"	190.17	931.40

HEAVY—DUTY NEOPRENE JACKET

Alp. No.	Stock No.	No. Cond.	Co. Sz.	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
1454	37F693	6	18	41/34	.370"	97.61	464.54
1456	37F478	8	18	41/34	.420"	128.39	618.44
1458	37F479	10	18	41/34	.480"	157.22	762.54
1459	37F480	12	18	41/34	.555"	215.63	1036.97



SHIELDED MICROPHONE CABLE PLASTIC JACKET

Conductor: Stranded tinned copper
Insulation: Color coded polyethylene
Shield: Braided or spiral wrapped tinned copper
Jacket: Chrome gray PVC
Spec: -20°C. to +60°C., low capacitance
Applications: 1702-1706 High impedance microphones
1709-1712 Low impedance microphones

Alpha No.	Stock No.	Cond. Size	Cond. Strand	Nom. O.D.	Shield Type	100 Ft.	1000 ft.
1702	37F1376	26	7/34	.110"	S	6.32	48.98
1703	37F1377	24	10/34	.145"	B	5.46	47.82
1704	37F1378	24	10/34	.190"	B	7.10	60.30
1705	37F1379	24	10/34	.110"	S	7.17	57.65
1706	37F1380	20	26/34	.175"	B	11.00	96.41
2 CONDUCTOR MIKE CABLE							
1709	37F1381	24	10/34	.190"	S	10.77	94.23
1710	37F1382	22	16/34	.230"	B	10.38	91.73

NEOPRENE JACKETED,SHIELDED CONTROL CABLE

Conductor: Stranded tinned copper
Insulation: Color coded rubber, .020$$ wall, cabled with fillers, cotton wrap
Shield: Braided thinned copper, cotton warp
Jacket: Heavy duty black Neoprene
Specs: -20°C. to +60°C., 300 volts
Applications: Heavy duty control applications, oil and grease resistant.

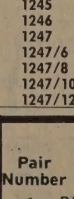
Alpha No.	Stock No.	No. Cond.	Co. Sz.	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
1449	37F689	1	18	41/34	.240"	21.56	104.25
1450	37F690	2	18	41/34	.295"	28.34	138.99
1451	37F691	3	18	41/34	.305"	52.40	240.57
1452	37F692	4	18	41/34	.330"	64.16	299.37
1450/16	37F470	2	16	65/34	.335"	54.53	251.27
1451/16	37F471	3	16	65/34	.355"	65.58	306.51
1452/16	37F472	4	16	65/34	.385"	74.67	351.95

MULTI-PAIR UNSHIELDED CABLE PLASTIC JACKET

Conductor: #22 Solid tinned copper
Insulation: *Color coded PVC, paired, cabled *See Table 1 for color code
Jacket: Grey PVC
Specs: —20°C. to +80°C., 200 volts
Applications: Balanced intercom systems, annunciators, telephones, multiple speaker systems, nurses' call and alarm systems

Alpha No.	Stock No.	No. Cond	Insul. Thick.	Jkt. Thick	Nom. OD.	100 Feet	500 Feet
1001	37F2000	1	.016	.025	.150	2.93	10.56
1002	37F2001	2	.016	.028	.201	4.88	19.77
1003	37F2002	3	.016	.030	.240	6.30	27.57
1004	37F2003	4	.016	.030	.255	8.43	36.47
1006	37F2004	6	.010	.035	.305	10.47	48.44
1007	37F2005	7	.010	.035	.305	13.62	62.54
1009	37F2006	9	.010	.035	.354	15.54	72.45
1011	37F2007	11	.010	.035	.384	19.46	93.72

RUBBER JACKETED,UNSHIELDED CABLE



Conductor: #20 (26/34) tinned copper
Insulation: Color coded rubber, .020" wall, cabled, cotton wrap
Jacket: Black rubber, .035" wall
Specs: -29°C. to +60°C., 300 volts
Application: Heavy duty control and interconnecting systems. audio-visual control and instrumentations

Type	Stock No.	No. of Cond.	Nom1 O.D.	100 Ft.	500 Ft.
1244	37F1350	2	.280"	15.50	73.76
1245	37F1351	3	.285"	16.97	82.97
1246	37F1352	4	.300"	19.10	92.93
1247	37F1353	5	.340"	25.61	120.54
1247/6	37F1354	6	.360"	31.14	148.31
1247/8	37F1356	8	.400"	39.24	188.75
1247/10	37F1357	10	.440"	64.20	298.22
1247/12	37F1358	12	.540"	89.16	426.38

COLOR CODE

Pair Number	Color Combination	Pair Number	Color Combination
1	Black paired with red	6	Black paired with yellow
2	Black paired with white	7	Black paired with orange
3	Black paired with green	8	Red paired with green
4	Black paired with blue	9	Red paired with white
5	Black paired with brown		

Audio, & Instrumentation Cable alpha

UNSHIELDED INTERCOM CABLE

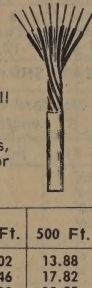
22 Gauge Solid Conductor—Twisted—Paired

Cond: #22 Solid Tinned Copper
Ins.: Color Coded PVC, Conductors Paired, .010" Wall
JKT: Gray PVC
Spec: -20°C. - +60°C. - 200 volts
Applications: Balanced intercoms, Telephones, Call systems, Control circuits, Computers, Speakers, Alarm & Signal systems. Suitable for outdoor installation.

Alpha No.	Stock No.	No. of Pairs	No. of Cond.	Nom. Jacket	Nom. O.D.	100 Ft.	500 Ft.
1300	37F1383	1	2	.025"	.140	3.63	12.95
1302	37F1384	2	4	.025"	.208	6.05	24.24
1307	37F1386	6	12	.025"	.275	12.68	58.49
1307/9	37F1388	9	18	.025"	.320	18.12	84.78
1309	37F1390	13	26	.030"	.370	23.82	114.78
1309/15	37F1391	15	30	.030"	.393	29.16	134.94
1310	37F1392	16	32	.030"	.411	29.97	143.54
1313	37F1393	27	54	.040"	.521	50.70	247.22

UNSHIELDED AUDIO CABLE

22 gauge Stranded—Conductor

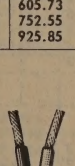


Cond: #22, 7/30 Std. Tinned copper
Ins: Color Coded PVC, Conductors twisted, .010" wall
JKT: Gray PVC
Spec: -20°C - +60°C. - 200 volts
Applications: Unbalanced Intercoms, Control cables, P.A. systems, Computers, Alarm & Signal systems. For outside installation.

Alpha No.	Stock No.	No. of Cond.	Nom. O.D.	Cond. Size	Cond. Strand	100 Ft.	500 Ft.
1172	37F1336	2	.150"	22	7/30	4.02	13.88
1173	37F1337	3	.158"	22	7/30	4.46	17.82
1174	37F1338	4	.172"	22	7/30	5.93	23.55
1175	13F1339	5	.186"	22	7/30	6.93	29.79
1176	37F1340	6	.200"	22	7/30	9.84	43.55
1177	37F1341	7	.200"	22	7/30	11.10	49.37
1178	37F1342	8	.217"	22	7/30	11.66	52.77
1179	37F1343	9	.239"	22	7/30	12.92	57.72
1180	37F1344	10	.260"	22	7/30	12.73	58.73
1181	37F1345	12	.268"	22	7/30	14.18	66.15
1181/15	37F1346	15	.310"	22	7/30	22.95	108.75
1181/20	37F1347	20	.343"	22	7/30	34.74	167.25
1181/25	37F1348	25	.380"	22	7/30	37.05	172.50
1181-30	37F1349	30	.402"	22	7/30	80.55	395.31
1181/40	37F1512	40	.459"	22	7/30	122.48	605.73
1181/50	37F1513	50	.501"	22	7/30	152.13	752.55
1181/60	37F1514	60	.542"	22	7/30	183.45	925.85

UNSHIELDED AUDIO CABLE

14-22 gauge—Solid—Stranded



Cond: Tinned copper, solid or stranded,
Ins: Color coded PVC Wall-*,010",**,016",***.018", †.023",††.030"
JKT: Gray PVC
Spec:—20°C - +60°C. 350 volts except 200 volts Suitable for outdoor installations
Applications: Intercoms, Interconnecting cables remote control circuits. Telephones. Telemetering connecting cable.

SOLID

Alpha No.	Stock No.	No. of Cond.	Conductor Sz.	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1793 *	37F1642	2	22	1	.130"	3.54	12.77
1794 *	37F1643	3	22	1	.140"	6.21	25.71
1795**	37F1645	2	20	1	.170"	7.43	31.83
1797**	37F1648	2	18	1	.190"	8.37	35.54

STRANDED

Alpha No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1893 *	37F1654	2	22	7/30	.150"	4.02	13.88
1894 *	37F1655	3	22	7/30	.158"	4.46	17.82
1894/4 *	37F1656	4	22	7/30	.170"	5.93	23.55
1895 **	37F1657	2	20	7/28	.190"	5.70	23.25
1896 **	36F1658	3	20	7/28	.200"	9.93	44.18
1896/4 **	36F1659	4	20	7/28	.220"	11.51	52.68
1897 ***	37F1660	2	18	16/30	.210"	7.50	32.70
1898 ***	37F1661	3	18	16/30	.235"	12.36	56.46
1898/4***	37F1662	4	18	16/30	.245"	15.68	73.88
1899 †	37F1663	2	16	19/29	.265"	10.43	46.95
1891 ††	37F1666	2	14	19/27	.330"	18.12	85.76
1891/3 ††	37F1667	3	14	19/27	.350"	24.11	115.46

SPIRAL WRAP SHIELDED PLASTIC CABLE

14-22 gauge Stranded Conductor

Cond: Stranded tinned copper,
Ins: Color coded PVC - wall .-16" except (+) .020"
JKT: Gray PVC
Shield: Spiral wrapped tinned copper, for easy pigtailing 85% shield coverage
Spec: 20°C.—+60°C., 350 volts
Applications: Production line work, audio interconnecting, PA & Sound systems, Radio & Transmitting, Shielded Power

Alpha No.	Stock No.	No. Cond.	Cond. Size	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
2254	37F1086	2	22	7/30	.187"	6.23	25.05
2254/3	37F1087	3	22	7/30	197"	9.87	43.98
2256/1	37F1089	1	20	7/28	.133"	6.87	28.95
2256	37F1090	2	20	7/28	.195"	7.22	29.34
2256/3	37F1091	3	20	7/28	.214"	11.16	50.40
2258 †	37F1092	2	18	7/26	.250"	9.08	38.40
2258/3†	37F1093	3	18	7/26	.263"	11.63	48.75

BRAIDED SHIELDED PLASTIC CABLE

14-22 gauge Stranded Conductor

Cond: Stranded Tinned Copper,
Ins: Color Coded PVC - .016" Wall *.020" **.025 +.030
JKT: Gray PVC
Shield: Copper shield, 75%coverage. High flexibility and cable strength
Spec: -20°C. - +60°C., 350 volts (except 1750, 1751- 450 volts)
Applications: P.A., Sound systems, Audio circuits, Shielded power or RF circuits.

Alp. No.	Stock No.	No. Cond.	Cond. Size	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
1736	37F1075	2	22	7/30	.197"	8.67	37.49
1737	37F1076	3	22	7/30	.207"	11.18	43.13
1738	37F1299	4	22	7/30	.223"	16.86	78.98
1741	37F1077	2	20	10/30	.213"	12.21	55.83
1742	37F1078	3	20	10/30	.224"	14.23	66.32
1746 *	37F1079	2	18	16/30	.250"	14.97	69.47
1747 *	37F1080	3	18	16/30	.273"	21.27	101.12
1748**	37F1081	2	16	26/30	.290"	21.03	100.02
1750 *	37F1082	2	14	41/30	.355"	26.54	127.43
1751 *	37F1409	3	14	41/30	.375"	40.01	199.01

BRAIDED SHIELDED PLASTIC CONTROL CABLE

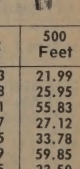
20 gauge—Stranded Conductor—P.E. Ins.

Cond: Stranded Tinned Copper
Ins: Color Coded Polyethylene, Cabled with rayon wrap. .015" wall
Shield: Braided Tinned Copper
JKT: .035" Gray PVC Jkt. (expect 1712 - .030")
Spec: —20° - +60°C., 600 volts

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1712	37F1515	2	20	26/34	.245"	14.69	71.91
1713	37F1410	3	20	26/34	.250"	13.16	65.97
1715	37F1411	4	20	26/34	.260"	15.98	73.19
1716	37F473	5	20	26/34	.275"	17.34	86.84
1717	37F474	6	20	26/34	.300"	36.51	176.79
1719	37F475	8	20	26/34	.330"	46.79	228.32
1721	37F476	10	20	26/34	.375"	57.06	280.40
1723	37F1516	12	20	26/34	.380"	89.48	485.60
1726	37F1517	15	20	26/34	.410"	137.96	685.98
1728	37F1518	20	20	26/34	.455"	179.84	893.34

ALUMINUM FOIL SHIELDED PLASTIC CABLE

16-22 gauge Stranded Conductor PE Ins.

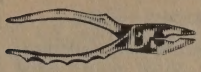


Cond: Stranded Tinned Copper
Ins: Color Coded Polyethylene, .016" Wall, *.018", **.023"
Shield: Mylar Supported aluminum foil, Drain wire parallel, Foil facing outward for max. ground. 100% shield.
JKT: Gray PVC
Spec: -20°C. - +60°C., 400 volts
Applications: Where lightweight and 100% shield necessary. Audio, R.F., Sound Intercom circuits.

Alpha No.	Stock No.	No. Cond.	Cond. Size	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
2402	37F1286	2	22	7/30	.195	5.63	21.99
2403	37F1287	3	22	7/30	.210	6.08	25.95
2404	37F1288	4	22	7/30	.225	12.21	55.83
2412	37F1289	2	20	7/28	.210	7.47	27.12
2413	37F1290	3	20	7/28	.225	7.65	33.78
2414	37F1291	4	20	7/28	.240	12.99	59.85
2422 *	37F1292	2	18	16/30	.230	7.85	33.50
2423 *	37F1293	3	18	16/30	.245	9.15	41.40
2424 *	37F1294	4	18	16/30	.265	15.26	71.34
2432**	37F1531	2	16	19/29	.274"	11.55	53.63
2433**	37F1532	3	16	19/29	.275	13.65	60.90

Alpha Fit Shrinkable Products

alpha
Alpha Wire a division of Loral Corporation



FIT-105 POLYVINYLCHLORIDE TUBING

Type No.	Size	I.D. Before Shrink.	I.D. After Shrink.	Nom. Wall Thick.	500 ft. Coil Stock No.	Ea.	2-9 Coils Ea.	10-19 Coils Ea.	100 ft. Coils Stock No.	NET	25 ft. Coils Stock No.	EACH
FIT-105-3/64"	3/64"	.046"	.023"	.020"	37F249	37.01	32.03	29.66	37F249A	7.40	37F249B	1.89
FIT-105-1/16"	1/16	.062"	.031"	.020"	37F250	39.11	34.13	31.50	37F250A	7.82	37F250B	2.00

Type No.	Size	I.D. Before Shrink.	I.D. After Shrink.	Nom. Wall Thick.	200ft. Coil Stock No.	1-2 Coils Ea.	3-4 Coils Ea.	5-24 Coils Ea.	100 ft. Coils Stock No.	Ea.	25 ft. Coils Stock No.	EACH
FIT-105-3/32"	3/32"	.093"	.046"	.020"	37F251	18.00	15.65	14.39	37F251A	8.98	37F251B	2.28
FIT-105-1/8"	1/8	.125"	.062"	.025"	37F252	20.37	18.48	17.12	37F252A	10.19	37F252B	2.57
FIT-105-3/16"	3/16	.187"	.093"	.025"	37F253	24.78	22.47	20.90	37F253A	12.39	37F253B	3.10
FIT-105-1/4"	1/4	.250"	.125"	.025"	37F254	31.40	28.46	26.57	37F254A	15.70	37F254B	3.94
FIT-105-3/8"	3/8	.375"	.187"	.030"	37F255	34.55	31.29	29.19	37F255A	17.27	37F2535B	4.31

Type No.	Size	I.D. Before Shrink	I.D. After Shrink.	Nom. Wall Thick.	100 ft. Coil Stock No.	1-4 NET Ea.	5-9 NET Ea.	10-49 NET Ea.	25-ft. Coils Stock No.	EACH
FIT-105-1/2"	1/2	.500"	.250"	.030"	37F256	19.69	17.85	16.59	37F265A	4.94
FIT-105-3/4"	3/4	.775"	.375"	.035"	37F257	26.36	23.84	22.21	37F257A	6.62
FIT-105-1"	1	1.000"	.500"	.040"	37F258	37.96	34.34	31.97	37F258A	9.56

PACKAGED ASSORTMENT OF POLYVINYCHLORIDE TUBING

Type No.	Stk. No.	Tubing Size Range	6" Lengths Per Box	Per Box
FIT-105-MS-1	37F245	3/64" thru 1/4"(6 sizes)	10 lengths/size (60 lengths)	4.84
FIT-105-MS-2	37F246	3/8" thru 1" (4 sizes)	10 lengths/size (40 lengths)	9.67
FIT-105-MS-3	37F247	1½" and 2" (2 sizes)	7 lengths/size (14 lengths)	8.45

FIT-350 IRRADIATED KYNAR HEAT SHRINKABLE TUBING

Type	(Inches) Min. I.D. Before Shrinkage	(Inches) Recovered I.D. After Shrinkage	Stk. No. Clear Only	Standard Pkg. 6" Lengths Total Ftg.	No. Lgths.	Net	Stk. No. Clear Only	25-4 Ft. Lengths Per Box 1-4	5-9	10-49
FIT-350-3/64"	.046	.023	37F165	16'	32		37F1555	17.45	15.10	14.00
FIT-350-1/16"	.063	.031	37F166	14'	28		37F1556	19.10	16.55	15.25
FIT-350-3/32"	.093	.046	37F167	12'	24	4.80	37F1557	22.80	19.75	18.25
FIT-350-1/8"	.125	.062	37F168	10'	20		37F1558	25.00	21.65	20.05
FIT-350-3/16"	.187	.093	37F169	8'	16	Ea.	37F1559	38.90	33.70	31.10
FIT-350-1/4"	.250	.125	37F170	6'	12		37F1560	48.80	42.30	39.00
FIT-350-3/8"	.375	.187	37F171	4'	8		37F1561	64.30	55.75	51.50
								5-4 Ft. Lengths Per Box		
FIT-350-1/2"	.500	.250	37F172	2'	4		37F1562	29.35		
FIT-350-3/4"	.750	.375	37F173	1'	2	4.80 Ea.	37F1563	53.95		
FIT-350-1"	1.000	.500	37F174	.5'	1		37F1564	99.20		

FIT-300 SELF-ENCAPSULATING POLOLEFIN HEAT SHRINKABLE TUBING

Type	Color	Min. I.D. Before Shrink.	Max I.D. After Shrink.	Stk. No.	Standard Pkg. 6" Lengths Total Ftg.	No. Lghts.	Net	Stk. No.	25-4 Ft. Lengths Per Box 1-4	5-9	10-49
FIT-300-1/8"	Brown	.125	.023	37F175	7'	14		37F1565	33.50	26.50	24.50
FIT-300-3/16"	Gray	.187	.060	37F176	6'	12		37F1566	40.85	32.40	29.90
FIT-300-1/4"	White	.250	.080	37F177	5'	10	4.68	37F1567	51.00	40.40	37.30
FIT-300-3/8"	Red	.375	.135	37F178	4'	8		37F1568	56.75	45.00	41.50
FIT-300-3/10"	Blue	.300	.050	37F181	2'	4		37F1571	116.30	92.20	85.10
									5-4 Ft. Lengths Per Box		
FIT-300-1/2"	Blue	.500	.195	37F179	3'	6	4.68	37F1569	20.40	16.32	13.38
FIT-300-3/4"	Yellow	.750	.313	37F180	2'	4	4.68	37F1570	31.50	25.00	20.66

FIT-500 HIGH TEMPERATURE HEAT SHRINKABLE TEFLON TUBING

Type	Stock No.	(Inches) Min. I.D. Before Shrinkage	(Inches) Recovered I.D. After Shrinkage	Nominal Recovered Wall Tickness	50-2 Ft. Lengths Per Box
FIT-500-30	37F1625	.030	.022	.009	23.34
FIT-500-28	37F1626	.035	.025	.009	24.36
FIT-500-26	37F1627	.040	.028	.010	26.46
FIT-550-24	37F1628	.050	.032	.010	32.88
FIT-500-22	37F1629	.055	.037	.010	35.28
FIT-500-20	37F1630	.060	.044	.012	32.18
FIT-500-18	37F1631	.076	.052	.012	48.48
FIT-500-16	37F1632	.093	.063	.012	55.92
FIT-500-14	37F1633	.121	.078	.012	62.88
					25-2 Ft. Lengths Per Box
FIT-500-12	37F1634	.153	.096	.012	45.94
FIT-500-10	37F1635	.191	.116	.012	52.98
FIT-500-8	37F1636	.240	.144	.015	79.18
					10-2 Ft. Lengths Per Box
FIT-500-6	37F1637	.302	.178	.015	37.93
FIT-500-4	37F1638	.370	.224	.015	45.89
FIT-500-2	37F1639	.430	.278	.015	56.11
FIT-500-0	37F1640	.470	.347	.015	68.29

IRRADIATED POLYOLEFIN FIT-CAPS

Stock No.	Type	Shrinkage Min. I.D. Before	Shrinkage I.D. After	Nom. Wall Thick	Nom. Lth.	Color	Pkg. of 100 Per Pkg.
37F1423	CAP-1	.063"	.025"	.016"	¾"	White	4.19
37F1424	CAP-2	.125"	.050"	.020"	1"	Red	5.25
37F1425	CAP-3	.250"	.100"	.025"	1¼"	Slate	7.09
37F1426	CAP-4	.500"	.250"	.040"	1½"	Black	20.73
37F1427	CAP-5	.350"	.175"	.035"	1	Brown	8.93

SELF-ENCAPSULATING FIT-CAPS

Stock No.	Type	Shrinkage Min. I.D. Before	Shrinkage I.D. After	Wall Thick. Inner	Wall Thick. Outer	Pkg. of 10 Per Pkg.
37F1428	CAP-11	.160"	.080"	.013"	.040"	9.20
37F1429	CAP-12	.250"	.120"	.020"	.050"	10.50
37F1430	CAP-15	.360"	.180"	.030"	.060"	11.85

THE INDUSTRY'S MOST COMPREHENSIVE LINE OF HEAT SHRINKABLE TUBING

Alpha® Fit Shrinkable Products

alpha
Alpha Wire a division of Loral Corporation

THE INDUSTRY'S MOST COMPREHENSIVE LINE OF IRRADIATED HEAT SHRINKABLE TUBING

FIT SHRINKABLE TUBING

Type	Characteristics	MIN. Shrinkage Temperature	Shrink Ratio	Specifications And Applications
FIT-105	Irradiated PVC: Flexible and resistant to abrasion Color: Black only	175°C/374°F	2:1 (50%	Per MIL-I-23053/2 for cable jacketing in flexible applications.
FIT-221	Irradiated Polyolefin: Flexible, abrasion resistant non-flammable (Except clear) Color: 5 solid colors plus clear	121°C/250°F	2:1 (50%)	Per MIL-I-23053/5 General purpose, jacketing, metal covering, etc.
FIT-295	Irradiated Semi-Rigid Polyolefin: Extremely tough, high mechanical strength. Color coded by size.	135°C/275°F	2:1 (50%)	Per MIL-I-23053/6 Splice coverings, Termination stress relief, all areas requiring additional strength.
FIT-300	Surface-Irradiated Polyolefin: Outer wall shrinks, inner wall melts. Moisture proof, high mechanical strength.	135°C/275°F	Greater than 2:1 (50%)	Per MIL-I-23053/4 Potting, molding-in-place without additional equipment. for connections, terminations, water proof splices, etc.
FIT-350	Semi-Rigid Kynar: Non-Flammable tough fluoro-carbon, high-temperature solvent resistant Color: Clear	175°C/347°F	2:1 (50%)	Per MIL-I-23053/ Cable jacketing, Terminations, splices where exposed to high-heat and chemical solvents.
FIT-500	Teflon: Non-Flammable, Tough fluoro-carbon, extreme temperature resistance, chemically inert, low coefficient of friction. Color: Clear	327°C/620°F	1½:1 (35%)	Per MIL-I-23053/12 Cable jacketing, Terminations, splices where exposed to extreme environments of temperature and chemical reaction.

FIT-221—IRRADIATED POLYOLEFIN

Type	Min. I.D. Before Shrink.	Recovered I.D. After Shrink.	Wall Thk. Recovered	Assorted Colors Stk. No.	Standard Pkg. 6" Lengths Tot. Ftg.	Standard Pkg. 6" Lengths No. Lgths.	Net	Clear or Blk. only Stk. No.	25 4 Ft. Lengths Per Box 1-4	5-9	10-49
FIT-221-3/64"	.046"	.023"	.016"	37F1165	20'	40		37F398	15.45	13.10	11.40
FIT-221-1/16"	.063"	.031"	.017"	37F1166	18'	36		37F399	16.35	13.80	12.00
FIT-221-3/32"	.093"	.046"	.020"	37F1168	16'	32	4.12	37F401	18.90	15.95	13.90
FIT-221-1/8	.125"	.062"	.020"	37F1170	14'	28		37F403	20.05	17.00	14.85
FIT-221-3/16"	.187"	.093"	.020"	37F1171	12'	24		37F404	24.50	20.70	18.10
FIT-221-1/4"	.250"	.125"	.025"	37F1173	10'	20		37F406	30.90	26.00	22.70
FIT-221-3/8"	.375"	.187"	.025"	37F1174	8'	16		37F407	34.25	28.85	25.15
									5 4-Ft. Lengths Per Box 1-4	5-24	25-49
FIT-221-1/2"	.500"	.250"	.025"	37F1176	7'	14		37F409	7.73	6.55	5.71
FIT-221-3/4"	.750"	.375"	.030"	37F1178	6'	12		37F411	10.36	8.74	7.62
FIT-221-1"	1.000"	.500"	.035"	37F1180	4'	8	4.12	37F413	14.56	12.23	10.66
FIT-221-1½"	1.500"	.750"	.040"	37F194	2.5'	5		37F397	23.03	19.25	16.78
FIT-221-2"	2.000"	1.000"	.045"	37F195	1.5'	3		37F395	31.72	26.58	23.17

Packaged Assortments—(6" lengths) FIT-221. 6" tubing in various sizes and colors. Each length identified.

Type	Stock No.	Tubing Size	Lengths Per Box	Net
FIT-221-MS-1	37F1182	3/64-3/16	30	4.61
FIT-221-MS-2	37F1183	1/4-3/4	16	9.21
FIT-221-MS-3	37F1184	1"-4"	10	8.05

NEWLY DESIGNED MINIATURE HEAT GUN—GUN FOR USE ON ALL ALPHA FIT—PRODUCTS

REFER TO FOLLOWING PAGE

FIT-295 POLYOLEFIN SEMI-RIGID POLYOLEFIN

Type No.	Colors	ID Before Shrink. (Inches)	ID After Shrink. (Inches)	Nom. Wall Thick. (Inches)	Stock No.	Standard Package 6 inch Lengths Tot. Ftg.	Standard Package 6 inch Lengths No. Lgths.	NET	Stock No.	25 4-Ft. Lengths Per Box 1-4	5-9	10-49
FIT-295-3/64"	Yellow	.046	.023	.020	37F260	20'	40		37F280	16.60	13.75	12.00
FIT-295-1/16"	White	.063	.032	.020	37F261	18'	36		37F281	17.40	14.45	12.60
FIT-295-3/32"	Blue	.093	.045	.020	37F262	16'	32	4.68	37F282	20.15	16.75	14.60
FIT-295-1/8"	Red	.125	.063	.020	37F263	14'	28		37F283	21.55	17.85	15.55
FIT-295-3/16"	Green	.187	.093	.025	37F264	12'	24		37F284	26.25	21.75	19.00
FIT-295-1/4"	Slate	.250	.125	.025	37F265	10'	20		37F285	32.85	27.25	23.80
FIT-295-3/8"	Brown	.375	.187	.030	37F266	8'	16		37F286	36.40	30.25	26.40

FIT-295-MS-1 37F1641. Assortment of above. 5 lengths per size. Tubing size: 3/64 thru 1/2" **4.68**

alpha Insulating Tubing-Teflon & PVC

Alpha Wire a division of Loral Corporation

TEFLON EXTRUDED TUBING

- **Will not Crack or Become Brittle During Aging!**
- **Will not Shrink During Soldering!**
- **Conforms to MIL-1-22129B**

Unmatched by any other type of tubing for use in electrical applications at high frequencies and temperatures; continuous operation at 250-C. Retaining its flexibility throughout termperature range. At high frequencies dielectric strength is many times that of other insulating materials; is chemically inert having zero moisture absorption. Thin wall tubing, **TFT 200.** permits miniaturization and compactness. Application where high heat resistant, flexible, non-flammable, chemical solvent and erosion-resistant material is required. Electrical and chemical properties conform to MIL-1-22129C. **Natural only.** Standard wall tubing. **TFT-250** has characteristics similar to TFT-200, but for use in application where additional dielectric values and mechanical strength are necessary. Colors: **Natural only. Min. order 100 feet.**

TFT-200 THIN WALL TEFLON TUBING—NATURAL COLOR

Type No.	Stk. No.	Size	Nom. ID	Wall Thk.	Per 100 Ft. Coil Ea.	2-4	5-9	10-49	50-
TFT-200/30	37F488	30	.012"	.009"	9.00	6.62	5.95	5.34	4.89
TFT-200/28	37F489	28	.015"	.009"	8.00	5.70	5.28	4.39	4.20
TFT-200/26	37F490	26	.018"	.010"	7.70	5.60	5.03	3.99	3.80
TFT-200/24	37F491	24	.022"	.010"	7.70	5.60	5.03	4.32	4.13
TFT-200/22	37F492	22	.027"	.010"	9.50	7.12	6.08	4.84	4.65
TFT-200/20	37F493	20	.034"	.012"	12.00	9.33	7.78	6.15	5.98
TFT-200/18	37F494	18	.042"	.012"	12.98	10.73	9.04	7.24	6.97
TFT-200/16	37F495	16	.053"	.012"	14.53	12.67	10.53	8.64	8.12
TFT-200/14	37F496	14	.066"	.012"	16.04	13.76	11.55	9.35	8.97
TFT-200/12	37F481	12	.085"	.012"	18.48	16.63	13.65	11.35	10.79
TFT-200/10	37F482	10	.106"	.012"	22.04	19.36	15.48	13.54	13.00
TFT-200/8	37F483	8	.133"	.015"	27.52	25.75	17.53	15.75	13.15
TFT-200/6	37F484	6	.166"	.015"	31.82	30.28	27.50	25.05	24.28
TFT-200/4	37F485	4	.208"	.015"	38.10	36.78	33.73	30.86	29.92
TFT-200/2	37F486	2	.263"	.015"	48.13	45.56	41.85	38.23	37.07
TFT-200/0	37F487	0	.330"	.015"	59.14	56.31	51.62	47.12	45.78

TFT-250 STANDARD WALL TEFLON TUBING—NATURAL COLOR

TFT-250/24	37F1580	24	.022"	.012"	10.01	8.01	6.89	5.52	5.24
TFT-250/22	37F1581	22	.027"	.012"	11.23	8.98	7.62	6.09	5.79
TFT-250/20	37F1582	20	.034"	.016"	15.19	12.15	10.31	8.37	7.96
TFT-250/19	37F1583	19	.038"	.016"	16.31	13.05	11.21	9.09	8.64
TFT-250/18	37F1584	18	.042"	.016"	18.70	14.68	12.50	9.84	9.36
TFT-250/17	37F1585	17	.047"	.016"	20.39	15.93	13.61	10.72	10.20
TFT-250/16	37F1586	16	.053"	.016"	21.78	17.64	14.90	11.46	10.94
TFT-250/15	37F1587	15	.059"	.016"	22.26	18.32	15.22	11.72	11.18
TFT-250/14	37F1588	14	.066"	.016"	24.03	18.96	15.81	12.66	12.07
TFT-250/13	37F1589	13	.076"	.016"	25.33	20.40	16.63	14.07	13.43
TFT-250/12	37F1590	12	.085"	.016"	27.41	22.02	18.25	15.20	14.53
TFT-250/11	37F1591	11	.095"	.016"	30.43	24.48	19.89	16.87	16.11
TFT-250/10	37F1592	10	.106"	.016"	33.02	25.57	21.06	18.32	17.55
TFT-250/9	37F1593	9	.118"	.020"	45.86	34.00	28.77	26.18	25.14
TFT-250/8	37F1594	8	.133"	.020"	47.43	35.96	31.60	28.73	27.57
TFT-250/7	37F1595	7	.148"	.020"	49.56	38.68	34.04	30.94	29.73
TFT-250/6	37F1596	6	.166"	.020"	53.55	41.82	36.81	33.45	32.13
TFT-250/5	37F1597	5	.186"	.020"	58.99	46.07	40.55	36.85	35.36
TFT-250/4	37F1598	4	.208"	.020"	64.09	50.07	44.07	40.00	38.38
TFT-250/3	37F1599	3	.234"	.020"	70.89	55.34	48.75	44.29	42.97
TFT-250/2	37F1600	2	.263"	.020"	73.14	60.95	53.64	48.75	47.30
TFT-250/1	37F1601	1	.294"	.020"	81.26	67.66	50.50	54.15	53.53
TFT-250/0	37F1602	0	.330"	.020"	91.38	76.16	67.02	60.95	58.57

PVC-105 PLASTIC ALL PURPOSE INSULATING TUBING

Conforms to MIL-1-631D, ASTM-D876, ASTM-D922. Dielectric strength 800V per MIL. 105°C temp. rating. Nonflammable. Tensile strength: 2500 psi. Insulation resistance: over 1,000,000 megs. Size No. 24 to 5/8" stocked in 100' coils, 3/4" & larger stocked in 50' coils. Longer continuous runs available special order. Min. order 100'. Wt., 2 lb. per 100 ft. **Specify Color.**

Stock Colors—Specify Color.

Sizes 24-1" 1 black, clear, white. Others clear and black only.

Type	Stk. No.	Size	I.D.	Price Per 100' Coil 1-4	5-9	10-49	50-99
105-24	37F600	24	.022"	2.43	2.01	1.80	1.58
105-22	37F601	22	.027"	2.44	2.12	1.81	1.59
105-20	37F602	20	.034"	2.49	2.16	1.85	1.61
105-19	37F707	19	.038"	2.55	2.21	1.85	1.63
105-18	37F603	18	.042"	2.58	2.23	1.88	1.64
105-17	37F706	17	.047"	2.61	2.26	1.90	1.65
105-16	37F604	16	.053"	2.72	2.35	1.96	1.71
105-15	37F705	15	.059"	2.80	2.42	1.99	1.73
105-14	37F605	14	.066"	2.89	2.49	2.04	1.78
105-13	37F704	13	.076"	2.94	2.54	2.10	1.81
105-12	37F606	12	.085"	3.07	2.64	2.16	1.88
105-11	37F703	11	.095"	3.15	2.71	2.22	1.95
105-10	37F607	10	.106"	3.27	2.81	2.35	2.05

Type	Stk. No.	Size	I.D.	Price Per 100' Coil 1-4	5-9	10-49	50-99
105-9	37F702	9	.118"	4.27	3.64	2.96	2.58
105-8	37F608	8	.133"	4.57	3.89	3.16	2.73
105-7	37F701	7	.148"	4.84	4.12	3.33	2.85
105-6	37F609	6	.166"	5.19	4.41	3.52	3.01
105-5	37F700	5	.186"	5.58	4.73	3.73	3.18
105-4	37F610	4	.208"	6.00	5.08	3.97	3.34
105-3	37F1438	3	.234"	6.38	5.40	4.19	3.54
105-2	37F611	2	.263"	6.91	5.84	4.50	3.82
105-1	37F1439	1	.294"	7.42	6.27	4.81	4.06
105-0	37F613	0	.330"	7.98	6.73	5.14	4.39
105-5/16"	37F612	5/16"	.312"	9.42	7.94	6.04	5.14
105-3/8"	37F614	3/8"	.375"	10.81	9.09	6.91	5.99
105-7/16"	37F1440	7/16"	.438"	11.58	9.65	7.25	6.20
105-1/2"	37F615	1/2"	.500"	12.77	10.64	8.07	6.87
105-5/8"	37F616	5/8"	.625"	18.38	15.30	11.73	9.83
105-9/16"	37F1441	9/16"	.562"	17.00	14.17	10.77	9.07

Type	Stk. No.	Size	I.D.	Price Per 50' Coil 1-9	10-19	20-99	100-199
105-3/4"	37F617	3/4"	.750"	12.67	10.56	8.05	6.72
105-7/8"	37F618	7/8"	.875"	14.25	11.86	9.19	7.66
105-1"	37F619	1"	1.000"	15.92	13.27	10.26	8.50
105-1 1/8"	37F1572	1 1/8"	1.125"	20.88	17.40	13.26	10.99
105-1 1/4"	37F1573	1 1/4"	1.250"	22.07	18.39	14.29	11.95
105-1 3/8"	37F1574	1 3/8"	1.375"	23.59	19.66	15.15	12.67
105-1 1/2"	37F1575	1 1/2"	1.500"	28.60	23.84	18.39	15.56
105-1 3/4"	37F1576	1 3/4"	1.750"	35.66	29.72	23.06	19.64
105-2"	37F1577	2"	2.000"	49.00	40.84	31.31	26.56
105-2 1/4"	37F1578	2 1/4"	2.250"	58.26	48.55	36.94	31.24
105-2 1/2"	37F1579	2 1/2"	2.500"	69.07	57.56	43.65	37.03

PLASTIC IMPREGNATED FIBERGLAS TUBING—CONFORMS TO MIL-1-3190 GRADE B

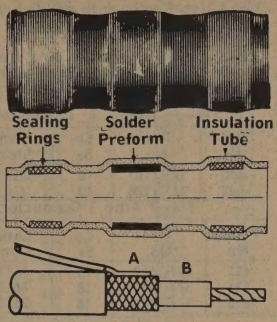
Type	Stk. No.	Size	Wall Thickness Max.	Min.	100' Spool Ea.
P1F-130/24	37F1603	24	.022	.016	4.50
P1F-130/22	37F1604	22	.022	.016	4.50
P1F-130/20	37F1605	20	.022	.016	4.58
P1F-130/18	37F1606	18	.022	.016	4.65
P1F-130/16	37F1607	16	.028	.020	4.80
P1F-130/14	37F1608	14	.028	.020	5.10
P1F-130/12	37F1609	12	.028	.020	5.25
P1F-130/10	37F1610	10	.028	.020	5.70

Type	Stk. No.	Size	Thk. Wall	Min.	100' Spool Ea.
P1F-130/8	37F1611	8	.028	.020	6.38
P1F-130/6	37F1612	6	.028	.020	7.35
P1F-130/4	37F1613	4	.036	.026	8.10
P1F-130/2	37F1614	2	.036	.026	10.20
P1F-130/0	37F1615	0	.042	.030	13.80
P1F-130/3/8"	37F1616	3/8"	.042	.030	17.55
P1F-130/1/2"	37F1617	1/2"	.042	.030	29.25
P1F-130/3/4"	37F1618	3/4"	.042	.030	43.50
P1F-130/1"	37F1619	1"	.042	.030	63.00

FIT SOLDERING SLEEVES

- SOLDERS
- INSULATES
- ENCAPSULATES
- WIRE SPLICING
- FOR SHIELD GROUNDING

Prepackaged soldering device which prepares a uniform solder joint. Sleeve consists of an irradiated heat-shrinkable, polyolefin sleeve containing a preform of fluxed solder at the center and a thermoplastic sealing on each end. Placed over cable shield and ground lead, or splice, and briefly heated, outer sleeve shrinks and solder and thermoplastic inserts melt forming insulated, encapsulated, soldered termination.



Type	Stock No.	Put Up	Max. Dia. (B)	Min. Dia. (A)	Net Each
FSH-1	37F1866	25	.125"	.055"	4.16
FSH-1	37F1867	100	.125"	.055"	14.83
FSH-1	37F1868	1000	.125"	.055"	131.60
FSH-2	37F1869	25	.200"	.100"	4.33
FSH-2	37F1870	100	.200"	.100"	15.48
FSH-2	37F1871	1000	.200"	.100"	137.62
FSH-3	37F1872	25	.300"	.160"	5.91
FSH-3	37F1873	100	.300"	.160"	21.49
FSH-3	37F1874	1000	.300"	.160"	192.15
FSL-1	37F1875	25	.125"	.055"	4.16
FSL-1	37F1876	100	.125"	.055"	14.83
FSL-1	37F1877	1000	.125"	.055"	131.60
FSL-2	37F1878	25	.200"	.100"	4.33
FSL-2	37F1879	100	.200"	.100"	15.48
FSL-2	37F1880	1000	.200"	.100"	137.62
FSL-3	37F1881	25	.300"	.160"	5.91
FSL-3	37F1882	100	.300"	.160"	21.49
FSL-3	37F1883	1000	.300"	.160"	192.15

LACING CORD AND TAPES

Recommended for all harness work. Prevents "cold flow". *Dacron. 3/32" size. .014" thick. 50 lb. test.

MIL-T-713A NYLON FLAT BRAID TYPE

Type	Stock No.	Color	Finish	500-Yd. Spool 1-9	10-24	25-49
LC132	37F658	White	Resin	8.45	7.88	7.35
LC132	37F659	Black	Resin	9.14	8.61	7.98
LC134	37F666	White	Wax	5.41	5.04	4.73
LC134	37F667	Black	Wax	6.09	5.78	5.41
LC136	37F668	White	Wax	8.45	7.88	7.35
LC136	37F669	Black	Wax	9.14	8.61	7.98
LC140	37F670	White	Rubber	8.45	7.88	7.35
LC140	37F671	Black	Rubber	9.14	8.61	7.98
LC143	37F660	White	Resin	8.45	7.88	7.35
LC143	37F661	Black	Resin	9.14	8.61	7.98
LC158*	37F664	White	Resin	8.45	7.88	7.35
LC158*	37F665	Black	Resin	9.14	8.61	7.98
LC162*	37F678	White	Wax	8.45	7.88	7.35
LC162*	37F679	Black	Wax	9.14	8.61	7.98

MIL-T-713A ROUND TWISTED NYLON 8 OZ. SPOOLS

LC113	37F672	White	Wax	4.73	4.20	3.68
LC113	37F673	Black	Wax	5.51	4.99	4.31
LC114	37F674	White	Wax	4.73	4.20	3.68
LC114	37F675	Black	Wax	5.51	4.99	4.31
LC115	37F676	White	Wax	4.73	4.20	3.68
LC115	37F677	Black	Wax	5.51	4.99	4.31

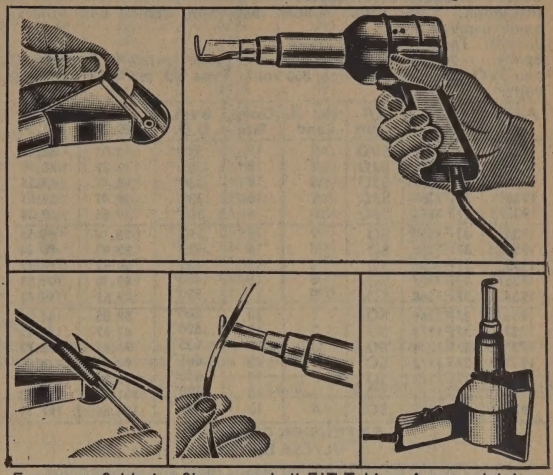
ALPHA FIT KIT

Perfect engineering or prototype sampler. A variety of sizes and colors to all Fit Tubing types packaged in a handy compartment plastic case. Especially designed for laboratory, prototype, or service work.

37F1436. NET 11.00

• NEW MINI FIT GUN

For use on Soldering-Sleeves and all FIT Tubing



For use on Soldering-Sleeves and all FIT Tubing. A new miniature heat gun that has been developed for shrinking all FIT tubing as well as soldering sleeves. A durable, electric motor driven unit that delivers a high volume of air to the nozzle. Easily replaceable heat elements. 3 position switch. Light-weight - use as bench or hand unit. Electrical Features: Amperage Rating - 7 operating voltage 115 AC, wt. 3 lbs. Includes gun- stand, 2 reflectors.

Typical Temperatures:

175 C. (347 F. without adapter
205 C. (401 F. with adapter only
203 C. (446 F. with tubing refl.
340 C. (664 F. with Fit-Sleeve reflector

Net 42.50
3 & UP 38.25

ZIP31 ZIPPER TUBING AND SEALER

Plastic tubing equipped with a longitudinal plastic zipper that eliminates costly work of lacing and tying of harness assemblies. It can be opened and closed any time, so the conductors are readily accessible. May also be permanently sealed to protect the conductors against moisture or abrasion.
20 MIL wall thickness. Vinyl per specification MIL-1-631D. For ease in closing use tubing size ¼ larger than O.D. of wires to be covered. One metal slider supplied with every 25 feet.
Sold only in standard sizes as shown. Stocked in the underflap construction. Specify Black or Clear. **100 Ft. spools.**

Zip Type	Black No.	Clear No.	Dia.	Per Spool 1-4	5-9	10-49
31-½"	37F642	37F622	½"	45.00	37.20	34.80
31-⅝"	37F643	37F638	⅝"	45.60	37.80	35.40
31-¾"	37F644	37F623	¾"	46.20	38.40	36.00
31-⅞"	37F645	37F639	⅞"	47.40	39.00	36.60
31-1"	37F646	37F624	1"	48.00	39.60	37.20
31-1⅛"	37F647	37F640	1⅛"	49.80	40.80	38.40
31-1¼"	37F648	37F625	1¼"	50.40	41.40	39.00
31-1½"	37F649	37F626	1½"	52.20	43.20	40.80
31-1¾"	37F662	37F627	1¾"	54.00	44.40	42.00
31-2"	37F663	37F628	2"	55.20	45.60	43.20

SPECIAL SEALER TYPE PB200

Type	Stock No.	Size	NET
PB-200	37F634	4 oz.	1.00

FIT SHRINKABLE WIRE MARKERS ASSORTMENT

Preprinted lengths of abrasion-resistant irradiated polyolefin tubing designed for permanent wire and cable identification. Shrinkage ratio: 2:1. Shrinkage achieved by hot air gun, or flame. Wall thk: .016". Marker length: ¾". Pkgd. 100 per box. —**Color: Black**

Stk. No.	Type	O.D. of Wire	I.D. Before	I.D. After	Markers	Per 100
37F239	MRK-A-NS	.049-.065	.098	.049	1-50	3.40
37F240	MRK-B-NS	.066-095	.122	.061	1-50	
37F241	MRK-C-NS	.096-.150	.178	.089	1-50	
37F242	MRK-A-LS	.049-.065	.098	.049	A-Z	
37F243	MRK-B-LS	.066-.095	.122	.061	A-Z	
37F244	MRK-C-LS	.096-.150	.178	.089	A-Z	

alpha U.L. Cords - Coaxial Cables

Alpha Wire a division of Loral Corporation

NEOPRENE SERVICE AND POWER CORDS
UL Listed

Condr:- Stranded bare copper.
Insulation:- Color coded rubber insulation, cabled with fillers, paper separator.
Jacket:- Tough black Neoprene.
Specs: - —20° to +60°C, oil, acid and ozone resistant. Types SJO and SVO, stationary service, 300 volts. Type SO, portable cord, 600 volts.

Alpha No.	Stock No.	u/l Type	No. of Cond.	Cond. Size	Nom. O.D.	100 Ft.	250 Ft.
1931	37F1359	SVO	2	18	.250"	13.91	32.01
1932	37F1360	SJO	2	18	.305"	17.27	40.79
1932/3	37F1361	SJO	3	18	.330"	22.47	49.55
1933	37F1362	SJO	2	16	.330	22.47	49.55
1933/3	37F1363	SJO	3	16	.360"	29.66	69.34
1934	37F1364	SO	2	18	.390"	28.14	65.55
1934/3	37F1365	SO	3	18	.405"	33.93	80.04
1935	37F1366	SO	2	16	.405"	30.87	72.42
1935/3	37F1367	SO	3	16	.430"	42.30	101.01
1936	37F1368	SO	2	14	.530"	49.55	119.12
1936/3	37F1369	SO	3	14	.560"	59.85	144.84
1937	37F1370	SO	2	12	.600"	61.37	148.65
1937/3	37F1371	SO	3	12	.635"	76.61	186.77
1937/4	37F1372	SO	4	12	.665"	93.39	228.69
1938	37F1373	SO	2	10	.640"	75.09	182.96
1938/3	37F1374	SO	3	10	.690"	101.01	238.23
1938/4	37F1375	SO	4	10	.745"	124.64	297.30

EXTENSION CORD SETS
UL/CSA LISTED

2 and 3 conductor with molded plastic male and female plugs.
Specs:- 300 volt rating, heavy duty black rubber jacket.
Applications:- Small business machines, vacuum cleaners, lamps, movie projectors or any other home appliance. 3 conductor used when 1 conductor requires grounding.

2 CONDUCTOR CORDS

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	U/L Type	Nom. O.D.	Cord Lgth.	Net
620	37F1114	18	41/34	SV	.245"	6	1.14
628	37F1118	16	26/30	SJ	.325"	10	1.74

3 CONDUCTOR CORDS

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	U/L Type	Nom. O.D.	Cord Lgth.	Net
636	37F1122	18	16/30	SJ	.330"	10	2.12
638	37F1123	18	16/30	SJ	.330"	25	4.13
640	37F1417	16	26/30	SJ	.365"	10	3.87
642	37F1418	16	26/30	SJ	.365"	25	7.44
644	37F1419	16	26/30	SJ	.365"	50	11.58

REPLACEMENT CORD SETS
UL/CSA Listed

2 and 3 conductor with molded male plug on one end and stripped leads on other end.

Specs:- 300 volts. heavy duty black rubber jacket.
Applications:- Business machines, small electrical tools and home appliances. 3 conductor used when 1 conductor requires grounding.

#18—7 Amp. 2 Conductor Cord Sets #16—10 Amp

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	U.L. Type	Cord Lgth.	Net
600	37F1107	18	41/34	SV	6	1.04
602	37F1108	18	41/34	SV	6	1.23

#18—7 Amp 3 Conductor Cord Sets #6—10 Amp

Alpha No.	Stk. No.	Co. Sz.	Cond. Strand	U.L. Type	Cord Lgth.	Net
615	37F1412	18	16/30	SJ	6	1.32
616	37F1413	18	16/30	SJ	6	1.52
618	37F1414	16	26/30	SJ	9	1.89

RG-59/U TYPE ALL-CHANNEL TV CABLES
Designed for CATV, MATV and Home Antennas.
75 OHM Impedance

Condr:- #22 solid bare copperweld
Insulation:- Solid or low-loss foamed polyethylene
Shield:- Braided bare copper
Jacket:- Black PVC.
Each reel sweep-tested to guarantee uniform attenuation.

Alpha No.	Stk. No.	Insulation	100'	500'	1000'
9830	37F1950	Solid Poly.	5.40	21.75	42.75
9840	37F1971	Foam Poly.	5.55	22.50	44.25

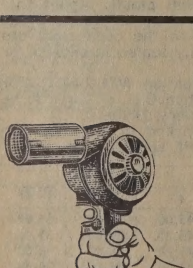
NEW LIGHT-WEIGHT 75 OHM TV CABLE UTILIZING COPPER-CLAD ALUMINUM BRAID

Condr: #22 solid bare copper
Insulation:- low-loss foamed polyethylene
Shield: Braided copper-clad aluminum
Jacket: Black PVC
Each reel sweep-tested to guarantee uniform attenuation

Alpha No.	Nom O.D.	Stk. No.	500'	Stk. No.	1000'
457	.0253	37F1900F	18.60	37F1900	40.65

MASTER APPLIANCE HEAT GUNS

AIR HEAT GUN



A handy, quick, safe way to get instant heat in the laboratory or for plant production. Ideal for fitting heat shrinkable insulation and wire markers. The Master Heat Gun, Model 751, delivers up to 1000°F, without the dangers of open flames. Its many features include an adjustable air intake for controlling the air-blast temperature; a double jacketed heater housing; a sturdy die-cast aluminum housing and an 8 ft. neoprene-jacketed 3-wire cord and plug that is oil and grease resistant. Turbo type fan blade is efficient and quiet in operation. All models for 115V A.C. or D.C. operation. Equipped with adaptor for 2 prong receptacle. 230V models available on special order. Shipping wt. 5 lbs.

Model	Stk. No.	Voltage	Amp.	Temp. F	Net	3 or More Net Ea.
HG201	37F1442	115	5	200/300	44.30	39.87
HG301	37F1437	115	12	300/500	44.30	39.87
HG501	37F415	115	14	200/750	49.90	44.91
HG751	37F422	115	20	750/1000	59.95	53.96

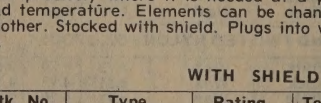
ACCESSORIES

Type 100. Air Flow Adaptor. Placed in nozzle to adapt for easy insertion of baffle plate below.
37F1197. Net **2.95**

Type 145. Baffle Plate. Used with heat guns listed above to aid in concentration of heat flow. for tubing up to ¾" O.D.
37F1199. Net **2.75**

Type 150. Baffle Plate for tubing up to 1¼" O.D.
37F424. Net **2.95**

FLAMELESS HEAT TORCH



Model FHT-67. Compressed air, flameless heat torch with ⅛" Dia. opening on nozzle. Welds all PVC's Polyethylenes and Polypropylenes. Works off conventional air compressors or inert gas. Concentrates a flameless heat precisely where it is needed at a pre-determined pressure and temperature. Elements can be changed from one rating to another. Stocked with shield. Plugs into wall socket. Shpg. wt: 1 lb.

WITH SHIELD

Stk. No.	Type	Rating	Temperature	Net
37F1443	FHT-67-1-250	250 watts	250° to 500°	88.00
37F1444	FHT-67-1-350	350 watts	350° to 700°	90.50
37F1494	FHT-67-1-450	450 watts	450° to 850°	92.50
37F1495	FHT-67-1-550	550 watts	550° to 1050°	94.50

ELEMENT KITS

Each Element Kit includes 1 element, 1 mica insulation, 2 element lead nuts, 1 element anchoring screw, 1 mounting washer, 1 nozzle screen, 1 screen retaining ring, and instruction sheet.
HAS-01K. Element Kit for HG 201.
37F1767 Net 4.50
HAS-018K. Element Kit for HG 301.
37F1769. Net 4.50
37F1772. Net 6.30
37F1772. Net 6.30
HAS-015K. Element Kit for HG 751.
37F1774. Net 6.30

Newark stocks and can supply any part for any Master Appliance Heat Gun

Cable Index And Communications BELDEN

HANDY INDEX

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8407	490	8434	491	8464	492	8618	489	8739	489	8786	491
8408	490	8437	489	8465	490	8620	490	8740	491	8789	489
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8415	490	8444	490	8472	492	8443	489	8758	489		

CABLE FINDER

The following guide includes some of Belden's most popular cable, listed according to conductor size and number of conductors. *Indicates solid conductors, all others are stranded conductors.† Indicates cable having Beldfoil shield.

Size	2 Cond.	3 Cond.	4 Cond.	5 Cond.	6 Cond.	7 Cond.	8 Cond.
25 AWG	8416		8434†				
24 AWG	8413 8420 8641†	8406					
23 AWG		8495 8497†	8415 8491† 8494	8490			
22 AWG	8285 8290† 8422 8437* 8441 8442 8450*† 8451† 8481* 8737 8738* 8739* 8740* 8761† 8781*	8443 8701* 8733† 8734 8735 8771†	8444 8723† 8724† 8728† 8732 8741*	8445	8446 8742† 8447 8767*† 8777† 8786†		8446 8488 8757*
20 AWG	8205 8222 8225 8402 8412 8758	8230 8275 8403 8423 8763† 8772† 8759 8762† 8783	8404 8424 8464 8722†	8405 8425 8463	8426	8427	8418
18 AWG	8208 8428 8452 8462 8760† 8789	8460 8461 8453 8602 8770† 8791 8790 8888	8454	8465	8446	8447 8467	8448
16 AWG	8408 8470 8471 8472	8677 8780 8475 8618† 8783	8407 8620 8476			8621	
14 AWG	8473 8474 8675	8479					

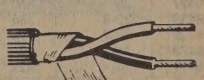
2 CONDUCTOR CABLES—VINYL PLASTIC

Broadcast cable; tinned copper; conductors cabled; black vinyl jacket. *Miniature type broadcast audio cable (occupies ½ to ⅜ less space than required by Standard Broadcast Audio Cables. Has BELDFOIL shield which combines high cable reliability with ease of termination. Are polypropylene insulated; have stranded tinned copper ground drain wire and paper wrap. Type 8437 has solid tinned copper drain wire; 84 41 has stranded tinned copper drain wire. Both are vinyl insulated and have tinned copper braid shield.

Type 8450

Type	A.W.G.	Nom. O.D.	Work Volt.	Stk. No.	NET per 100	Stk. No.	500 Ft.	Stk. No.	1000 Ft.
8450*	22 Solid	.118"	200	36F028A	4.50	36F028F	16.70	36F028	33.45
8451*	22 Strd.	.135"	200	36F029A	4.74	36F029F	19.50	36F029	39.00
8437	22 Solid	.200"	200	.....	....	36F093F	27.40	36F093	54.80
8441	22 Strd.	.210"	200	36F036A	6.90	36F036F	30.75	36F036	61.50

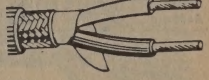
Tinned copper; chrome vinyl jacket. Have BELDFOIL aluminum-polyester shield, stranded tinned copper ground drain wire, except *which has tinned copper spiral wrapped shield and vinyl insulation, † has braided tinned copper shield and rubber insulation.



Type 8759

8641	24 Strd.	.160"	350	36F157A	4.29	36F157F	17.25	36F157	34.50
8761	22 Strd.	.167"	350	.....	....	36F165F	17.55	36F165	35.10
8762	20 Strd.	.196"	350	36F166A	5.33	36F166F	22.10	36F166	44.25
8760	18 Strd.	.222"	450	.....	....	36F164F	26.60	36F164	53.20
8739*	22 Solid	.160"	350	36F081A	4.56	36F081F	19.35	36F081	38.70
8737*	22 Strd.	.170"	350	36F084A	4.80	36F084F	21.25	36F084	42.50
8759*	20 Strd.	.195"	350	36F085A	6.00	36F085F	25.00	36F085	50.00
8780*	16 Strd.	.266"	450	36F106A	9.60	36F106F	42.75	36F106	85.50
8790*	18 Strd.	.231"	450	36F107A	7.65	36F107F	33.00	36F107	66.00
8208†	18 Strd.	.255"	200	36F195A	9.90	36F195F	43.90	36F195	87.80

Tinned copper; vinyl insulated; braided tinned copper shield; no outer jacket.



Type 8208

Type	A.W.G.	Nom O.D.	Work Volt.	Stk. No.	NET per 100	Stk. No.	500 Ft.	Stk. No.	1000 Ft.
8738	22 Solid	.130"	350	.....	....	.....	....	36F080	37.20
8758	20 Strd.	.165"	350	36F086A	5.85	36F086F	23.80	36F086	47.60
8789	18 Strd.	.204"	450	.....	....	36F102F	34.65	36F102	69.30

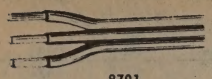
3 CONDUCTOR CABLES—VINYL PLASTIC

Chrome vinyl jacket; polyethylene insulation with BELDFOIL shield, except *braided shield, vinyl insulated (**)spiral shield.

Type 8770

Type	A.W.G.	Nom. O.D."	Work Volt.	Stk. No.	100 Ft.	Stk. No.	250 Ft.	Stk. No.	500 Ft.	Stk. No.	Ft. 1000
8618	16 Strd.	.300"	600	.....	....	.....	....	36F1360F	54.00	36F1360	108.00
8735*	22 Strd.	.199"	350	36F083A	6.75	.....	....	36F083F	28.90	36F083	57.80
8771	22 Strd.	.175"	350	.....	....	36F168E	11.05	36F168F	22.15	36F168	44.30
8772	20 Strd.	.200"	350	.....	....	.....	....	36F169F	27.90	36F169	55.80
8770	18 Strd.	.236"	450	.....	....	.....	....	36F167F	35.50	36F167	71.00
8791**	18 Strd.	.236"	450	36F135A	9.36	.....	....	.....	41.80	36F135	83.60
8643*	30 Strd.	.086"	200	36F1361A	7.95	36F1361E	18.75	.....	.....	.....	.....

BELDEN Cables and Retractile Cords



8701

THREE CONDUCTOR-UNSHIELDED

Type 8701 is tinned copper; .016" vinyl insulation thickness; parallel. Type 8475 has bonded parallel conductor construction; stranded bare copper with .023 inch thick vinyl insulation. Type 8443 is tinned copper; .010" thick vinyl insulation; cabled; has chrome vinyl jackets.

Mfr. No.	AWG & No. of cond.	Nom. O.D.	Work Volt.	Stk. No.	25'	Stk. No.	100'	Stk. No.	250'	Stk. No.	500'	Stk. No.	1000'
8701	22-3	.190"	100	.....	.....	36F134A	2.88	.....	.....	36F134F	10.65	36F134	21.30
8475	16-3	.295"	300	.....	.....	36F124A	9.00	.....	.....	36F124F	48.15	.....	.....
8443	22-3	.150"	200	36F040C	1.40	36F040A	3.66	36F040E	7.31	36F040F	14.65	36F040	29.30

MULTIPLE CONDUCTOR CABLES — NOT PAIRED

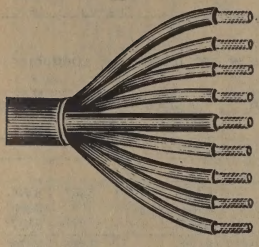
Fig. E

Fig. E. Stranded tinned copper conductors, color-coded, vinyl plastic insulated, with vinyl jacket overall. Ideal for a multitude of audio, instrumentation, and control applications. Voltage ratings: # 22 AWG types, 200V; # 18 types, 400V; # 16 types, 600V. Available only in spool sizes listed.

Mfr. No.	AWG & No. of Cond.	Nom. O.D.	Lbs. 100'	Stk. No.	25'	Stk. No.	100'	Stk. No.	250'	Stk. No.	500'	Stk. No.	1000'
8444	22-4	.168"	2¼	36F041C	1.59	36F041A	4.83	36F041E	9.98	36F041F	19.95	36F041	39.90
8445	22-5	.180"	2½	36F042C	1.83	36F042A	5.58	36F042E	11.90	36F042F	23.85	36F042	47.70

Mfr. No.	AWG & No. of Cond.	Nom. O.D.	Lbs. 100'	Stk. No.	250'	Stk. No.	500'	Stk. No.	1000'
8446	22-4, 18-2	.222"	4	36F043E	18.30	36F043F	36.60	36F043	73.20
8447	22-5, 18-2	.246"	4¾	36F044E	21.20	36F044F	42.45	36F044	85.20
8448	22-6, 18-2	.250"	5	36F045E	23.25	36F045F	46.50	36F045	93.00
8449	22-7, 18-2	.261"	5¼	36F046E	25.10	36F046F	50.25	36F046	100.50

Mfr. No.	AWG & No. of Cond.	Nom. O.D.	Lbs. 100'	Stk. No.	100'	Stock No.	500'	Stk. No.	1000'
8456	22-10	.260"	5	36F200A	10.80	36F200F	49.50	36F200	99.00
8457	22-12	.260"	5½	36F201A	12.15	36F201F	56.25	36F201	112.50
8458	22-15	.320"	8	36F198A	20.55	36F198F	92.25	36F198	184.50
8459	22-25	.370"	11½	36F199A	31.50	36F199F	145.50	36F199	291.00
8465	18-5	.286"	6	36F1017A	10.85	36F1017F	49.90	36F1017	99.80
8467	18-7	.324"	8½	36F1018A	14.95	36F1018F	65.60	36F1018	131.20
8469	18-9	.379"	10¼	36F1019A	19.50	36F1019F	91.50	36F1019	183.00
8466	18-12	.412"	113½	36F144A	26.25	36F144F	128.25	36F144	256.50
8468	18-15	.490"	18	36F145A	36.45	36F145F	172.50	36F145	345.00
8619	18-19	.505"	20	.....	. . .	36F1351F	199.50	36F1351	399.00
8620	16-4	.375"	8	36F146A	13.80	36F146F	64.40	36F146	129.00
8621	16-7	.455"	13	36F147A	25.35	36F147F	114.00	36F147	228.00
8622	16-12	.600"	21¼	36F148A	41.25	36F148F	192.00	36F148	384.00



8446 8448
8447 8449

MICROPHONE AND INSTRUMENTATION CABLES—(SHIELDED)

General purpose shielded cables, for all stage, studio and instrumentation applications. Rubber types have rubber-insulated tinned copper conductors, tinned copper-braid shield, black rubber jacket overall, (†)except black Neoprene jacket. **8402 & 8408 have brown hypalon jacket. Vinyl types are similar, but have polyethylene-insulated conductors, chrome vinyl jacket. †Miniature cables having tinned cadmium-bronze conductors.

SINGLE CONDUCTOR—RUBBER

Type	A.W.G. and Cond.	O.D.	Work Volt.	Stk. No.	50 Ft.	Stk. No.	100 Ft.	Stk. No.	250 Ft.	Stk. No.	500 Ft.	Stk. No.	1000 Ft.
8410	25-1	.245"	3000	36F010B	6.39	36F010A	11.90	36F010E	27.45	36F010F	54.90	. . . . .	. . . .

MULTIPLE CONDUCTOR—RUBBER HYPALON**

8413*	24-2	.190"	300	36F026B	6.90	36F026A	12.75	36F026E	30.60	36F026F	61.20	.....	. . . . .
8406*	24-3	.223"	300	.....	....	36F202A	16.35	36F202E	39.00	36F202F	78.00	.....	. . . . .
8412	20-2	.268"	600	36F011B	7.05	36F011A	13.35	36F011E	30.60	36F011F	61.20	36F011	122.40
8402**	20-2	.268"	600	.....	....	36F1355A	14.40	36F1355E	34.35	36F1355F	68.70	.....	....
8423	20-3	.277"	600	36F012B	8.00	36F012A	15.00	36F012E	35.25	36F012F	70.50	36F012	141.00
8424	20-4	.295"	600	36F013B	8.90	36F013A	16.70	36F013E	39.35	36F013F	78.75	36F013	157.50
8425	20-5	.323"	600	.....	....	36F014A	20.80	36F014E	50.70	. . . .	....	.....	....
8426	20-6	.349"	600	.....	....	36F015A	25.50	36F015E	62.70	.....	....	.....	....
8427	20-7	.360"	600	.....	....	36F016A	28.05	36F016E	69.00	.....	....	.....	....
8418	20-8	.386"	600	.....	....	36F018A	31.50	36F018E	76.50	.....	....	.....	....
8428†	18-2	.295"	600	.....	....	36F017A	17.25	.....	. . .	36F017F	81.00	36F017	162.00
8408**	16-2	.385"	600	.....	....	36F1356A	24.75	36F1356E	60.00	36F1356F	120.00	.....	....
8407†	16-4	.422"	600	.....	....	36F132A	30.45	36F132E	73.50	.....	. . .	.....	....

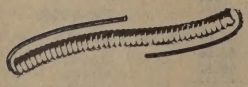
SINGLE CONDUCTOR—VINYL PLASTIC

8401	25-1	.200"	5000	36F020B	3.39	36F020A	6.30	36F020E	13.20	36F020F	26.40	36F020	52.80
8411	25-1	.144"	3500	36F021B	2.61	36F021A	4.95	36F021E	10.45	36F021F	20.90	36F021	41.80

MULTIPLE CONDUCTOR—VINYL PLASTIC

8420*	24-2	.185"	500	36F027B	4.65	36F027A	8.85	36F027E	20.50	36F027F	41.00	.....	....
8422	22-2	.231"	1000	36F022B	5.10	36F022A	8.95	36F022E	19.75	36F022F	39.40	36F022	78.80
8403	20-3	.244"	600	36F023B	6.75	36F023A	12.60	36F023E	28.30	36F023F	56.60	36F023	113.20
8404	20-4	.255"	600	.....	....	36F024A	13.65	36F024E	31.15	36F024F	62.30	36F024	124.60
8405	20-5	.275"	600	.....	....	. . . . .	....	36F1358E	36.40	36F1358F	72.80	36F1358	145.60

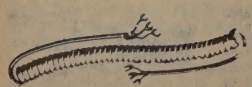
RETRACTILE (COILED) MICROPHONE CABLES — SHIELDED AND UNSHIELDED



Cadmium bronze wire microphone cables with neoprene or vinyl jacket. Retracts when not in use. Neoprene cables are resistant to effects of sun, oil and ozone and are recommended for outside use.

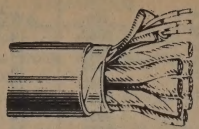
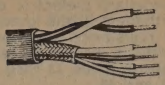
Type	Stock No.	AWG (standing)	Retracted Length (in.)	Extended Length (ft.)	Nom. OD (in.)	Jacket Material	Conductors	NET
8409	36F1329	28 (7x36)	12"	6'	.165	Neoprene	4 unshielded	1.35
8415	36F038	23 (21x36)	11½"	6'	.250	Neoprene	4 unshielded	1.64
8497	36F207	23 (21x36)	11½"	6'	.250	Neoprene	3 cond-1 shield	1.77
8499	36F208	24 (45x40)	7½"	4'	.160	Neoprene	1 shielded	1.20
8491	36F1330	23 (21x36)	12"	6'	.300	Neoprene	4 cond-2 shield	2.04
8490	36F1331	23 (21x36)	11½"	6'	.265	Neoprene	5 unshielded	1.77

RETRACTILE NEOPRENE POWER CONTROL CABLES—UNSHIELDED



For telephone use. Cadmium bronze, black vinyl jacket. 8494 has one end stripped 7¾", spade terminals attached and hook strain relief clamped over jacket. Other end stripped 6¼" and spade terminals attached. 8495 is similar, but end with strain relief stripped 2¾", other end stripped 3 1/16".

8494	36F203	23 (21x36)	10"	4½	.245	Vinyl	4 Unshielded	2.04
8495	36F204	23 (21x36)	10"	4½	.220	Vinyl	3 Unshielded	1.65
8601	36F1342	18 (41x34)	12"	6'	.270	Neoprene	2 "SVO"	1.35
8602	36F1343	18 (41x34)	12"	6'	.360	Neoprene	3 "SJO"	2.07
8603	36F1344	16 (65x34)	12"	6'	.370	Neoprene	3 "SJO"	2.10
8604	36F1345	16 (65x34)	22"	12'	.370	Neoprene	3 "SJO"	3.23

Strain Gauge Cable. All have polyethylene insulation (except * has polypropylene, ** vinyl), chrome vinyl jacket, BELDFOIL shield, stranded tinned copper drain wire, Working voltage, 400 volts (except Types 8724 200 Volts, 8722 and 8732 are 350 volts).

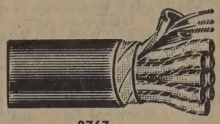
Type	AWG & Cond. Shld.	Un-Shld.	Nom. O.D.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8434	25-4	.....	.179″	36F1032A	6.90	36F1032F	31.15	36F1032	62.30
8723*	22-4	.....	.165″	36F1033A	6.90	36F1033F	30.60	36F1033	61.20
8728*	22-4	.....	.188″	.....	.....	36F1353F	46.15	36F1353	92.30
8724*	22-2	22-2	.165″	.....	.....	36F1346F	29.85	36F1346	59.70
8722**	20-2	20-2	.260″	.....	.....	36F185F	37.50	36F185	75.00
8732	22-2	22-2	.296″	36F173A	7.73	36F173F	32.65	36F173	65.30

Special Audio and Control Cable. Tinned, vinyl insulation (except * have polyethylene and BELDFOIL shield, and chrome vinyl jackets. Type 8734 rated 350 volt, has copper braid shield. Type 8733 is individually shielded (except † 450 volts, no shield

Type	AWG & Cond. Shld.	Un-Shld.	Nom. O.D.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8734	22-1	22-2	.194″	36F186A	6.15	36F186F	25.75	36F186	51.50
8763*	20-2	20-1	.210″	.....	.....	36F187F	28.90	36F187	57.80
8733*	22-3	.....	.205″	36F188A	7.35	36F188F	31.15	36F188	62.30
8783†	.....	20-1 16-2	.250″	36F108A	7.95	36F108F	35.25	.....	.....
8786	24-4	22-2	.256″	36F138A	8.70	36F138F	39.90	.....	.....

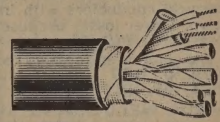
Multiple-Pair Individually Shielded Audio Cable. # 22 AWG solid tinned copper; .013″ vinyl insulation; each pair and drain wire under BEDFOIL aluminum-mylar shield. Chrome vinyl jacket.

Type	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8767	3	.270″	36F190A	11.40	36F190F	52.20	36F190	104.40
8768	6	.394″	36F191A	23.25	36F191F	109.10	36F191	218.20
8764	9	.440″	36F192A	31.80	36F192F	154.50	36F192	309.00
8765	11	.485″	36F193A	38.25	36F193F	184.50	36F193	369.00
8766	15	.540″	36F194A	52.80	36F194F	252.00	36F194	504.00


8767

Multiple Pair Individually Shielded Cables. Same as above, except .010 Polpropylene insulated. For audio, pulse, & radio freq. applications—operating temp. 105°C # 22 AWG (7x30 stranded) conductors.

Type	Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8777	3	.270″	36F1332A	12.85	36F1332F	60.80	36F1332	121.60
8778	6	.394″	36F1333A	26.10	36F1333F	127.50	36F1333	255.00
8774	9	.440″	36F1334A	39.60	36F1334F	186.80	36F1334	373.60
8775	11	.485″	36F1335A	46.35	36F1335F	222.00	36F1335	444.00
8776	15	.540″	36F1336A	61.05	36F1336F	294.00	36F1336	588.00
8769	19	.620″	36F1337A	82.50	36F1337F	392.25	36F1337	784.50
8773	27	.760″	36F1338A	Cut to Order—25 Min-1.33			36F1338	1137.00


8777

Miniature Instrumentation Cables. Solid copper cond., polypropylene insul., copper braid shield in coaxial construction; black vinyl jacket. May be steam sterilized for medical instrumentation.

Type	AWG & Cond.	Nom. O.D.	Work. Volt.	Stk. No.	25′	Stk. No.	50′	Stk. No.	100′	Stk. No.	250′
8700	28-1	.054″	100	36F082C	2.13	36F082B	3.60	36F082A	6.15	36F082E	14.40

8700

MULTIPLE CONDUCTOR CABLES—PAIRED

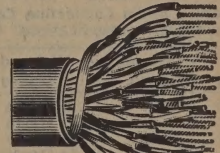
Solid. All types below have # 22 AWG solid tinned copper conductors, vinyl insulated and cabled in pairs. Chrome vinyl jacket overall.

Mfr. No.	No. of Pairs	Nom. O.D.	Work. Volt.		100′	Stk. No.	500′	Stk. No.	1000′
8741	2	.201″	200	36F061A	4.68	36F061F	18.85	36F061	37.70
8742	3	.240″	200	36F062A	6.12	36F062F	26.25	36F062	52.50
8757	4	.255″	200	.....	.....	36F069F	34.75	36F069	69.50
8743	6	.305″	200	36F063A	10.05	36F063F	46.15	36F063	92.30
8744	9	.354″	200	36F064A	14.85	36F064F	69.00	36F064	138.00
8753	11	.384″	200	36F067A	18.75	36F067F	89.30	36F067	178.60
8745	15	.420″	200	36F065A	25.80	36F065F	119.30	36F065	238.60

8741

Stranded. As above, but Type 22 AWG stranded (7x30) conductors provide greater flexibility, can be run in intricate bands.

Type	No. of Pairs	Nom. O.D.	Work Volt	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8747	6	.340″	200	36F075A	12.15	36F075F	55.90	36F075	111.80
8748	9	.389″	200	36F076A	18.15	36F076F	86.65	36F076	173.30
8749	15	.425″	200	36F077A	30.75	36F077F	145.50	36F077	291.00
8750	27	.595″	200	Cut to order 25 min. order. .66 per Ft.				36F078	564.00


8749

38- and 51-Pair Cables. Have 22 AWG solid copper conductors, 8751 vinyl insulated, 8752 polypropylene insulated. BEDFOIL shield overall, chrome vinyl jacket. Cut to length—min. order 25 ft.

Type	No. Cond.	Nom. O.D.	Lbs. per 100′	Stk. No.	Per 1000′	Price Per Ft.
8751	51 pr.	.725″	32	36F079	1,083.00	1.27
8752	38 pr.	.600″	25	36F074	963.00	1.13

TWO CONDUCTOR CABLES

Unjacketed. Twisted pair cable, vinyl insulated. Fig. C

Mfr. No.	AWG	Nom. O.D.	Work. Volt.	Stk. No.	100′	Stk. No.	250′	Stk. No.	500′	Stk. No.	1000′
8481	22 (solid)	.112″	350	36F068A	2.25	....	....	36F068F	7.35	36F068	14.70
8482	19 (solid)	.130″	350	36F1009A	2.94	....	....	36F1009F	10.95	36F1009	21.90
8460	18 (strd.)	.175″	450	36F1010A	4.29	....	....	36F1010F	16.90	36F1010	33.80
8470	16 (strd.)	.195″	600	.....	.....	....	....	36F1011F	21.55	36F1011	43.10

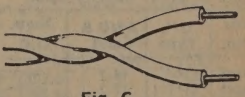


Fig. C.

Jacketed. As above, but with chrome vinyl overall jacket. Fig. D

8740	22 (solid)	.150″	200	36F060A	2.82	36F060E	5.05	36F060F	10.05	36F060	20.10
8442	22 (strd.)	.165″	350	36F039F	.....	.....	.....	36F039F	12.00	36F039	24.00
8205	20 (strd.)	.190″	350	36F197A	3.83	.....	.....	36F..7F	14.10	36F197	28.20
8461	18 (strd.)	.226″	450	36F1014A	5.07	.....	.....	36F1014F	20.85	36F1014	41.70
8471	16 (strd.)	.256″	600	.....	.....	.....	.....	36F1015F	28.35	36F1015	56.70
8473	14 (strd.)	.332″	600	.....	.....	.....	.....	36F1021F	45.00	36F1021	90.00
8477	12 (strd.)	.384″	600	.....	.....	.....	.....	36F1354F	63.00	36F1354	126.00

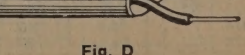


Fig. D

BELDEN Magnet Wire/TV & Audio Cable

SINGLE BELDSOL-130°C

Dual film insulated magnet wire that combines excellent dielectric characteristics of polyurethane and the known toughness and solvent resistance of nylon. May be soldered without insulation removal at 750°F. ½ lb. spools sizes 14 thru 36. ¼ lb. spools sizes 38 and 40.

Mfr. No.	AWG	Feet	Stk. No.	NET	Mfr. No.	AWG	Feet	Stk. No.	NET
8047	14	40	36F1310	1.65	8054	28	1020	36F1317	1.86
8048	16	63	36F1311	1.65	8055	30	1615	36F1318	2.10
8049	18	100	36F1312	1.68	8056	32	2515	36F1319	2.36
8050	20	160	36F1313	1.68	8057	34	4060	36F1320	2.09
8051	22	254	36F1314	1.68	8058	36	6400	36F1321	2.91
8052	24	404	36F1315	1.71	8045	38	5070	36F1322	2.10
8053	26	645	36F1316	1.80	8046	40	8050	36F1323	2.82

HEAVY ARMORED POLYTHERMALEZE HIGH TEMPERATURE MAGNET WIRE

Dual polyester film insulated magnet wire, rated for use to 180°C. Has exceptional ability to resist chemical solvents and abuse in intricate windings. One pound spools.

8073	14	80	36F767	2.87	8080	28	1990	36F774	3.72
8074	16	126	36F768	2.97	8081	30	3140	36F775	4.17
8075	18	199	36F769	3.12	8082	32	4880	36F776	4.59
8076	20	315	36F770	3.12	8083	34	7860	36F777	5.34
8077	22	501	36F771	3.12	8084	36	12400	36F778	6.48
8078	24	793	36F772	3.21	8085	38	19400	36F779	7.77
8079	26	1260	36F773	3.42	8086	40	32100	36F780	10.08

TWIN LEAD ANTENNA ROTOR CABLE

Type 8290. SHIELDED & JACKETED ENCAPSULATED TWIN LEAD. #22 AWG, 2 cond., 300 ohm cable. TV lead-in for best color and 82 channel reception. Low losses per 100 ft., eliminates interference caused by line pick up. No matching transformers. Terminals on both ends. Nominal OD: .515".
36F2000B. 50'. **NET** ..... 6.10 **36F2000H.** 75'. **NET** 8.25
36F2000A. 100'. **NET** 10.40

Type 8285. PERMOHM All-Weather #22 AWG, 300-ohm twinlead. 2 parallel Copperweld conductors, orange polyethylene insulation and web between conductors, encapsulated in cellular polythylene oval jacket. Delivers 3 to 136 times more power than flat lead-in for strong, clear signals on all channels. An excellent color, UHF, VHF cable. Nominal OD: .468".
36F211B. 50' **NET** ..... 3.08 **36F211H.** 75'. **NET** 4.08
36F211A. 100' **NET** 5.25

TYPE 8275. CELLULINE. #20 AWG, 300 ohm cable. 2 parallel Copperweld conductors with inert-gas-filled unicellular polyethylene core. Lower losses because of lower dielectric constant. Polyethylene outer jacket and wind-resistant. Efficient line for UHF. VHF and color no end sealing required. Nominal OD: .400".
36F212B. 50'. **NET** ..... 2.85 **36F212H.** 75' **NET** 3.93
36F212A. 100'. **NET** 4.86

Type 8230. WELDOHM. #20 AWG, 2 cond., 300 ohm cable. Copperweld cond. have greater strength for long-lasting installation. Nominal OD: .400".
36F209B. 50' **NET** ..... 1.43 **36F209H.** 75'. **NET** 1.89
36F209A. 100'. **NET** 2.37

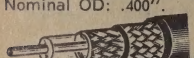
Type 8225. #20 AWG, 2 cond., 300 OHM FLAT TWINLEAD bare copper cond. polyethylene insulation for best weathering. Nominal OD: .400"
36F210B. 50' **NET** ..... 1.34 **36F210H.** 75'. **NET** 1.76
36F210A. 100'. **NET** 2.18

Type 8222. 72-OHM TRANSMISSION LINE. #20 AWG, 2 parallel copper cond., brown polyethylene insulation. Nominal OD: .128".
36F213A. 100'. **NET** 2.31

Type 8464. #20 AWG, 4-CONDUCTOR FLAT ROTOR CABLE. Bare copper conductors, one tinned for polarity. Chrome vinyl insulation. Nominal OD: .390".
36F231B. 50'. **NET** ..... 2.61 **36F231H.** 75'. **NET** 3.51
36F231A. 100' **NET** 4.50

Type 8463. Same as above except has 5 cond. and brown polyethylene insulation. Nominal OD: .375".
36F232B. 50'. **NET** ..... 2.94 **36F232H.** 75'. **NET** 4.14
36F232A. 100'. **NET** 5.49

Type 8488. #22 AWG, 8 CONDUCTOR ROUND ROTOR CABLE: Bare copper conductors, color-coded insulation, chrome vinyl jacket. Nominal OD: .205".
36F056A. 100' **NET** 6.76



RG/U TRANSMISSION LINE CABLE

Has low-loss flexible polyethylene inner jacket covered by copper shield, with either vinyl or polyethylene outer jacket overall. All are single conductor type. *Mil. spec. †TV Distribution Cable-Black RG59/U type.

Type	RG No.	JAN Spec.	Nom. Imp.	AWG and standing	Nom. O.D.	Stk. No.	100'	Stk. No.	500'	Stk. No.	1000'
8216	RG-174/U	C-17D	50.0	26 (7x34)	.100"	36F058A	4.56	36F058F	16.80	36F058	33.60
†8221	.....	.....	75	22 Copperweld	.242"	36F1357A	7.80	36F1357F	26.00	36F1357	52.00
8237	RG-8/U	C-17A	52.0	13 (7x21)	.405"	36F113A	16.30	36F113F	64.80	36F113	129.60
8238	RG-11/U	C-17A	75.0	18 (7x26)	.405"	36F114A	14.10	36F114F	55.65	36F114	111.30
8240	RG-58/U	C-17A	53.5	20 solid	.195"	36F111A	5.64	36F111F	20.70	36F111	41.40
8241	RG-59/U	C-17A	73.0	22 Copperweld	.242"	36F110A	6.90	36F110F	23.90	36F110	47.80
8254	RG-62/U	C-17A	93	22 Copperweld	.242"	36F1347A	7.35	36F1347F	27.40	36F1347	54.80
8259	RG-58A/U	C-17A	50.0	20 (19x.0071)	.195"	36F118A	6.60	36F118F	23.70	36F118	47.40
8262	RG-58C/U	C-17D*	50.0	20 (19x.0071)	.195"	.....	....	36F057F	26.55	36F057	53.10

HI-FI AND STERO CABLES

Phono Pick-Up Cable. Type 8421, Hi-Fi connecting cable, spiral wrapped shield, chrome vinyl jacket with cellular polyethylene insulated conductor, 8431 is rubber insulated, shield and brown cotton braid. 8419, and 8429, are vinyl insulated. * No shield, no jacket. color-coded polyethylene insulation and individual spiral wrapped shields; chrome vinyl jacket. * per channel,

Dual-Channel Audio Cable, Type 8416. Designed for sterio and language lab hookup applications. Tinned copper/copperweld conductors, with color-coded polyethylene and individual spiral wrapped shields; chrome vinyl jacket. * per channel, +50 ft. below.

Miniature Audio Connecting Cable, Type 8417. Double BELFOIL aluminum-mylar shields provide total shielding for critical audio and instrumentation applications. Copper-copperweld conductor cellular polyethylene insulation, chrome vinyl jacket.

Type	No. of Cond.	AWG and (stranding)	Nom. O.D.	Nom. mmf/ft.	Stock No.	25 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.
8430*	2	32 (7x40)	.050"	21	36F158C	1.05	.....	....	36F158E	6.30	.....	....
8429	2	32 (7x40)	.057"	22	36F150C	1.77	.....	....	36F150E	12.00	.....	....
8419	3	32 (7x40)	.067"	30	36F159C	2.07	.....	....	36F159E	14.85	.....	....
8431	1	24 (16x36)	.095"	96	36F152C	1.65	36F152A	5.25	.....	....	36F152F	23.70
8421	1	25 (7x33)	.180"	18	36F226C	2.01	36F226A	6.00	36F226E	13.20	.....	....
8416	2	25 (7x33)	.213	35*	36F126C	2.16	36F126A	7.05	36F126E	16.28	.....	....
8417	1	25 (7x33)	.140"	25	36F127C	1.65	36F127A	5.03	36F127E	10.95	.....	....

RUBBER-VINYL MULTICONDUCTOR PORTABLE CORDAGE — 300V —60°C

Types 8462 and 8888 are standard household "lamp cord"; other types have color-coded rubber insulation, black rubber jacket overall. All conductors are of stranded copper. *Rubber insulated, in brown, white or black—specify color. †Vinyl insulation, in brown, white or grey—specify color.

Mfr. No.	U/L Type	AWG & Cond.	Nom. O.D.	Stk. No.	25'	Stk. No.	50'	Stk. No.	100'	Stk. No.	250'	Stk. No.	500'	Stk. No.	1000'
8462*	SP-1	18-2	.223"	36F047C	1.59	.....	....	36F047A	4.74	36F047E	11.40	.....	....	.....	....
8888†	SPT-1	18-2	.207"	36F048C	1.56	.....	....	36F048A	4.28	36F048E	9.30	.....	....	.....	....
8452	SV	18-2	.245"	36F030C	2.46	36F030B	4.20	36F030A	7.35	36F030E	17.45	36F030F	34.95	36F030	66.90
8453	SV	18-3	.265"	.....	....	36F031B	5.25	36F031A	9.90	.....	....	36F031F	48.45	.....	....
8454	....	18-4	.265"	.....	....	36F032B	6.00	36F032A	11.45	.....	....	36F032F	52.95	.....	....
8472	SJ	16-2	.325"	36F049C	3.18	.....	....	36F049A	11.10	36F049E	26.70	.....	....	.....	....
8474	....	14-2	.360"	.....	....	.....	....	36F050A	14.35	36F050E	34.50	.....	....	.....	....
8479	....	14-3	.380"	.....	....	.....	....	36F1352A	16.65	36F1352E	40.80	.....	....	.....	....

Mil Spec, and U/L Hookup Wire BELDEN

MIL-W-16878D TYPE B VINYL 600V-105C TIGHT NO- FRAY STRANDING

TYPE B

Tinned copper wire strannded for greater flexibility. Wall thickness .010 Vinyl insulation for high resistance to moisture, flame, ozone, solvents and most chemicals. SPECIFY COLOR AND COLOR NO. WHEN ORDERING. **Colors available only in sizes listed. See stock color columns. *For tracer colors add 12c per 100 ft.** Shipping weight 100' 1 lb.; 1000' 6 lbs.

Mfr. Types	Mil. Types	AWG	O.D.	100' and 1000' Stock Colors	Stock No.	100 Ft.	Stock No.	1000' Ft.
8505	B-26	26 (7x34)	.039"	1-10. 14-22*	36F595A	1.47	36F595	5.40
8509	B-24	24 (19x36)	.045"	1-10. 14-22	36F602A	1.86	36F602	11.70
8504	B-24	24 (7x32)	.044"	1-10. 14-22*	36F594A	1.47	36F594	4.95
8508	B-22	22 (19x34)	.051"	9, 14-22	36F603A	2.00	36F603	12.70
8503	B-22	22 (7x30)	.050"	1-10. 14-22*	36F593A	1.61	36F593	10.60
8507	B-20	20 (19x32)	.059"	9, 14-22	36F604A	2.12	36F604	15.15
8502	B-20	20 (7x28)	.058"	1-10. 14-22*	36F592A	1.95	36F592	12.75
8501	B-18	18 (7x26)	.068"	1-10. 14-22*	36F591A	2.13	36F591	16.20
8500	B-16	16 (19x29)	.077"	1-10. 14-22*	36F590A	2.76	36F590	21.60

MW VINYL

TYPE TEW

MIL-W-76B TYPE MW—VINYL AND VINYL- NYLON—1000V

Tinned copper conductor with vinyl insulation rated at 80°C, except + nylon-jacketed vinyl, rated to 90° C. Flame and ozone resistant; insert to most chemicals, oil and solvents. Specify color and color No. when ordering—SEE CHART AT LEFT. ***For tracer colors add 12c per 100 ft.**

Type	Mil. No.	AWG	Nom. O.D."	100'Spools Stk. No.	Net	1000' Spools Stk. No.	Net	Stock Colors
8525	MW-C-24-7U	24(7x32)	.058	36F641A	1.44	36F641	9.30	1-22
8530	MW-C-22-1U	22(solid)	.059	36F640A	1.35	36F640	8.55	1-22
8524	MW-C-22-7U	22(7x30)	.064	36F660A	1.61	36F660	10.95	1-22
8537+	MW-C-22-7J	22(7x30)	.069	36F633A	2.37	36F633	16.35	1-10
8529	MW-C-20-1U	20(solid)	.066	36F650A	1.62	36F650	10.80	1-22
8523	MW-C-20-10U	20(10x30)	.070	36F670A	1.85	36F670	12.45	1-22
8536+	MW-C-20-10J	20(10x30)	.076	36F634A	2.52	36F634	19.05	1-10
8528	MW-C-18-1U	18(solid)	.074	36F642A	2.07	36F642	14.70	1-13
8522	MW-C-18-16U	18(16x30)	.080	36F690A	2.25	36F690	16.75	1-22
8535+	MW-C-18-16J	18(16x30)	.086	36F635A	3.51	36F635	25.05	1-10
8521	MW-C-16-26U	16(26x30)	.098	36F632A	3.09	36F632	24.00	1-22
8520	MW-C-14-41U	14(41x30)	.111	36F643A	4.35	36F643	37.50	1-22
8527	MW-C-12-65U	12(65x30)	.130	36F644A	6.60	36F644	54.00	1-10

COLOR CODING

First color in stripe combination is body color and second color is tracer. **Specify color when ordering. All colors are not available in all types. See stock color columns.**

1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Light Blue
7. Violet
8. Gray
9. White
10. Black
11. Tan
12. Pink
13. Dark Blue

Tracer colors Add12c/100ft.

14. White/Black
15. White/Red
16. White/Green
17. White/Yellow
18. White/Blue
19. White/Brown
20. White/Orange
21. White/Gray
22. White/Violet

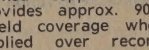
U/L TYPE HOOKUP AND LEAD WIRE—600V

CSA Type TEW vinyl insulated; rated 600V to 105°. **Specify color & color No.—see chart at left and stock order column.**

Type	AWG	O.D.	Stk. Colors	Stk. No.	100'	Stk. No.	500'	Stk. No.	1000'
8920	22(7x30)	.095"	1-5,9,10,13	36F580A	1.82	.....	.....	36F580	12.60
8919	20(10x30)	.102"	1-5,9,10,13	36F581A	2.13	.....	.....	36F581	16.00
8918	18(16x30)	.112"	1-5,9,10,13	36F582A	2.64	.....	.....	36F582	20.25
8917	16(26x30)	.126"	1-5,9,10,13	36F583A	3.51	36F583F	14.70	.....	.....
8916	14(41x30)	.141"	1-5,9,10,13	36F584A	4.73	36F584F	20.10	.....	.....
CSA type TRB, vinyl insulation, lacquered cotton braid jacket; rated 600V to 90°C.									
8937	22(7x30)	.091"	1-5,9,10,13	36F585A	2.43	.....	.....	36F585	17.35
8936	20(10x30)	.098"	1-5,9,10,13	36F586A	2.52	.....	.....	36F586	19.50
8935	18(16x30)	.113"	1-5,9,10,13	36F587A	3.36	.....	.....	36F587	24.75
8934	16(26x30)	.126"	1-5,9,10,13	36F588A	4.20	36F588F	17.50	.....	.....
8933	14(41x30)	.177"	1-5,9,10,13	36F589A	6.40	36F589F	27.60	.....	.....

SHIELDING & BONDING CABLE

Type	Oval I.D.	Flat Width	Cir. Mil area	Stk. No.	10'	Stk. No.	50'	Stk. No.	250'
8676	1/32"	3/64"	400	36F215G	1.28	36F215B	2.40	36F215E	6.68
8674	3/64"	1/16"	600	36F216G	.81	36F216B	2.00	36F216E	9.10
8660	5/32"	1/32"	3800	36F220G	.96	36F220B	2.88	36F220E	13.05
8668	3/16"	5/16"	4700	36F223G	1.34	36F223B	3.96	36F223E	17.25
8663	5/16"	7/16"	6700	36F225G	1.44	36F225B	4.89	36F225E	23.10
8661	1/2"	9/16"	7600	36F221G	1.32	36F221B	4.56	36F221E	21.45
8669	5/8"	11/16"	13,300	36F224G	2.31	36F224B	9.84	36F224E	46.95
8672	.....	9/16"	13,200	36F217G	2.54	36F217B	11.25	36F217E	51.00
8662	.....	19/32"	22,900	36F222G	3.15	36F222B	13.90	36F222E	67.50
8670	.....	3/4"	48,000	36F218G	4.88	36F218B	22.05	36F218E	105.75
8671	.....	11/16"	21,600	36F219G	3.51	36F219B	16.10	36F219E	78.30



Tinned copper braid provides approx. 90% shield coverage when applied over recommended diameter.

BUS BAR WIRE

Type	AWG	Stk. No.	100'	Stk. No	1000'	Type	AWG	Stk. No.	100'	Stk. No.	1000'
8025	30	36F1022A	.92	36F1022	3.84	8020	20	36F1027A	1.19	36F1027	8.31
8024	28	36F1023A	.92	36F1023	4.14	8019	18	36F1028A	1.59	36F1028	11.94
8023	26	36F1024A	.95	36F1024	4.41	8013	16	36F1029A	2.24	36F1029	18.90
8022	24	36F1025A	.98	36F1025	4.98	8012	14	36F1030A	3.36	36F1030	28.35
8021	22	36F1026A	1.01	36F1026	6.00	8011	12	36F1031A	5.04	.....	.....

Made in accordance with Federal spec. QQ-W-343. Solid tinned copper; available in standard spools of 100' and 1000' only.

TEST PROD WIRE—STRAIGHT AND COILED

Stranded tinned copper conductors, separator wrapping, red or black rubber insulated. Working voltages listed are AC RMS values **Straight types.** 8897 is manufactured per MIL-W-13169 specs; 8890 is miniature type. See following page for retractible types.

Type	Color	A.W.G.	Nom. OD	WV	10'	NET	25'	NET	100'	NET	500'	NET	1000'	NET
8898	Black	18-65x36	.230"	10000	36F001G	1.23	36F001C	2.28	36F001A	5.97	36F001F	25.00	.....	.....
8898	Red	18-65x36	.230"	10000	36F000G	1.23	36F000C	2.28	36F000A	5.97	36F000F	25.00	.....	.....
8899	Red	18-65x36	.144"	5000	36F005G	.87	36F005C	1.38	36F005A	4.41	36F005F	16.20	36F005	32.40
8899	Black	18-65x36	.144"	5000	36F006G	.87	36F006C	1.38	36F006A	4.41	36F006F	16.20	36F006	32.40
8897	Red	18-65x36	.144"	5000	.....	.....	.....	.....	.....	.....	36F128F	18.60	36F128	37.20
8897	Black	18-65x36	.144"	5000	.....	.....	.....	.....	.....	.....	36F129F	18.60	36F129	37.20
8890	Black	24-45x40	.066"	1000	.....	.....	36F007C	1.14	36F007A	2.85	36F007F	12.00	.....	.....
8890	Red	24-45x40	.066"	1000	.....	.....	36F008C	1.14	36F008A	2.85	36F008F	12.00	.....	.....

36F004J. Type 8899. 14 Ft. Spool, consists of 7 Ft. Red and 7 Ft. Black. Ready for use. **NET** ..... .95

BELDEN Teflon Hook-Up Wire & Insulated Cables

TEFLON HOOK-UP WIRE

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated. Teflon wire is recommended for miniature cable applications, because of their thermal and electrical properties. Also suitable for internal wiring soldering applications where insulation melt is a problem. Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame and in their ability to remain flexible at low temperatures. Have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic carbon and solvents. *Specify color desired: 1-20 (see color chart).

Color Chart	
1. Brown	6 Light Blue
2. Red	7. Violet
3. Orange	8. Gray
4. Yellow	9. White
5. Green	10. Black

TYPE E MIL-W-16878 TEFLON 600V-200°C

Mfr. No.	AWG and Stranding	Nom O.D. (Inches)	Insul. Thickness	Specify Color	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83000	30(7x38)	.033	.010	1-10	36F610A	4.50	36F610F	13.43	36F610	25.35
83001	28(7x36)	.036	.010	1-10	36F611A	4.75	36F611F	14.10	36F611	26.70
83002	26(7x34)	.041	.010	1-10	36F612A	5.10	36F612F	15.95	36F612	30.40
83003	24(19x36)	.046	.010	1-10	36F613A	6.25	36F613F	20.45	. . .	. . .
83004	24(7x32)	.045	.010	1-10	36F614A	5.40	36F614F	16.80	36F614	32.10
83005	22(7x30)	.051	.010	1-10	36F615A	6.25	36F615F	20.48	36F615	39.45

TYPE EE-MIL-W-16878*TEFLON-1000V-200°C

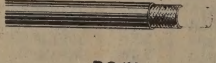
Mfr. No.	AWG and Stranding	Nom. O.D.	Insul. Thickness	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83023	24 (19x36)	.053	.014″	36F1719A	8.10	36F1719F	28.13	. . .	. . .
83025	22 (7x30)	.058	.014″	36F1720A	8.40	36F1720F	29.40	. . .	. . .
83026	22 (19x34)	.060	.014″	36F1721A	9.10	36F1721F	32.48	36F1721	63.45
83027	20 (19x32)	.068	.014″	36F1722A	10.50	36F1722F	38.68	36F1722	75.75
83028	20 (7x28)	.066	.014″	36F1723A	10.00	36F1723F	36.08	. . .	. . .
83029	18 (19x30)	.079	.014″	36F1724A	14.05	36F1724F	53.18	36F1724	104.85

TYPE ET-MIL-W-16878* TEFLON-250V-200°C MINIATURE HOOK-UP WIRE

Mfr. No.	AWG and Stranding	Nom. O.D.	Insul. Thick	Stk. No.	100′
83041	32(7x40)	.021	.006″	36F1725	4.50
83043	30(7x38)	.024	.006″	36F1726	4.60
83045	28(7x36)	.027	.006″	36F1727	4.75
83046	26(7x34)	.031	.006″	36F1728	5.05
83047	24(7x32)	.036	.006″	36F1729	5.20
83049	22(7x30)	.042	.006″	36F1730	5.70

TEFLON INSULATED CABLES

83390



RG/U

Type E

SPECIAL FEP TEFLON INSULATED INSTRUMENTATION CABLES

Tinned copper, insulated with FEP TEFLON, conductors cabled, noise reducing tape, 22 AWG (7x30) nickel coated copper drain wire, special BELDFOIL shield, red silicone rubber jacket except *yellow jacket. + 150°C maximum operating temperature. Jacket working voltage: 1000V DC, shield to ground. Conductor colors: 9, 10, 2, 5.

Mfr. No.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Insul. Thickness	Jacket Thickness	Stk. No.	100′	Stk. No.	500′
83393*	2	20(7x28)	.245″	.020	.030	36F1359A	43.50	36F1359F	210.00
83394	2	22(7x30)	.204″	.015	.030	36F209A	30.00	36F209F	148.50
83395	3	22(7x30)	.213″	.015	.030	36F210A	37.50	36F210F	183.00
83396	4	22(7x30)	.222″	.015	.030	36F211A	43.50	36F211F	211.50

RG/U TRANSMISSION LINE CABLES

Cables meet Mil. Spec. Mil-C-17D; silver coated copperweld; TFE Teflon insulation; silver coated copper shields.

Mfr. No.	RG No.	AWG and Stranding	Jacket	Nom. O.D. (Inches)	Nom. Imp. (Ohms)	Nom. Attenuation Per 100′	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83241	141A/U	18 (solid)	Fiberglass	.190	50	9.0 db	36F1687A	48.75	36F1687F	228.00	36F1687	450.00
83242	142B/U	18 (solid)	Brown FEP	.195	50	9.0 db	36F1688A	60.00	36F1688F	285.00	36F1688	564.00
83265	178B/U	30(7x38)	Brown FEP	.070	50	29.0 db	36F1689A	13.90	36F1689F	60.00	. . .	. . .
83264	179B/U	30(7x38)	Brown FEP	.100	75	21.0 db	36F1690A	24.00	36F1690F	104.25	36F1690	204.00
83266	180B/U	30(7x38)	Brown FEP	.140	95	17.0 db	36F1691A	31.50	36F1691F	145.50	. . .	. . .
83267	187A/U	30(7x38)	Teflon Tape	.105	75	21.0 db	36F1692A	22.50	36F1692F	104.25	36F1692	195.00
83269	188A/U	26(7x.0067)	Teflon Tape	.102	50	20.0 db	36F1681A	22.50	36F1681F	102.00	. . .	. . .
83270	196A/U	30(7x38)	Teflon Tape	.076	50	29.0 db	36F1682A	16.80	36F1682F	71.25	. . .	. . .
83282	303/U	18 (solid)	Brown FEP	.170	50	9.0 db	36F1683A	43.50	36F1683F	208.50	36F1683	411.75
83284	316/U	26(7x.0067)	Brown FEP	.098	50	29.0 db	36F1684A	22.50	36F1684F	99.75	36F1684	195.00

TYPE E SHIELDED TEFLON CABLES

Stranded silver coated copper conductors, type E extruded TFE teflon insulation, color coded, cabled, braided silver plated copper shield, white TFE Teflon tape wrapped jacket. Mil. Spec: Mil-W-16878 Type E. Temperature rating: -65C to 200C. 90% shield coverage. Suggested working voltage: 600 volts (RMS).

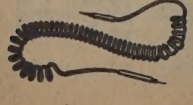
TWO CONDUCTOR

Mfr. No.	AWG and Stranding	Nom. O.D. (Inches)	Insul. Thickness	Jacket Thickness	Conductor Color Coding	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83315	30(7x38)	.106	.010	.010	9,10	36F1685A	51.90	36F1685F	213.00	36F1685	426.00
83316	28(7x36)	.112	.010	.010	9,10	36F1686A	54.75	36F1686F	225.00	36F1686	450.00
83317	26(7x34)	.120	.010	.010	9,10	36F1731A	59.25	36F1731F	243.75	36F1731	287.50
83318	24(19x36)	.132	.010	.010	9,10	36F1732A	63.00	36F1732F	258.75	36F1732	517.50
83319	22(19x34)	.144	.010	.010	9,10	36F1733A	75.45	36F1733F	311.25	36F1733	622.50
83320	20(19x32)	.162	.010	.012	9,10	36F1734A	85.50	36F1734F	252.50	36F1734	705.00
83321	18(19x30)	.188	.010	.012	9,10	36F1735A	101.55	36F1735F	420.00	36F1735	840.00
83322	16(19x29)	.200	.011	.012	9,10	36F1736A	135.00	36F1736F	555.00	36F1736	1110.00

THREE CONDUCTOR

83330	30(7x38)	.111	.010	.010	2,9,10	36F1737A	65.50	36F1737F	270.00	36F1737	540.00
83331	28(7x36)	.117	.010	.010	2,9,10	36F1738A	70.50	36F1738F	488.50	36F1738	577.00
83332	26(7x34)	.126	.010	.010	2,9,10	36F1739A	75.00	36F1739F	307.50	36F1739	615.00
83333	24(19x36)	.136	.010	.010	2,9,10	36F1740A	84.75	36F1740F	348.75	36F1740	697.50
83334	22(19x34)	.156	.010	.012	2,9,10	36F1741A	93.00	36F1741F	382.50	36F1741	765.00
83335	20(19x32)	.175	.010	.012	2,9,10	36F1742A	108.75	36F1742F	450.00	36F1742	900.00
83336	18(19x30)	.196	.010	.012	2,9,10	36F1773A	126.75	36F1773F	525.00	36F1773	1050.00
83337	16(19x29)	.218	.011	.012	2,9,10	36F1774A	163.50	36F1774F	675.00	36F1774	1350.00

COILED (RETRACTILE) TEST PROD WIRE



Retracted length 8″. Stretches to 5′. 8878 with prods. 8879 without prods. One black, one red lead.

Type	AWG(Stranding)	O.D.	WV	Stk. No.	PR.
8878	20(42x36)	.173″	5000	36F130	3.72
8879	20(42x36)	.173″	5000	36F131	1.59

Cables and Wire Kits BELDEN

2, 3, AND 4-CONDUCTOR PRIMARY WIRE

Cables especially designed for primary circuits and other applications requiring heavily insulated high amperage cable. All types are color coded. Sold only in lengths listed.

Duplex. Two parallel conductors, stranded and tinned, with vinyl insulation and chrome vinyl jacket.

8677

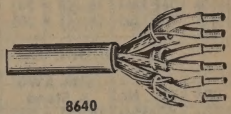
Mfr. No.	AWG & Cond.	Nom. Width	Insul. Thickness	Stk. No.	100 Ft.	Stk. No.	500 Ft.
8677	16-2	.164 x .276	.032"	36F170A	7.00	36F170F	33.00
8675	14-2	.189 x .326	.037"	36F171A	8.67	36F171F	42.45
8673	12-2	.213 x .384	.040"	36F172A	12.00	36F172F	6.90

Three-and four-conductor. Bonded-parallel-conductor construction, jacketless. Stranded bare copper with vinyl insulation.

8475

8475	16-3	.102 x .295	.023"	36F124A	9.00	36F124F	48.15
8476	16-4	.102 x .400	.023"	36F125A	12.00	36F125F	53.25

Miniature Instrumentation Cables. Solid copper, BELDSOL enamel film (solderable—no stripping required) insulated paired conductors; each pair BELDFOIL shielded; white vinyl jacket.



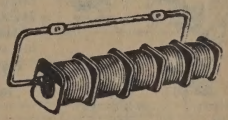
8640

Type	AWG & Cond.	Nom. O.D.	Work. Volt.	Stk. No.	100'	Stk. No.	250'	Stk. No.	500'
8640	26-2	.089"	100	.....	.....	36F087E	7.20	36F087F	14.40
8642	26-6	.140"	100	.....	.....	36F088E	20.35	36F088F	40.70

BELDEN WORKBENCH HOOKUP WIRE KITS

Type	Stk. No.	No. of Spools	Spool Lengths	Type of Wire	Colors in kit	NET
8822	36F179	10	25'	20 solid Type MW vinyl (8529-25)	1,2,3,4,5 6,7,8,9,10	7.40
8823	36F180	5	100'	20 solid Type MW vinyl (8529-100)	2,5,6,9,10	8.10
8824	36F181	8	25'	20 strd. Type MW vinyl (8523-25)	1,2,3,4,5, 6,9,10	6.72
8825	36F182	5	100'	20 strd. Mil-W-16878D vinyl (8507-100)	9,14,15, 16,17	9.75
8816	36F1350	8	25'	18 stranded vinyl (8522-25)	1,2,3,4,5, 6,9,10	7.20

For R&D labs, engineers, servicemen, hobbyists. Belden hookup wire in an assortment of colors. Each kit contains a portable metal dispenser rack for work bench of wall mounting. The dispenser rack provides a complete, compact, and convenient wire department for every working area. See the chart at the left of this page for colors in each kit.



TV STUDIO CABLE

Type 8281. 75 ohm precision video cable. Single # AWG solid copper conductor, polytheylene insulated, double copperbraid shield, black polyethylene jacket. Nominal O.D., 304", nom. capacitance, 21 mmf/ft. 100% sweep tested. Wt. 37 lbs. per 500 ft.

36F141F. 500 ft. spool. **NET** **105.00**
36F141. 1000 ft. spool 210.00

Type 8299. Adapter. For use with 8281 cable only, increases OD to fit PL-259 connector.
36F143. Box of 25 **NET** **3.75**

Type 8280. 28 conductor TV (monochrome) camera cable. Conductors arranged as follows: 4 #18 and three groups of 7-#22 AWG stranded tinned copper conductors, all color-coded and vinyl insulated; three color-coded coaxial cables of 51 ohm nom. impedance; tinned copper-braid shield and chrome vinyl jacket overall. Nom. O.D. is 750". Cut to order. Min. order 25 ft.
36F140. NET. per foot **1.14**

Type 8286. Miniature 75 ohm video cable similar to Type 8280 except BELDFOIL shield over the 4 #18 AWG conductors.
BELDFOIL shield over one group of seven conductors. 3-75 ohm coaxial cables, jacket over shield is black hypalon. .730 O.D. Cut to order (25' min.)
36F1339. NET, per foot **1.15**

SPECIAL PURPOSE RF WIRE AND GROUNDWIRE

Type 8014. Indoor Aerial Wire, #25 (13x36) tinned copper conductor with chrome vinyl insulation. Nom. OD: .044"; weight 4 ounces.
36F153C. 25 ft. spool. **NET** ..... **.80**

Type 8018. Ground Wire. Soft-drawn #8 AWG solid aluminum wire, approved for all grounding applications in TV, FM, Amateur, and other antenna systems.
36F763. 50 ft. coil. **NET** **1.35**

Type 8817. Litz Wire. 5x44 Celenamel insulated strands with nylon wrap; .008" nom. O.D. Ideal for winding loop antennas etc. 1¼oz/100'.
36F154A. 100 ft. spool. **NET** ..... **.81**

ALL BELDEN PRODUCTS SOLD IN LISTED LENGTHS ONLY

•For color or b&w TV transmission

Type 8283. 82 conductor TV (color) camera cable. Conductor arrangement; 4 #14 and 3 #16 AWG stranded tinned copper conductors, color-coded and vinyl insulated, all inside a BELDFOIL aluminum-mylar shield: 67-#22 AWG stranded tinned copper, color-coded and vinyl insulated, of which 7 are under a conductive textile shield, the rest unenclosed; 8 coxial cables, of 53.5 ohm nom impedance, color coded; tinned copper braid shield and chrome vinyl jacket overall. Nom. O.D., 1.22". Cut to order. Min. order 25 ft.

36F1300. NET, per foot **4.03**

Type 8279. Similar to 8281 except with 23 AWG conductor, single tinned copper braid shield, and .220 O.D.
36F1340A. 100' **NET** **11.10**
36F134E. 250' **NET** 24.75
36F1340F. 500' **NET** 49.50

Type 8284. 24 conductor TV camera cable, 4 #16 GA color coded vinyl insulated conductors. Beldfoil shield over 3 of the 17 #22 GA color coded vinyl insulated conductors, 3-53.5 ohm coaxial cables tinned copper braid, heavy cotton braid, chrome vinyl jacket. .800 O.D.
36F1341. NET. per ft. **1.40**

HIGH VOLTAGES AND CATHODE RAY TUBE CABLE

Type 8866. Small diameter 40 KVDC tinned copper cable. Used in repair of cathode ray tube leads in color TV and oscilloscopes. Breakdown voltage greater than 80 KVDC.
36F1362C. 25'. **NET** ..... 2.31 **36F1362A.** 100'. **NET** 6.53
36F1362F. 500' **NET** 27.90

Type 8868. CRT cable. #22(7x30) conductor, with conductive polyethylene, polyethlene insulation, and red vinyl jacket. 50KV breakdown voltage. Nom. O.D., .150".
36F070C. 25' **NET** ..... 1.44 **36070A.** 100'. **NET** 3.63
36F070F. 500'. **NET** 16.80

Type 8869. 22GA with conductive polyethylene, polyethylene insulated, black vinyl jacket, 35 KV, O.D. .120.
36F1325A. 25' **NET** ..... 1.22 **36F1325.** 100'. **NET** 3.00
36F1235F. 500'. **NET** 11.35

Type 8870. 80 KV DC high voltage cable. #22 AWG solid Copperweld conductor, polyethylene dielectric and jacket. Conduction polyethylene over inner conductor combined with copper braid equipotentional shield over dielectric. Breakdown: 160 KVDC. Nom. O.D. .440 inch.
36F059A. 100 ft. **NET** **38.85**

BELDEN Power & Extension Cords

PORTABLE CORDAGE

SJ-3

Quality cordage designed for extra flexible service in many higher amperage applications. Cables available in various types of insulation and meet the higher standards of quality control. Thoroughly tested. In spools of 250 feet. Covered with black rubber. Listed by Underwriters Laboratories.

SJO-3

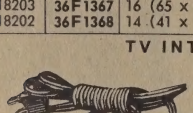
S-3 CONDUCTOR- RUBBER JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom O.D. (Inches)	Lbs.	250° Coil 1-3	4-19	20-Up
18109	36F1363	18 (41 x 34)	.401	22	32.40	29.96	27.74
18108	36F1364	16 (65 x 34)	.426	27	40.20	37.41	34.62
18107	36F1365	14 (41 x 30)	.558	45	65.10	60.59	56.08

SO-2 CONDUCTOR-NEOPRENE JACKET 600V-60°C

Type	Stk. No.	Size AWG & Stand	Nom. O.D. (Inches)	Lbs.	1-3	4-19	20-Up
18204	36F1366	18 (41 x 34)	.386	46	35.80	33.31	30.84
18203	36F1367	16 (65 x 34)	.401	51	41.60	38.71	35.82
18202	36F1368	14 (41 x 30)	.528	39	65.40	60.86	56.32

TV INTERLOCK CORD



Molded plastic 8895. TV power supply line cord. 6 ft. long. Mold-on all-rubber female connector. U. L. approved. Shpg. wt., 8 oz.
36F880. NET ..... .45
Male Connector. Flush mounting type for use with cord above. Wt., 2 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
36F881	2RP-1	.14	.11	.10	.084	.074

SO-3 CONDUCTOR- NEOPRENE JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	250' Spool 1-3	4-19	20-Up
18209	36F1369	18 (41 x 34)	.401	23	40.92	38.08	35.24
18208	36F1370	16 (65 x 34)	.426	28	50.40	46.90	43.41
18207	36F1371	14 (41 x 30)	.558	48	84.00	78.18	72.35

SJ-3 CONDUCTOR- RUBBER JACKET 300V-60°C (*) Flex

18129	36F1372	18 (16 x 30)*	.328	35	23.60	21.96	20.32
18130	36F1373	16 (26 x 30)*	.353	42	30.40	28.29	26.19

SJO-3 CONDUCTOR- NEOPRENE JACKET 300V-60°C (*) Flex

18229	36F1374	18 (16 x 30)*	.328	36	27.50	25.59	23.69
18230	36F1375	16 (26 x 30)*	.353	42	35.34	32.91	30.45

THREE CONDUCTOR TOOL CORDS

Designed for most popular portable electric tools. Conductors extend 8" from strain relief for easy termination. .353 Neoprene for heavy-duty service. .328 Vinyl for light-duty service. Molded on strain relief. *Vinyl. †Neoprene. Color: Black.

Stk. No.	Type No.	Length feet	AWG (strand)	UL TYPE cordage	NET EA.	Lots of 50 NET EA.
36F1380	17410	6	18(16x30)	SIT*	.80	.72
36F1381	17420	10	16(26x30)	SIT*	1.20	1.07
36F1382	17430	10	16(26x30)	SJO†	1.55	1.39

SPECIAL PURPOSE AND APPLIANCE CORDS

36F855: Vacuum and floor polisher cord. Molded strain relief for attachment with connector for blade prongs.
36F873A: Miniature appliance plug for all standard coffeemakers. Slotted to fit frypans. Rated 10 amps. 125 V.
36F1035: Air conditioner extension cord. Rated 15A/125V.
36F1036A. Replacement appliance cord. Rated 10 amps, 125V.
36F1324: Three conductor business machine cord for Friden, Victor, Marchant, and Hewlett Packard. Also for Revere & Kodak projectors, Dukane audio equipment.

Mfr. No.	Stk. No.	Length feet	AWG (standing)	U/L Type	Color	1-24	25-Up
17270	36F855	20	18(41x34)	SV	Gray	1.73	1.54
17866	36F873	6	18(41x34)	HPN	Black	.58	.51
17659	36F1035	9	14(41x30)	S	Gray	3.26	2.92
17806	36F1036A	6	18(41x34)	HPN	Black	.40	.36
17258	36F1324A	8	18(41x34)	SVT	Gray	1.09	.97

TWO CONDUCTOR POWER SUPPLY CORDS

For small appliances and electronic equipment. U/L listed. All are rubber, except (**) vinyl, †neoprene. Molded plugs. Specify color.

Mfr. No.	Stk. No.	Lgth. ft.	U/L Type	Color	1-24	25-Up
17106	36F950A	6	SPT-1**	Brn, Ivory, Gray	.32	.29
17109	36F953A	9	SPT-1**	Brown White	.38	.34
17112	36F955	12	SPT-1**	Brown White	.62	.56
17126	36F854A	6	SP-1	Brown	.37	.33
17129	36F839	9	SP-1	Brown	.64	.57
17205	36F840A	6	SVT**	Black	.48	.43
17206	36F851A	6	SV	Gray	.58	.51
17249	36F841A	1-6	SVO†	Black	1.42	1.27

THREE CONDUCTOR POWER SUPPLY CORDS

All have molded vinyl plugs. Rubber, except (†)neoprene (**) vinyl. Types 17447 and 17448 are retractile cords.

Mfr. No.	Stk. No.	Lgth. ft.	AWG (Stranding)	U/L Type	Color	1-24	25-Up
17447	36F844	1-6	18(41x34)	SJO†	Black	1.89	1.69
17448	36F845	1-6	16(65x34)	SJO†	Black	2.00	1.79
17236	36F1037A	6	18(41x34)	SV	Black	.77	.69
17238	36F1038A	8	18(41x34)	SV	Black	.88	.79
17405	36F957A	6	18(16x30)	SJT**	Gray	.69	.61
17406	36F842A	6	18(16x30)	SJ	Black	.78	.70
17407	36F958A	8	18(16x30)	SJT**	Gray	.83	.74
17408	36F857A	8	18 (16x30)	SJ	Black	.91	.82
17409	36F959A	8	18 (16x30)	SJO†	Black	.99	.89
17412	36F960A	12	18 (41x34)	SJ	Black	1.34	1.20
17419	36F843A	9	16 (65x34)	SJ	Black	1.28	1.14
17422	36F961A	12	16 (65x34)	SJ	Black	1.62	1.44
17425	36F849	15	16 (65x34)	SJ	Black	2.22	1.99

TWO CONDUCTOR EXTENSION CORDS

Standard cube-tap cords for general light-duty. Vinyl cord and plug with phenolic 3-way socket.

Mfr. No.	Stk. No.	Length Ft.	AWG (standing)	U/L Type	Specify Color	1-24	25-Up
17156	36F1301	6	18(41x34)	SPT-1	Brown, Ivory	.45	.40
17159	36F1302	9	18(41x34)	SPT-1	Brown, Ivory	.58	.51
17162	36F1307	12	18(41x34)	SPT-1	Brown, Ivory	.72	.64
17165	36F1308	15	18(41x34)	SPT-1	Brown, Ivory	.78	.70

Standard rubber extension cord with vinyl connectors.

17259	36F846	9	18(41x34)	SV	Gray	1.06	.94
17361	36F868	10	16(26x30)	SJ	Black	1.26	1.13

EXTENSION CORDS DUPLEX CONNECTORS

Designed to withstand punishment of shop, garage and factory use. Ideal for sound and broadcast studios. Cord is oil, grease and ozone resistant. UL Blue Flag Label. Neoprene cords.

Mfr. No.	Stk. No.	Lgth. Ft.	AWG (Stranding)	U/L Type	Color	1-24	25-Up
17565	36F962	25	14 (41x30)	SO	Black	7.31	6.54
17566	36F963	50	14 (41x30)	SO	Black	13.58	12.14

THREE CONDUCTOR EXTENSION CORDS

For equipment and appliances requiring grounding; have U/L Blue Flag Label. Rubber, except *vinyl. Molded vinyl connectors.

Mfr. No.	Stk. No.	Lgth. Ft.	AWG (stranding)	U/L Type	Color	1-24	25-Up
17194	36F847	25	16 (65x34)	SPT-2*	Yellow	3.12	2.79
17460	36F1039	10	18 (16x30)	SJJ	Black	1.52	1.36
17461	36F964	10	16 (26x30)	SJ	Black	1.76	1.57
17462	36F965	8	18 (16x30)	SJT*	Black	2.13	1.90
17491	36F848	25	18 (16x30)	SJT*	Yellow	2.61	2.33

ESSEX

Fabricated in accordance with the rigid requirements set forth in the latest military specs. Polyethylene dielectric for general RF and HF applications. Teflon permits operation at temperatures from —73°C to +200°C. All cables meet the latest Navy, Air Force and Signal Corps specifications. Connector selection chart available upon request. Min. order 100 ft. except teflon 30 ft. *S—Silvered Copper; C—Copper; T—Tinned Copper; CW—Copperweld; P—Polyethylene; TF—Teflon; SCW—Silver-coated Copperweld; ‡Maximum.

RG-/U COAXIAL CABLES—Polyethylene and Teflon Dielectrics

Stock No.	Essex Number	RG-/U No.	Jacket O.D.	Dielectric O.D.	Dielectric Type*	Center* Cond.	V.P. %	Cap. MMF/ Ft.	Max. Oper. VRMS	Nom. IMP Ohms	Uses Connector Series	100 Ft.	500 Ft.	1000 Ft.
36F240	21-004	8/U	.405	.285	P	7/21C	65.9	29.5	5000	52	N,C,HN,UHF	14.42	60.23	118.58
36F234	21-290	8A/U	.405	.285	P	7/21C	65.9	29.5	5000	52	N,C,HN,UHF	14.40	70.50	136.50
36F484	21-332	9B/U	.420	.280	P	7/21S	65.9	30	5000	50	N,C,HN,UHF	50.55	248.63	496.50
36F241	21-007	11/U	.405	.285	P	7/26T	65.9	20.5	5000	75	N,C,HN,UHF	12.47	56.89	112.95
36F1116	21-802	55B/U	.206	.116	P	20S	65.9	28.5	1900	53.5	TNC,BNC,BN,C,UHF	13.16	61.05	117.60
36F243	21-024	58/U	.195	.116	P	20C	65.9	28.5	1900	53.5	TNC,BNC,BN,C,UHF,N	5.12	21.25	41.55
36F245	21-199	58A/U	.195	.116	P	19/.0-071T	65.9	30	1900	50	TNC,BNC,BN,C,UHF,N	6.09	22.69	45.30
36F491	21-316	58C/U	.195	.116	P	19/.0-071T	65.9	30	1900	50	TNC,BNC,BN,C,UHF,N	6.26	24.53	48.75
36F244	21-025	59/U	.242	.146	P	22CW	65.9	21.5	2300	73	TNC,BNC,BN,C,UHF,N	5.99	25.43	50.10
36F1118	21-794	59B/U	.242	.146	P	.023CW	65.9	21	2300	75	TNC,BNC,BN,C,UHF,N	6.41	26.48	52.20
36F472	21-026	62/U	.242	.146	SSP	22CW	84	13.5	750	93	TNC,BNC,BN,C,UHF,N	6.77	27.42	54.00
36F1160	21-771	62B/U	.242	.146	SSP	7/32CW	84	13.5	750	93	TNC, BNC, BN, C, UHF, N, Plug-in	7.13	29.93	58.35
36F1120	21-804	71B/U	.250‡	.146	SSP	22CW	84	13.5	750	93	TNC,BNC,BN,C,UHF,N	10.40	47.03	93.00
36F1124	21-327	108A/U	.235	.079 ea.	P	Two 7/28T	68	23.5	1000	78	Twin	7.62	35.03	68.55
36F1159	21-779	213/U	.405	.285	P	7/.0296C	65.9	29.5	5000	50	UHF, N, C, HN	14.25	67.20	132.90
36F1154	21-788	223/U	.216	.116	P	.035S	65.9	29.5	1900	50	TNC,BNC,BN,C,UHF,N	20.70	99.38	198.00

Stock No.	Essex No.	RG-/U No.	Jacket O.D.	Dielectric O.D.	Dielectric Type	Center Cond.	V.P. %	Cap. MMF/ Ft.	Max. Oper. VRMS	Nom. IMP Ohms	Uses Connector Series	1-99 Per Foot	100-Up Per Foot
36F1162	421-176	142B/U	.195	.116	TF	.039 SCW	69.5	28.5	1900	50	C, N	.698	.582
36F1156	421-135	225/U	.430	.285	TF	7/103-125	69.5	29.5	5000	50	N, C, HN, UHF	2.834	2.362

SUB. MIN. RG CABLES

Stk. No.	Essex No.	RG-/U No.	Jacket O.D.	Dielectric O.D.	Dielectric Type	Center Cond.	V.P. %	Cap. MMF/ Ft.	Max. Oper. VRMS	Nom. Imp. Ohms	Uses Connector Series	100 Ft.	500 Ft.	1000 Ft.
36F497	21-597	.....	.150	.100	P	7/.00-56CW	69.5	20	2500	75	Subminax	5.03	22.28	42.08
36F498	21-598	174/U	.100	.060	P	7/34CW	65.9	30	1500	50	Subminax	4.14	15.45	30.00

Stk. No.	Essex No.	RG-/U No.	Jacket O.D.	Dielectric O.D.	Dielectric Type	Center Cond.	V.P. %	Cap. MMF/ Ft.	Max. Oper. VRMS	Nom. Imp. Ohms	Uses Connector Series	1-99 Per Foot	100-Up Per Foot
36F434	421-106	187U	.110	.060	TF	7/38SCW	69.5	19.5	1200	75	Subminax	.272	.227
36F435	421-109	196/U	.080	.034	TF	7/38SCW	69.5	28.5	1000	50	Subminax	.172	.143
36F1163	421-079	187A/U	.110	.060	TF	7/38SCW	69.5	19.5	1200	75	BNC, Subminax	.287	.239
36F1164	421-077	188A/U	.110	.060	TF	7/.0067SCW	69.5	29.0	1200	50	BNC, Subminax	.252	.210
36F1165	421-075	195A/U	.155	.102	TF	7/38SCW	69.5	15.0	1500	95	BNC, Subminax, TNC	.492	.410
36F1166	421-073	196A/U	.080	.034	TF	7/38SCW	69.5	28.5	1000	50	Subminax	.212	.177

POLYFOAM COAXIAL CABLES

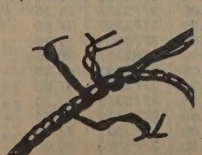
Cellular polyethylene dielectric material provides lower weight, cost, capacitance, and attenuation than standard RG types. Widely used in commercial transmitter applications such as community TV and in ham stations. The dielectric constant is 1.50 as compared to 2.25 for solid polyethylene. It has a specially compounded non-contaminating black polyethylene jacket providing improved weather and abrasion resistance. *Sweep tested—1000 ft. min. order.

Stock No.	Essex No.	R G Equiv.	Lbs./ 1000 ft.	Jacket O.D.	Jacket Type	Dielectric OD	Center Cond.	Cap. MMF/Ft.	Max. Oper. Volts	Nom. Imp. Ohms	Net Per Foot	Net Per 100 Ft.	Net Per 500 Ft.	Net Per 1000 Ft.
36F1208	621-111	8/U	104	.405	Black Vinyl	.285	7/19C	24.5	1,500	50	.18	14.81	71.19	133.82
36F1211	621-186	59/U	32	.242	Black Poly.	.146	20CW	17.3	1,000	75	.....	.....	.....	50.33

ICO/RALLY RALLY RAP™

For cabling loose wires into neat cables. Replaces cable lacing, prevents wire abrasion, replaces spaghetti, insulates tools. Resusable. Shpg. wt., 1 lb/ft.

Stk. No.	Type	Min. OD	Color	Per Ft. 1-99	Per 100 Feet 100-999	Per 100 Feet 1000-up
36F267	SWP-1/4	1/4	Red	.08	6.00	5.55
36F269	SWP-1/4	1/4	Black	.08	6.00	5.55
36F270	SWP-3/8	3/8	White	.13	9.50	8.40
36F271	SWP-3/8	3/8	Red	.13	9.50	8.40
36F273	SWP-3/8	3/8	Black	.13	9.50	8.40
36F274	SWP-3/16	3/16	White	.07	5.30	4.95
36F275	SWP-1/4	1/4	White	.08	6.00	5.55



LUDLOW

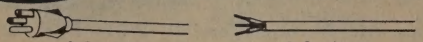
CABLE LACING CORD

Type N. Number 6 hard twist pure flax electric cable lacing cord. Waxed. The cord tests at 33 lbs. It is completely mildew-proof to meet military specifications number MIL-T-713A. Type N class III. Approximate weight, 1 lb.

36F885. 1-9.....4.40 10-24.....4.05

Replacement and Service Cord Sets

POWER CORDS FOR MANY APPLICATIONS



2 Conductor 3 Conductor

Has molded plastic male cap on one end. Other end ready for soldering with outer jacket removed, stripped and machine hanked. U.L. Listed. For portable tools, appliances, business machines, and many other applications.

2-CONDUCTOR POWER SUPPLY CORDS

Stock No.	Mfr's Type	Size, Cond., & Type	Lgth. (feet)	Color	Rating	NET EACH
37F2400	20250	18/2 SV	6	Black	10A-125V	.80
37F2401	20252	18/2 SV	9	Black	10A-125V	.95
37F2402	20254	18/2 SV	12	Black	10A-125V	1.15
37F2403	20327	18/2 SVT	6	Black	10A-125V	.61
37F2404	24516	18/2 SJ	6	Black	10A-125V	.90
37F2405	20258	18/2 SJ	10	Black	10A-125V	1.00
37F2406	24546	18/2 SJT	6	Gray	10A-125V	.85
37F2407	24549	18/2 SJT	9	Gray	10A-125V	.95
37F2408	20260	16/2 SJ	8	Black	13A-125V	.95
37F2409	20262	16/2 SJ	10	Black	13A-125V	1.18

SMALL APPLIANCE CORDS

37F2410	24586	18/2 SPT-1	6	Brown	10A-125V	.27
37F2411	24596	18/2 SPT-1	6	White	10A-125V	.27
37F2412	24589	18/2 SPT-1	9	Brown	10A-125V	.33
37F2413	24599	18/2 SPT-1	9	White	10A-125V	.33

3-CONDUCTOR POWER SUPPLY CORDS

37F2414	20330	18/3 SVT	6	Gray	10A-125V	.80
37F2415	20331	18/3 SVT	8	Gray	10A-125V	.90
37F2416	20264	18/3 SJ	6	Black	10A-125V	1.00
37F2417	20314	18/3 SJ	8	Black	10A-125V	1.06
37F2418	20316	18/3 SJ	12	Black	10A-125V	1.48
37F2419	24936	18/3 SJT	6	Gray	10A-125V	1.00
37F2420	24939	18/3 SJT	9	Gray	10A-125V	1.20
37F2421	24926	16/3 SJ	6	Black	13A-125V	1.35
37F2422	20324	16/3 SJ	8	Black	13A-125V	1.45
37F2423	24929	16/3 SJ	9	Black	13A-125V	1.60
37F2424	24932	16/3 SJ	12	Black	13A-125V	1.80
37F2425	24946	16/3 SJT	6	Gray	13A-125V	1.35
37F2426	24949	16/3 SJT	9	Gray	13A-125V	1.60

EXTENSION CORDS

Black rubber. Molded plastic male cap and connector. U.L. Listed. For portable tools, appliances, business machines.

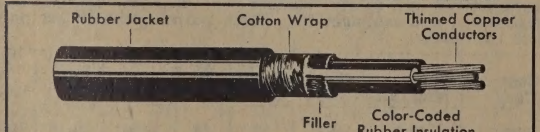
2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Size & Type	Lgth. (feet)	Rating	NET EACH
37F2427	20272	18/2 SV	6	10A-125V	.95
37F2428	26010	18/2 SJ	10	10A-125V	1.45
37F2429	26025	18/2 SJ	25	10A-125V	2.75
37F2430	23026	18/2 SJT	25	10A-125V	2.75
37F2431	26110	16/2 SJ	10	13A-125V	1.65
37F2432	23112	16/2 SJT	12	13A-125V	1.90

3-CONDUCTOR TYPES

37F2433	20288	18/3 SJ	10	10A-125V	1.65
37F2434	26525	18/3 SJ	25	10A-125V	3.20
37F2435	20294	16/3 SJ	15	13A-125V	3.60
37F2436	26625	16/3 SJ	25	13A-125V	5.40

SERVICE AND POWER CORDS WITH RUBBER JACKET



Fabricated with color-coded rubber insulation and rubber jacket over stranded bare copper wire. No. 18 and 16 gauge rated at 300 V; No. 14, 12 and 10 gauge rated at 600 V. For use with power tools, appliances, business machines and many other applications.

Mfr's Type	Size, Cond., & Type	Amps. Cap.	O. D.	100′ Spool Stock No.	100′ Spool EACH	250′ Spool Stock No.	250′ Spool EACH
1420	18/2 SV	7	.250	37F2300	5.90	37F2301	12.50
1425	18/2 SJ	7	.305	37F2302	7.10	37F2303	15.50
1435	18/3 SJ	7	.345	37F2304	10.00	37F2305	21.25
1438	18/4 SJ	6	.365	37F2306	18.20	37F2307	37.60
1445	16/2 SJ	10	.325	37F2308	9.95	37F2309	19.25
1450	16/3 SJ	10	.375	37F2310	13.90	37F2311	30.60
1446	16/4 SJ	8	.395	37F2312	21.00	37F2313	42.30
1500	14/2 S	15	.540	37F2314	17.20	37F2315	37.80
1505	14/3 S	15	.565	37F2316	24.25	37F2317	49.20
1509	14/4 S	12	.605	37F2318	30.50	37F2319	66.75
1510	12/2 S	20	.580	37F2320	26.00	37F2321	51.25
1515	12/3 S	20	.635	37F2322	31.50	37F2323	69.00
1517	10/2 S	25	.650	37F2324	30.00	37F2325	69.20
1519	10/3 S	25	.760	37F2326	43.30	37F2327	91.15

SERVICE AND POWER CORDS WITH HEAT-RESISTANT NEOPRENE OUTER JACKET

Constructed of 20 gauge $^{26}/_{34}$ stranded bare copper wire conductors, color-coded insulation and black neoprene outer jacket. SVO and SJO are rated at 300 volts; SO is rated at 600 volts. For a wide variety of applications. Resistant to oil, ozone, moisture, sunlight, abrasions and aging.

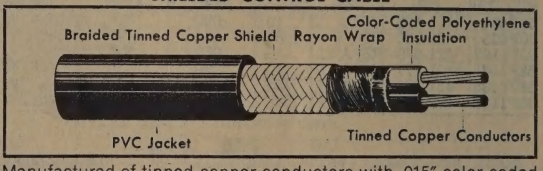
Mfr's Type	Size, Cond.,& Type	No. Cond.	Amps Cap.	Nom. O.D.	100′ Spool Stock No.	100′ Spool EACH	250′ Spool Stock No.	250′ Spool EACH
1477	18/2 SVO	2	7	.250	37F2328	9.00	37F2329	18.50
1478	18/2 SJO	2	7	.305	37F2330	9.50	37F2331	19.50
1479	18/3 SJO	3	7	.330	37F2332	11.75	37F2333	24.75
1481	16/2 SJO	2	10	.330	37F2334	11.50	37F2335	24.75
1482	16/3 SJO	3	10	.360	37F2336	15.10	37F2337	31.50
1484	18/2 SO	2	7	.385	37F2338	15.50	37F2339	32.00
1485	18/3 SO	3	7	.400	37F2340	20.20	37F2341	36.00
1487	16/2 SO	2	10	.400	37F2342	18.50	37F2343	37.50
1488	16/3 SO	3	10	.425	37F2344	19.00	37F2345	39.00

RUBBER JACKET BROADCAST QUALITY, HEAVY-DUTY SHIELDED CONTROL AND MIKE CABLE

Constructed of tinned copper conductors with .020″ color-coded rubber insulation. Has cotton wrap, tinned copper shield and rubber jacket. Temp. rating: −20°C to +60°C. Suggested WV: 350 volts. For control circuits, video and audio inter-connecting cables, broadcast and studio use. Prevents cross-talk. Extra-limp rubber jackets are impact and abrasion resistant.

Mfr's Type	No. Cond.	No.m O.D.	100′ Spool Stk. No.	100′ Spool EACH	500′ Spool Stk. No.	500′ Spool EACH
1300	1	.230	37F2346	11.90	37F2347	54.90
1302	2	.270	37F2348	13.35	37F2349	60.00
1304	3	.285	37F2350	14.70	37F2351	69.25
1306	4	.305	37F2352	16.20	37F2353	77.50
1308	5	.330	37F2354	19.80	37F2355	101.40
1310	6	.345	37F2356	24.50	37F2357	120.50
1315	10	.440	37F2358	62.00	37F2359	280.00
1316	12	.525	37F2360	75.00	37F2361	315.00
1317	15	.595	37F2362	105.00	37F2363	.....

PLASTIC JACKET BROADCAST QUALITY SHIELDED CONTROL CABLE



Manufactured of tinned copper conductors with .015″ color-coded polyethylene insulation. Has rayon wrap, tinned copper-braid shield and .035″ gray PVC jacket. Temp. rating: −20°C to +60°C. Suggested WV: 350 V. For low capacity control circuits, video and audio connecting cables, broadcast and studio use. Prevents cross-talk, eliminates hum pick-up.

Mfr's Type	No. Cond.	Nom. O.D.	100′ Spool Stock No.	100′ Spool EACH	500′ Spool Stock No.	500′ Spool EACH
1643	3	.250	37F2364	10.45	37F2365	52.00
1644	4	.260	37F2366	12.80	37F2367	58.00
1645	5	.275	37F2368	13.70	37F2369	68.00
1646	6	.300	37F2370	23.50	37F2371	115.00
1648	8	.330	37F2372	28.50	37F2373	135.00
1650	10	.375	37F2374	42.50	37F2375	192.00
1652	12	.380	37F2376	63.00	37F2377	305.00
1655	15	.410	37F2378	90.00	37F2379	435.00
1660	20	.455	37F2380	122.00	37F2381	590.00

UNSHIELDED CONTROL CABLE WITH RUBBER INSULATION AND JACKET

Constructed of 20 gauge 26/30 stranded, tinned copper wire with color-coded .020″ insulation. Has cotton wrap .035″ and black rubber jacket. Temp. rating: −20°C to +60°C. Suggested WV: 350 volts. For control circuits, broadcast and studio use, traffic and fire alarm control, temp. control systems, other multiple control applications. Extra limp Resistant to impact and abrasion.

3602	2	.240	37F2382	9.00	37F2383	43.00
3603	3	.255	37F2384	9.80	37F2385	46.45
3504	4	.275	37F2386	11.20	37F2387	49.50
3605	5	.300	37F2388	11.50	37F2389	51.00
3606	6	.315	37F2390	22.20	37F2391	107.30
3610	10	.410	37F2392	49.25	37F2393	225.10

Color-Code Nos. for Dearborn Items on This Page—Specify Color Number

0. Black 1. Brown 2. Red 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White

MTW MACHINE TOOL, CONTROL, SWITCHBOARD WIRE

Stranded copper cond. 600 V. PVC insul. 500 foot put-up.

U.L. STYLE 1335 WIRE, 1/32" PVC INSULATION

Stock in black, red, green, white—**Specify color number.**

Stock No.	Mfr's Type	Conductor AWG	Nom. O.D.	Wt./500' Lbs.	500' EACH
37F2150	461816	18 (16/30)	.113	5	11.22
37F2151	461626	16 (26/30)	.125	7	13.58
31F2152	461419	14 (19/27)	.139	10½	18.23
37F2153	461219	12 (19/25)	.158	14½	27.35
37F2154	461019	10 (19/.0234)	.182	27½	45.17

U.L. STYLE 1336 WIRE, 3/64" PVC INSULATION

Stock in black, red, and white—**Specify color number.**

37F2155	521419	14 (19/27)	.165	12½	22.14
37F2156	521219	12 (19/25)	.185	15½	30.47
37F2157	521019	10 (19/.0234)	.214	29½	46.58
37F2158	520819	8 (19/.0295)	.249	37	68.82

U.L. STYLE 1337 WIRE, 4/64" PVC INSULATION

Stocked in black color only.

37F2159	530819	8 (19/.0295)	.265	43	75.20
37F2160	530619	6 (19/.0372)	.315	58½	112.20
37F2161	530419	4 (19/.0469)	.375	85	173.90
37F2162	530219	2 (19/.0511)	.440	123	250.35

U.L. STYLE 1061 SEMI-RIGID HOOKUP WIRE

Suitable for business machine and wire wrap applications. Voltage rating: −10°C to +80°C. Constructed with .009" PVC insulation over solid tinned copper conductors. Available in 500 foot and 1000 foot spools in black, red, green, or white. **Specify color by number.**

Mfr's Type	Conductor AWG	Wt. 1000' Lbs.	500' Spool Stock No.	500' Spool EACH	1000' Spool Stock No.	1000' Spool EACH
422601	26 (1)	1½	37F2163	5.10	37F2164	9.15
422401	24 (1)	2¼	37F2165	4.73	37F2165	8.93
422201	22 (1)	3	37F2167	5.18	37F2168	9.08
422001	20 (1)	4½	37F2169	6.15	37F2170	11.70
422607	26 (7/34)	1½	37F2171	5.63	37F2172	10.32
422407	24 (7/32)	2¼	37F2173	5.25	37F2174	9.51
422207	22 (7/30)	3	37F2175	6.00	37F2176	10.37
422007	20 (7/28)	4½	37F2177	6.45	37F2178	12.75
422010	20 (10/30)	4½	37F2179	7.05	37F2180	13.05
421816	18 (16/30)	7	37F2181	8.25	37F2182	16.05
421626	16 (26/30)	9	37F2183	10.32	37F2184	19.16

KYNAR® COMPUTER-TYPE HOOKUP WIRE APPROVED BY U.L. AND CSA

Especially suited for automatic point-to-point terminations in computer applications (back panel boards). Excellent abrasion characteristics and superior resistance to cold flow makes this type of mechanically tough insulation suitable for all areas where a large number of wires are used in close quarters.

Insulation is Kynar®, which is a vinylidene flouride plastic developed by Pennwalt. It is mechanically tough; flame retardant and self-extinguishing; highly resistant to ultra-violet and weathering. Its insulation characteristics remain unchanged when exposed to up to 300 million roentgens.

Operating temperature range: to +125°C continuous. U.L. Rating: 105°C. Conductor is (solid) OFHC (oxygen-free high conductivity) annealed copper. All are supplied on large sturdy hub reels. Available in black, red, orange, yellow, green, blue, gray, and white—**Specify Color by number.**

Mfr's Type	AWG Size	Insul. Thk's.	Nom. O.D.	U.L. Style	Stock No.	PER 1000' HUB 1-4	5-9	10-Up
773001	30 (1)	.005"	.0195"	1422	37F2225	37.50	25.00	22.50
772801	28 (1)	.0035"	.020"	1423	37F2226	38.25	25.50	22.50
772601	26 (1)	.005"	.027"	1422	37F2227	36.75	24.50	22.00
772401	24 (1)	.010"	.042"	1327	37F2228	39.00	26.00	24.25

Kynar® is trademark of Pennwalt

"TEW" U.L. AND CSA HOOKUP WIRE

Style 1015 in sizes #22 through #10; style 1028 in size #8. Stranded, tinned copper conductor. Letter "B" after part number indicates bonded tinned copper. Sizes #10 through #22 have ½" PVC insulation; Size 8 has 3/64" PVC insulation. All rated 600 volts. Temperature rating: 105°C. Available in black, brown, red, orange, yellow, green, blue, violet, gray, white—**Specify color by number.**

Mfr's Type	AWG Size	Nom. O.D.	500' Spool Stk. No.	500' Spool EACH	1000' Spool Stk. No.	1000' Spool EACH
412207	22 (7/30)	.095	37F2185	7.04	37F2186	12.42
412207B	22 (7/30)	.095	37F2187	7.52	37F2188	13.67
412010	20 (10/30)	.100	37F2189	8.60	37F2190	15.68
412010B	20 (10/30)	.100	37F2191	9.08	37F2192	16.88
411816	18 (16/30)	.110	37F2193	11.22	37F2194	19.43
411816B	18 (16/30)	.110	37F2195	11.57	37F2196	20.63
411626	16 (26/30)	.124	37F2197	13.58	37F2198	25.65
411441	14 (41/30)	.141	37F2199	18.23	37F2200	37.07
411265	12 (65/30)	.160	37F2201	30.37	37F2202	56.63
411000	10 (105/30)	.194	37F2203	45.17	37F2204	85.13
418133	8 (133/29)	.255	37F2205	75.00	37F2206	144.75

NYLON LACING TAPE MIL-T-43435 TYPE I

Flat braided high-tenacity nylon yarn impregnated with microcrystalline fungicidal wax or to MIL specs. *Test tensile strength (lbs.); (†) Finishes code see box at right.

Stock No.	Mfr's Type	*	Width	Color	†	500-yard Spools, EACH 1-9	10-24	25-49	50-99	100-Up
37F2207	805032W	50 lbs.	.090"	Natural	A	7.50	6.95	6.25	5.50	5.00
37F2208	805032B	50 lbs.	.090"	Black	A	8.30	7.76	7.20	6.20	5.65
37F2209	805036W	50 lbs.	.090"	Natural	W	7.80	7.25	6.75	5.90	4.00
37F2210	805036B	50 lbs.	.090"	Black	W	8.75	8.25	7.75	6.60	4.70
37F2211	805040W	50 lbs.	.090"	Natural	G	7.53	6.88	6.44	5.58	4.98
37F2212	805040B	50 lbs.	.090"	Black	G	8.75	8.25	7.75	6.25	5.65
37F2213	802534W	25 lbs.	.062"	Natural	W	4.80	4.42	4.13	3.65	3.60
37F2214	802534B	25 lbs.	.062"	Black	W	5.69	5.35	5.00	4.35	4.50

POLYESTER LACING TAPE MIL-T-43435 TYPE II

Flat braided polyester yarn impregnated with microcrystalline fungicidal wax or to meet MIL specs. 1½ lbs. *Test tensile strength (lbs.), (†) Finishes code see box at right.

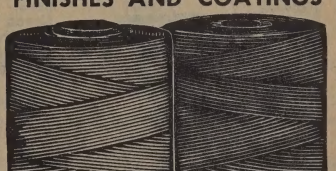
Stock No.	Mfr's Type	*	Width	Color	†	500-yard Spools, EACH 1-9	10-24	25-49	50-99	100-Up
37F2215	805058W	50 lbs.	.090"	Natural	A	6.95	6.40	5.80	5.25	4.75
37F2216	805058B	50 lbs.	.090"	Black	A	8.10	7.55	7.00	6.00	5.40
37F2217	805062W	50 lbs.	.090"	Natural	W	6.95	6.40	5.85	5.00	4.75
37F2218	805062B	50 lbs.	.090"	Black	W	8.10	7.55	7.00	6.00	5.40

NYLON LACING TWINE MIL-T-713D TYPE P

Round twisted nylon fiber impregnated with microcrystalline wax. Excellent knot retention, for lacing or spot ties. 32 lb. test 1100 yd. spool; 48 lb. test 750 yd. spool; 70 lb. test 550 yd. spool. *Test tensile strength (lbs.); (†) Finishes code see box at right.

Stock No.	Mfr's Type	*	Nom. Diam.	Spool Length	Color	†	1 Lb. Spools, EACH 1-9	10-24	25-49	50-99	100-Up
37F2219	807103W	70 lbs.	.039"	550 yds.	Natural	W	8.75	7.75	6.95	5.75	4.75
37F2220	807013B	70 lbs.	.039"	550 yds.	Black	W	10.35	8.95	7.60	6.54	5.45
37F2221	804814W	48 lbs.	.029"	750 yds.	Natural	W	8.75	7.75	6.95	5.75	4.75
37F2222	804814B	48 lbs.	.029"	750 yds.	Black	W	10.35	8.95	7.60	6.54	5.45
37F2223	803215W	32 lbs.	.025"	1100 yds.	Natural	W	8.75	7.75	6.95	5.75	4.75
37F2224	803215B	32 lbs.	.025"	1100 yds.	Black	W	10.35	8.95	7.60	6.54	5.45

FINISHES AND COATINGS



Nylon Lacing Tape MIL-T-43435 Type 1 (Supersedes MIL-T-713D)

W-WAX (MIL SPEC B)

A microcrystalline fungicidal wax which exceeds MIL specs. Provides excellent knot retention and is suitable for either lacing or spot ties.

G-SYNTHETIC RUBBER (MIL SPEC C)

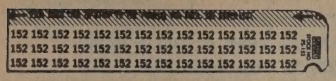
A special continuous coating of fungicidal synthetic elastomer (rubber) which exceeds Mil specs. Ties easily and has outstanding knot holding characteristics.

A-SYNTHETIC RESIN (MIL SPEC E)

A synthetic rubber-like resin formulated with fungicidal ingredients. Handling characteristics are excellent, knot retention is outstanding; meets or exceeds MIL specs. requirements.

OPERATIONAL TEMPERATURE RANGES: −67°F to +250°F.

BRADY Wire Markers



WIRE MARKERS

Sub-surface printed under tough, transparent Mylar cover. Self-sticking, thermo-resistant adhesive. Insensitive to moisture, solvents, abrasion; will not dry out or embrittle. Furnished on convenient dispenser cards. Standard strips are 1½" long, for use on cable of up to ⅜" O.D. Miniature sizes are ½" long for use on hookup wire and miniature cable of up to 7/64" O.D. Made-to-order markers on request.

B500 STANDARD SIZE TYPES

VINYL CLOTH WITH TEMP. RANGE—40°F. TO 250°F.

SOLID NUMBERS

Stock No.	Number	1-24	25-99	100-Up
30F232	0-200	.24	.22	.203

SOLID LETTERS

Stock No.	Letter	1-24	25-99	100-Up
30F233	A-Z	.24	.22	.203

CONSECUTIVE NUMBERS & LETTERS

Stock No.	Marking	1-24	25-99	100-Up
30F234	1-33	.24	.22	.203
30F235	34-66			
30F236	67-99			
30F237	100-124			
30F238	A-Z			

B600 POLYESTER FILM STANDARD SIZE TYPES

SOLID NUMBERS

Stk. No.	Number	1-24	25-99	100-up
30F213	0-200	.24	.22	.203

When ordering, specify individual number(s) desired. Sub-surface printed polyester film with temp. range—20°F. to 250°F. continuous; Intermittent to 300°F.

SOLID LETTERS

Stk. No.	Letter	1-24	25-99	100-up
30F214	A-Z	.24	.22	.203

When ordering specify individual letter A to Z. 36 per card.

CONSECUTIVE NUMBERS & LETTERS

Stk. No.	Marking	1-24	25-99	100-up
30F215	1-33	.24	.22	.203
30F216	34-66			
30F217	67-99			
30F218	100-124			
30F219	A-Z			

Cards contain one marker for each number or letter in the range listed.

B700 VINYL FILM MINIATURE TYPES

SOLID NUMBERS

Stock No.	Numbers	1-24	25-99	100-up
57F1061	1-25	.33	.30	.276

Each card contains 150 identical markers. Specify number(s).

SOLID LETTERS

Stock No.	Numbers	1-24	25-99	100-up
57F1062	A-Z	.33	.30	.276

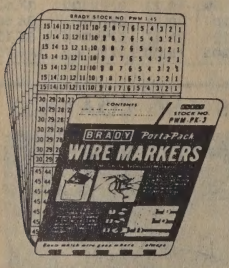
Each card contains 150 identical letters. Specify letter(s) desired.

CONSECUTIVE NUMBERS

Stock No.	Letters	1-24	25-99	100-up
57F1063	0-49	.33	.30	.276
57F1064	50-99			
57F1065	100-132			
57F1066	133-165			
57F1067	166-198			

Cards contain 3 markers of each number in the range listed.

PORTA-PACK WIRE MARKERS



Pocket-size book of up to 450 vinyl cloth wire markers, which are self sticking, moisture and abrasion resistant; plus matching terminal markers. Flip-Strip Dispenser Cards "pop up" the markers you choose. Card snaps back into place when marking is completed. "Ten Pack" Flip-Strip Dispenser Cards are stocked in 300 different sequences.

Stk. No.	Type	Porta-Pack Books of Markers
57F1081	PWM-PK-1	45 each, 0-9
57F1082	PWM-PK-2	10 each. A-Z and 0-15, +, —, /
57F1083	PWM-PK-3	10 each, 1-45
57F1084	PWM-PK-4	150 each, 1,2,3
57F1085	PWM-PK-5	150 each, A,B,C
57F1086	PWM-PK-6	150 each, T1, T2, T3
57F1087	PWM-PK-7	150 each, L1, L2, L3
57F1088	PWM-PK-8	6 ea., 1-15; 4 ea. 16-90; 2 ea., A-Z, +,—, 1,0
57F1089	PWM-PK-9	45 ea., 1-3, A-C; 30 ea., T1, T-3, L1-L3
57F1090	PWM-PK-10	45 ea., 10 different NEMA colors
57F1091	PWM-PK-11	15 each, 1-30
57F1092	PWM-PK-12	15 ea. A-Z, 21 write-on, 8 ea. +, 7 ea.—
57F1093	PWM-PK-13	45 ea. +, —AC, DC, 33 ea. POS. NEG, GND; 27 NEUT; 21 ea., SPARE, write-on.

No. of Packs	1-9	10-49	50-99	100-249	250-499	500-999
Price each	2.75	2.53	2.27	2.06	1.93	1.79

STOCK TERMINAL CIRCLES
PRINTED CIRCUIT & DRAFTING AIDS

Terminal circles are pre-cut to precise dimensions. Concentricity held to ±.005". Mounted on convenient Blue Streak Dispenser Cards. Available in B-202 Black with smudge-proof transparent adhesive. Always order by number of cards, and not by individual pieces.

Stk. No.	Type	O.D.	I.D.	1-24	25-99	100-up
30F220	TC125-031	.125	.031	.35	.30	.28
30F221	TC187-062	.187	.062			
30F222	TC250-062	.250	.062			
30F223	TC312-062	.312	.062			
30F224	TC375-062	.375	.062			
57F1050	TC375-094	.375	.094			
57F1051	TC400-095	.400	.095			
57F1052	TC437-062	.437	.062			
57F1053	TC500-062	.500	.062			
57F1054	TC500-125	.500	.125			

QUIK-LINE TAPE PEN

30F230. BCA-1. Beam Compass Attachment for TP-4 ..... 12.50
30F231. TP-4. Tape Pen and parts in case 9.95

CONNECTOR STRIPS

B-204 black precision slit tape with transparent adhesive conforms to angles and curves readily. Strip Rolls available in 10 fractional widths. Rolls 18 yds long on 1" dia. core.

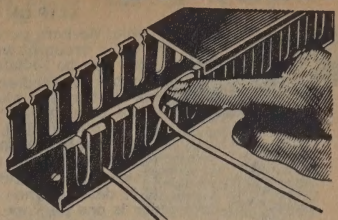
Stk. No.	Type	Size	1-24
30F225	CSR015	.015"x18 yds.	.75
30F226	CSR031	.031"x18 yds.	.75
57F1055	CSR062	.062"x18 yds.	.80
57F1056	CSR080	.080"x18 yds.	
57F1057	CSR093	.093"x18 yds.	
57F1058	CSR100	.100"x18 yds.	
30F227	CSR125	.125"x18 yds.	
57F1059	CSR156	.156"x18 yds.	.90
57F1060	CSR200	.200"x18 yds.	
30F228	CSR250	.250"x18 yds.	
30F229	CSR500	.500"x18 yds.	1.50

SAVE WORK! Make Newark your Complete 1-Point Stock Source
SAVE TIME! At Newark—fast, efficient service always!
SAVE MONEY! Quantity Prices Competitive with Manufacturer!

PLASTIC SNAP-SLOT WIRING DUCT

Simplify and protect complex wiring with vinyl plastic ducts. Standard 6-ft. sections can be cut with hacksaw. Snap-slot design permits easy insertion of wires. Wire can be removed with no electrical disconnect. Use ducts with Lok-strap cable ties, and with CS-1 corner strips. Order cover, below. Standard put-up 24-ft., in four 6-ft. lengths. **Specify dark gray or white.**

WIRING DUCT						DUCT COVER TO FIT					
Stock No.	Wdth. x Ht. (inches)	24-Ft. Std/pkg Wt. (lbs)	1-200	200-1999	2M 4999	Stock No.	Wdth. (inches)	24-Ft. Std/pkg Wt. (lbs)	1-200	200-1999	2M 4999
78F550	.5 x .5	3	.49	.38	.35						
78F551	.5 x .62	3	.51	.41	.38						
78F552	.5 x1.	4	.55	.44	.42	78F562	.5	1	.11	.09	.08
78F553	.5 x1.25	4	.63	.50	.45						
78F554	.5 x1.75	4	.66	.53	.50						
78F555	.75x .75	3½	.54	.43	.41						
78F556	.75x1.	4	.55	.44	.42	78F563	.75	1½	.12	.10	.09
78F557	.75x2.	6	.80	.64	.59						
78F558	1. x1.	4	.55	.45	.42						
78F559	1. x1.5	4½	.73	.60	.55	78F564	1	2½	.16	.12	.11
78F560	1. x2.	5	.78	.62	.55						
78F561	1.5 x1.5	5	.78	.63	.57						



Simplify Your Complex Wiring Projects

CS-1 Corner Strip Duct for Making Smooth Rounded Corners

MODEL CS-1 CORNER STRIP

For applications requiring smooth, rounded corners at duct junctions. Easily cut to correspond to any duct length needed. 5-ft. sections. Shpg. wt., 100-ft., 15 lbs. **Specify dark gray or white.**

	1-200	200-1999	2M-4999
78F565	1.80	1.50	1.45

CABLE TIES AND CLAMPS — STA-STRAP SERIES SS

Permanent, hand or tool-applied white nylon ties for fast harnessing of wire bundles. Exclusive design permits strap to be released prior to tool installation. Available as tie (types with "T") in manufacturer's type number; clamp (types with "C"); identification markers (types with "M"); or push clamp (types with "P"). Type SSC nylon clamps have integral mounting tab. Suffix "H" denotes heavy-duty Pan-Rap. Sta-Straps meet applicable MIL Specs.

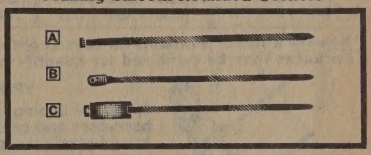


Fig.	Bundle Dia.Max.	Wt. Per 100	Per Package of 100 Stk. No.	Type	1-4	5-9	Per Package of 1000 Stk. No.	Type	1-24	25-49	50-99
A	¾"	4 oz.	78F516	SST1M-C	2.88	2.30	78F529	SST1M-M	13.20	12.60	11.99
A	1½"	4 oz.	78F517	SST1.5M-C	3.00	2.40	78F530	SST1.5M-M	16.61	15.85	15.10
A	1¾"	5 oz.	78F518	SST21-C	3.75	3.00	78F531	SST21-M	20.68	19.74	18.80
A	3"	5 oz.	78F519	SST31-C	6.63	5.30	78F532	SST31-M	41.58	39.69	37.80
A	3"	6 oz.	78F520	SST3S-C	8.50	6.80	78F533	SST3S-M	46.20	44.10	42.00
A	4"	9 oz.	78F521	SST41-C	8.50	6.80	78F534	SST41-M	46.20	44.10	42.00
A	4"	1¼ lbs.	78F522	SST4H-C	13.13	10.50	78F535	SST4H-D	80.30	76.40	72.77
A	8"	2¼ lbs.	78F523	SST8H-C	30.00	24.00	78F500	SST8H-D	179.30	163.00	150.00
B	1¾"	6 oz.	78F524	SSC2S-C	6.13	4.90	78F501	SSC2S-M	40.00	36.00	34.00
B	4"	10 oz.	78F525	SSC4S-C	17.00	13.60	78F502	SSC4S-M	82.50	78.75	75.00
B	4"	1¼ lbs.	78F526	SSC4H-C	19.38	15.50	78F503	SSC4H-D	125.00	113.00	106.00
C	1¾"	6 oz.	78F527	SSM2S-C	12.38	9.90	78F504	SSM2S-D	59.00	53.10	50.20
C	4"	10 oz.	78F528	SSM4S-C	17.50	14.00	78F505	SSM4S-D	93.00	86.00	81.00

PAN-TY ONE-PIECE CABLE TIES, CLAMPS, MARKERS

Speed harness tying with one-piece self-locking cable ties. Constructed of self-extinguishing, fungus inert nylon. Unique design permits tight installation on bundle with minimum effort. May be installed by hand or with easy-to-use Panduit Cabling Tool GS2B (see below), to assure fast, uniform tensioning and flush cut-off. Exclusive design also permits easy release and reuse of hand-installed Pan-Ty cable ties. A wide variety of mounting accessories is available to provide added versatility in applying self locking and releasable Pan-Ty cable ties. Normal service temperature: —40°C to 85°C. Natural nylon is standard. A total of ten colors are available on special order. Meets all applicable Military Specifications.

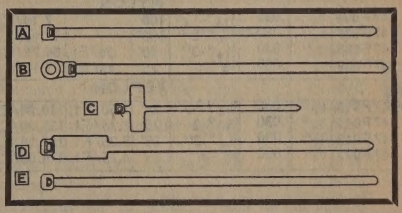


Fig.	Bundle Dia. Max.	Wt. Per 100	Per Package of 100 Stk. No.	Type	1-4	5-9	Per Package of 1000 Stk. No.	Type	1-24	25-49	50-99
A	¾"	1½ oz.	78F506	PLT1M-C	2.88	2.30	78F536	PLT1M-M	13.20	12.60	11.99
A	1¼"	1¾ oz.	78F507	PLT1.5M-C	3.13	2.50	78F537	PLT1.5I-M	18.02	17.20	16.39
A	1¾"	2½ oz.	78F508	PLT2S-C	4.00	3.20	78F538	PLT2S-M	22.18	21.17	20.16
A	3"	3½ oz.	78F509	PLT3S-C	8.50	6.80	78F539	PLT3S-M	46.20	44.10	42.00
A	4"	6½ oz.	78F510	PLT4S-C	9.25	7.40	78F540	PLT4S-M	50.82	48.51	46.20
A	4"	1¼ lbs.	78F511	PLT4H-C	13.13	10.50	78F541	PLT4H-M	80.30	76.40	72.77
B	1¾"	5 oz.	78F512	PLC2S-C	5.13	4.10	78F542	PLC2S-M	31.00	29.50	27.90
C	¾"	1½ oz.	78F513	PL1M-C	6.13	4.90	78F543	PL1M-M	40.00	36.00	34.00
D	1¾"	5 oz.	78F514	PLM2S-C	9.00	7.20	78F544	PLM2S-C	50.00	47.50	45.00
E	2"	3½ oz.	78F515	PRT2S-C	4.50	3.60	78F545	PRT2S-C	26.40	25.20	24.00

GS-2B GUN-TYPE CABLING TOOL

Light Durable

Easy To Use

Hand operated tool ties all Panduit miniature, intermediate and standard cable ties, clamps and markers. Incorporates an easy-to-use three-position selector knob.

GS-2B CABLING TOOL (CONT.)

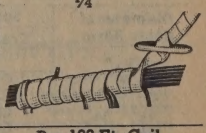
Automatically tightens to pre-set tension, cuts cable tie flush and ejects the cut-off portion. Shpg. wt., 1 lb.
78F547. NET **25.00**

GS-4H GUN-TYPE CABLING TOOL

Heavy-duty cabling tool. Essentially the same as Type GS-2B above, except designed for Panduit standard and heavy-duty cable ties and clamps. Easy to use. A simple squeeze of the trigger tightens the ties to the preset tension and cuts them flush without sharp edges. Shpg. wt., 1½ lbs.
78F566. NET **50.00**

SPIRAL CABLE WRAPPING SHEATH

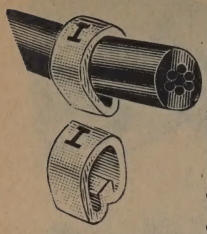
For bundles 3/16" to 2" dia. Suffix "F" clear polyethylene; "R" fire-resistant white polyethylene; "N" clear nylon. Std. ¼" O.D. 100-ft. coils. With tool. Wt. per 100-ft. 2 lbs.



Stock No.	Type	Per 100 Ft. Coil 1-9	10-49	50-Up
78F548	T-25F	7.50	6.00	5.34
78F549	T-25R	10.98	8.82	7.80
78F546	T-25N	16.80	13.44	11.94

ELECTROVERT INC. Cable & Wiring Accessories

SLIP-ON "Z" MARKERS

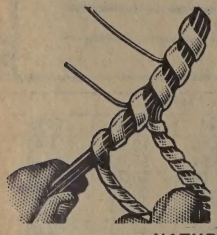


Cable Markers permanently identify every wire or group of wires for instant recognition. Can be installed in seconds. Feature flexible "accordian" type backs for easy installation and sturdy gripping on wires. Made of durable P.V.C. material. Comply with military, civil, and trade associations. (J.I.C., MIL-E-5400B (ASG), MIL-E-4158A (USAF); etc.). White with black marking. Please specify Letter (A-Z) or Numeral (0-9) desired when ordering. Minimum order is one package of 50 of any Letter, or Numeral. **Sold Only in Packages of 50. Order by the Package.**

Stock No.	Type No.	AWG Size	For Cable Diameter	1-49 Pkgs.	50-99 Pkgs.	100-249 Pkgs.	250-499 Pkgs.
30F833	Z22P	22	.045"-.065"	.69	.63	.58	.52
30F834	Z20P	20	.066"-.085"	.69	.63	.58	.52
30F835	Z18P	18	.086"-.115"	.69	.63	.58	.52
30F820	Z16P	16	.110"-.135"	.69	.63	.58	.52
30F821	Z14P	14	.130"-.160"	.69	.63	.58	.52
30F822*	Z12P	12	.150"-.175"	.69	.63	.58	.52
30F823*	Z10P	10	.170"-.195"	.71	.64	.59	.53
39F824*	Z9P	9	.190"-.215"	.73	.66	.61	.53
30F825*	Z8P	8	.210"-.250"	.75	.68	.62	.55
30F826*	Z7P	7	.245"-.295"	.80	.72	.67	.58
30F827*	Z6P	6	.290"-.360"	.91	.81	.76	.67
30F828*	Z4-1P	4-1	.355"-.460"	1.05	.94	.86	.77

*Non-stock items, available on special order.
Packages may be combined for quantity prices.

SPIROBAND



Spiral wrapping for flexible electric harnesses and cables. Unusual flexibility and elasticity make it ideal for temporary and experimental as well as permanent applications. Permits lead-offs or additions of wire at any point. High dielectric strength provides excellent insulation. Nylon and Teflon types for high temperature applications. (Nylon to 250°F; Teflon to 500°F). **Sold only in multiples of pkg. lengths shown. Order by the foot.**

NATURAL POLYETHYLENE

Stock No.	Size	Wall Thick	Bundle Range	Std. Pkg.	Under 100'	100'-900'	1000'-4900'	5000'-9900'
30F839	1/8"	.032	1/16"-1/2"	100'	.....	3.15/C	2.80/C	2.50/C
30F840	1/4"	.045	3/16"-2	100'	.....	5.60/C	5.00/C	4.60/C
47F005	3/8"	.055	5/16"-3"	50'	.10/Ft.	9.00/C	7.95/C	7.00/C
30F841	1/2"	.062	3/8"-4"	25'	.45/Ft.	14.00/C	12.75/C	10.25/C

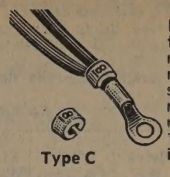
NYLON

47F006	1/8"	.030	1/16"-1/2"	100'	.....	7.10/C	6.55/C	5.40/C
47F007	1/4"	.030	3/16"-2	100'	.....	14.95/C	14.05/C	12.00/C
47F008	3/8"	.030	5/16"-3"	50'	.36/Ft.	34.75/C	33.60/C	30.45/C
47F009	1/2"	.030	3/8"-4"	25'	.43/Ft.	42.10/C	41.00/C	36.80/C

TEFLON

47F010	1/8"	.030	1/16"-1/2"	25'	1.50/Ft.	110.00/C	87.50/C	82.20/C
47F011	1/4"	.030	3/16"-2	25'	1.75/Ft.	135.00/C	96.75/C	94.50/C
47F012	3/8"	.030	5/16"-3"	25'	3.25/Ft.	257.10/C	193.20/C	182.90/C
47F013	1/2"	.030	3/8"-4"	25'	4.75/Ft.	370.00/C	275.00/C	260.00/C

CLIP-ON "C" MARKERS



Type C

Designed for application either before or after terminal connection has been made. May be removed for re-coding without breaking terminal connection. Rigid PVC material. For single wire or cable. Same size fits a given range cable dia. Specify Letter (A-Z) or Numeral (0-9) when ordering. Minimum order is 1 pkg. or 50 of any letter or numeral. **Sold only in Packages of 50. Order by the Package.**

Stock No.	Type No.	AWG Size	For Cable Diameter	1-9 Pkgs.	10-99 Pkgs.	100-999 Pkgs.	1000-Up Pkgs.
47F014	C2P	18/20	.080-.100	1.10	.98	.88	.83
47F015	C3P	18	.100-.118	1.10	.98	.88	.83
47F016	C4P	16	.118-.138	1.10	.98	.88	.83
47F017	C5P	14	.138-.156	1.10	.98	.88	.83
47F018*	C6P	10/12	.156-.218	1.15	1.00	.90	.85
47F019*	C7P	9	.187-.218	1.15	1.00	.90	.85
47F020*	C8P	8	.218-.250	1.35	1.20	1.05	1.00

*Non-stock items, available on special order.
Packages may be combined for quantity prices.

STRAPPING AND STUDS

High grade PVC Strapping with holes conveniently spaced for securing with nylon studs. Easiest, fastest, and most economical method of securing or grouping unsupported bundles of wires or cables. Suitable for all types, any form or diameter. Extremely strong and applicable within a temperature range of —26° to +146°F. Standard in black. In two size widths.

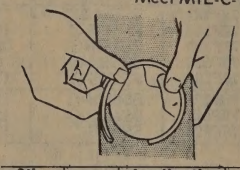
100' lengths are in "feed-out" boxes. 500' lengths are on reels.

Stk. No.	Type	Width	Length	Net Each
30F830	AV5	5/16"	100'	3.45
30F850	AV5	5/16"	500'	15.55
30F831	AV8	1/2"	100'	5.65
30F851	AV8	1/2"	500'	26.60

30F832. Type AVS. Box of 1,000 studs for above. **Net per box 5.00**

POLYETHYLENE GROMMET STRIPS

Meet MIL-C-17D, MIL-W-76B, and MIL-C-915A

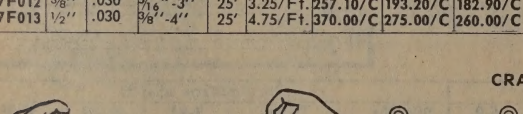


You have the advantage of one strip only application to round, square, rectangular, and oval holes. Comes in 6 sizes. For all gauges, from 20 gauge to 1/4" thick. Easily applied. No special tools required. **Sold only in multiples of Packaging as shown. Order by the Foot.**

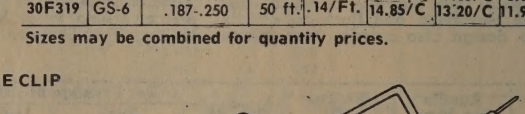
Stk. No.	Type	Application Min. Max.	Pkg.	Under 100'	100-900	1000'-4900'	5000'-9900'
30F315	GS2	.020-.039	100 ft.	.....	4.40/C	3.95/C	3.75/C
30F320	GS2A	.040-.062	100 ft	.....	4.79/C	4.45/C	3.95/C
30F316	GS3	.063-.099	100 ft.	.....	5.12/C	4.75/C	4.15/C
30F317	GS-4	.100-.144	100 ft	.....	5.89/C	5.45/C	4.90/C
30F318	GS-5	.145-.187	100 ft.	.....	10.29/C	9.35/C	8.60/C
30F319	GS-6	.187-.250	50 ft.	.14/Ft.	14.85/C	13.20/C	11.90/C

Sizes may be combined for quantity prices.

CRADLE CLIP



C1, C2, C3



B1 B12,B2 N1, N3, N5, N7 CO-NO

On the spot wiring changes without replacement or tools. Only 5 seconds per fixing point. Binders and cradles are nylon; clips are neoprene. Secure design will withstand vibration without damage to wire insulation. Color: black.

RECOMMENDED COMBINATIONS

Diameter of Cable Form	Supported Wiring		Unsupported Wiring	
	Cradle	Clip	Binder	Clip
1/8"-5/16"	CO+NO			
1/4"-5/8"	C1	N1	B1	N1
1/2"-11/16"	C1	N3	B1	N5
11/16"-11/16"	C2	N3	B12	N3
15/16"-1 11/16"	C2	N5	B12	N5
1"-1 1/4"	C3	N3	B2	N3
1 1/4"-1 1/2"	C3	N5	B2	N5
1 1/2"-2"	C3	N7	B2	N7
Over 2"	Use combination of above sizes			

ORDERING DATA

Stk. No.	Type	Descrip.	1-99 Each	100-999	1000-4999	5000-9999
30F300	C1	Cradle	.10	6.65/C	60.50/M	57.50/M
30F301	C2	Cradle	.11	7.50/C	68.20/M	64.80/M
30F302	C3	Cradle	.12	8.35/C	75.90/M	72.10/M
30F303	C1-M*	Cradle	.17	12.35/C	112.20/M	106.60/M
30F304	C2-M*	Cradle	.24	16.55/C	150.50/M	142.95/M
30F305	C3-M*	Cradle	.27	18.35/C	166.35/M	158.05/M
30F306	B1	Binder	.08	5.25/C	47.95/M	45.55/M
30F314	B12	Binder	.10	6.55/C	59.60/M	56.60/M
30F307	B2	Binder	.11	7.80/C	70.80/M	67.25/M
30F308	N1	Clip	.05	3.45/C	31.00/M	29.50/M
30F309	N3	Clip	.07	4.65/C	42.40/M	40.30/M
30F310	N5	Clip	.09	6.25/C	57.05/M	54.20/M
30F311	N7	Clip	.11	7.60/C	68.95/M	65.55/M
30F312	CO-NO**	Crd. & Clip	.12	8.55/C	77.70/M	73.85/M

**cradle with captive clip *with captive nut
Cradles and Binders may be combined for quantity prices.
Clips may be combined for quantity prices.

Cable Accessories and Tape

ELECTROVERT

- Self Locking Head
- Infinitely Adjustable
- Hand or Tool Applied

EL CABLE TIES Meets MS17821 and MS18034

Molded of virgin nylon; light weight; abrasion resistant high tensile strength, minimum absorption rate; resistant to common solvents, alkalies, oils.

SOLD IN MULTIPLES OF 100 ONLY

Stk. No.	Bundle Diameter Min.-Max.	Description	Mil No.	Type	100-900	1000-4000	5000-Up
30F847	1/16" - 1"	Miniature	—4	EL-A	2.30/C	14.50/M	13.55/M
30F848	1/16" - 1 5/16"	Intermediate	—1	EL-B	3.20/C	23.25/M	21.65/M
30F849	1/16" - 4 3/16"	Standard	—2	EL-C	7.40/C	48.90/M	44.00/M
47F000	3/16" - 4"	Heavy Duty	—3	EL-D	10.50/C	78.00/M	70.25/M

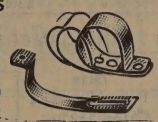
MOUNTING BASE

Available in two sizes for use with all cable ties designed to military spec., accomodates any size harness. Ideal for tight space applications. **Sold in multiples of 100 only.**

Stk. No.	Type	100-400	500-900	1000-2400	2500* Over
30F1612	TC-A	3.00/C	2.40/C	19.35/M	18.40/M
30F1613	TC-M	6.90/C	5.45/C	44.10/M	41.90/M

ADJUSTABLE P-CLIPS

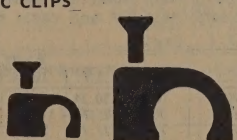
Ratchet teeth provide positive locking action. Virgin nylon, light weight, abrasion resistance. Tensile strength: 11,000 psi. Melting point: 482 —500°F self extinguishing. Endurance limit: 3000 psi; no failures to 2,000,000 cycles. **Sold in multiples of 100 only.**



Stk. No.	Size No.	Bundle Dia. Min.-Max.	Screw Clear.	100-900	1000-2499	2500-9999
30F842	AP-0	1/8-3/16	No. 4	2.75/C	21.10/M	16.90/M
30F843	AP-1	3/16-1/4	No. 4	2.85/C	25.35/M	20.30/M
30F844	AP-2	1/4-3/8	No. 6	3.00/C	25.55/M	20.40/M
30F845	AP-3	3/8-9/16	No. 6	3.65/C	27.20/M	21.75/M
30F846	AP-4	9/16-7/8	No. 6	4.75/C	33.45/M	26.75/M
47F001	AP-5	7/8-13/16	No. 10	6.25/C	42.85/M	34.35/M
47F002	AP-6	13/16-1 1/2	No. 10	7.75/C	56.40/M	45.10/M
47F003	AP-7	1 1/2-1 3/4	No. 10	10.75/C	70.50/M	56.45/M
47F004	AP-8	1 3/4-2	No. 10	11.15/C	10.20/M	80.95/M

HIATT PLASTIC CLIPS

Firm, fast, permanent cable installation without drilling or screwing. Available in complete range of sizes .10" to .43". They push-fit onto the wire or cable making installation simple. Nails are fixed in the clip, will not fall out during shipping or installation. Available in black color only.



H-3 (.14") H-8 (.31")

Sold in multiples of 100

Stk. No.	Type	Inside Dia. In.	Nail Dia.	Size Len.	100-900	1000-9900	10,000-24,900
30F1614	H-2	.10	.040	5/8"	1.55/C	12.50/M	10.60/M
30F1615	H-3	.14	.060	5/8"	1.60/C	12.85/M	10.90/M
30F1616	H-4	.16	.060	5/8"	1.70/C	13.45/M	11.45/M
30F1617	H-5	.20	.060	3/4"	1.95/C	15.35/M	13.05/M
30F1618	H-6	.24	.080	1"	2.05/C	16.30/M	13.90/M
30F1619	H-7	.275	.080	1"	2.10/C	16.90/M	14.40/M
30F1620	H-8	.31	.080	1"	2.70/C	21.60/M	18.40/M
30F1621	H-9	.35	.080	1"	2.85/C	22.90/M	19.50/M
30F1622	H-10	.40	.080	1"	3.00/C	24.40/M	24.00/M
30F1623	H-11	.43	.080	1"	3.10/C	24.60/M	20.90/M

ELECTRO-DUCT

High-impact vinyl duct won't peel chip or crack. Withstands temp. of approx. 150°F. Temporary adhesive mounting permits drilling and lining up mounting holes easily. CSA approved. Includes channel and cover. Standard length: 6 feet. **Sold in multiples of 24 ft. only.**

Stk. No.	Type*	Nom. W&H	Ctn. (Ft.)	Wt. Per Ctn.	24'-192'	216'-984'	1008' Up
80W265	1010A-G	1" x 1"	24	5	.62	.48	.46
80W266	1020A-G	1" x 2"	24	8	.80	.63	.61
80W267	1030A-G	1" x 3"	24	10	.97	.79	.76
80W268	2020A-G	2" x 2"	24	12	.92	.75	.73
80W269	2030A-G	2" x 3"	24	14	1.15	.92	.88
80W270	3010A-G	3" x 1"	24	10	1.05	.86	.83
80W271	3030A-G	3" x 3"	24	18	1.30	1.05	1.00

STAFFEL MODULAR TERMINAL BLOCKS AND ACCESSORIES

- Insulating body of compression moulded Melamine
- Captive metal parts and screws totally enclosed for safety
- Easily snap in to mounting rail for fast assembly

Stk. No.	Type	Description	NET/100
30F1625	*1283-2	Terminal Block (Pressure Clamp Connectors)	29.80/C
30F1626	1179	End Plate	8.80/C
30F1627	1228	Assembly rail One foot sections	.65 ft.
30F1628	2061	Holding Clamp	9.45/C
30F1600	1823	Markers (slip on)	.85/C
30F1601	1905	Markers (snap on)	3.40/C

- No. 1283 Rated 600v 25A, AWG 12

MICRO TERMINALS

30F1602	*1281	Terminal Block (Pressure Clamp Connectors)	23.50/C
30F1603	1282	End Plate	6.50/C
30F1604	*1173	Terminal Block (Pressure Clamp, 1 solder lug)	28.60/C
30F1605	1174	End Plates	6.50/C
30F1606	*1623	Terminal Blocks 2 solder lugs)	20.70/C
30F1607	1282	End Plate	6.50/C
30F1608	1175	Assembly rail One foot sections	.35 ft.
30F1609	1177	Holding clamp	5.75/C
S/B* No. 1281 and 1173 rated for 20 Amps; 1623 for Both 300V.			10 Amps.
FLEXIBLE TERMINAL STRIP (20 Amps, 300 Volts) Can be cut with knife to required number of terminal			points.
30F1610	1949	12 pole PVC Strip w/pressure term	105.50/C
30F1611	1950	Marking Strip	14.20/C

3M COMPANY SCOTCH TAPE

ELECTRICAL TAPE

Type 33. General purpose insulation. Dielectric strength: 10,000 volts. Is .007" thick and has black plastic binding. Has black plastic backing.

Stk. No.	Type	Size	Color	1-9	10-99
36F898	33	3/4"x66'	Blk.	1.40	1.16
36F899	33	3/4"x20'	Blk.	.53	.44
36F897	33	3/8"x20'	Blk.	.33	.27

COLOR CODED TAPE

Type 35. Vinyl plastic electrical tape for color coding and general purpose insulation. Strong and conformable.

Stk. No.	Type	Size	Color	1-9	10-99
36F900	35	1/2"x20'	Red	.40	.33
36F901	35	1/2"x20'	Wh.	.40	.33
36F902	35	1/2"x20'	Yel.	.40	.33
36F903	35	1/2"x20'	Gray	.40	.33

TINNED COPPER SHIELDING TAPE

Type 24. All metal 100% tinned copper shielding braid continues electrostatic shielding. Knitted from No. 36AWG wire. Highly conformable.

Stk. No.	Type	Size	Color	1-9	10-99
36F904	24	1"x15'	Tin	2.44	2.05

GLASS-CLOTH INSULATED TAPE

Type 27. For operating temperatures requiring high-heat insulated wires. Thermosetting pressure-sensitive adhesive assures a permanent bond at temperatures up to 300°F. High tensile strength.

Stk. No.	Type	Size	Color	1-9	10-99
36F905	27	1/2"x66'	Wh.	1.88	1.58

ALL-WEATHER TAPE

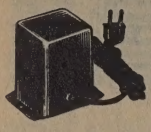
Type 88. A super-tough flame-retardant black plastic backing provides excellent resistance to abrasion, oil, acids, etc. Extra pliability and conformability at temperatures down to 0°F. The thickness of Type 88 is .0085".

Stk. No.	Type	Size	Color	1-9	10-99
36F886	88	3/4"x66'	Blk.	1.64	1.36
36F887	88	3/4"x20'	Blk.	.62	.51

SILICON RUBBER TAPE

Type 70. High temperature splicing tape composed of fully cured inorganic silicone backing with a silicone pressure sensitive adhesive. Excellent comformability, high temperature characteristics, electric strength, and ozone resistance. Self cleaning rubber backing.

Stk. No.	Type	Size	Color	1-9	10-99
36F906	70	3/4"x30'	Blk.	5.91	4.97



Type SD

Fig. KA

Fig. TE

Fig. KC

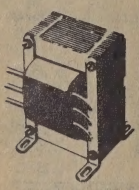


Fig. B

Fig. C

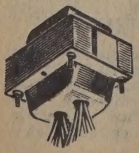


Fig. S

PHOTOFLASH TRANSFORMER

Stock No.	Type	Application	Wt. Lbs.	Each. Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
IF086	P-6425	Power transformer for AC powered Electronic flash circuits	1¼	5.52	4.97	4.69	4.42	2.54	2.31
IF087	P-6426	Trigger Coil for 450V flash	⅛	2.32	2.09	1.97	1.86	1.14	1.04

STEP-DOWN TRANSFORMERS

Type SD. For operating 115 volt equipment from 230 volts, 50-60 cycles AC for source, "Sealed in Steel" corrosion-proof. With 8 ft. cord, plug, standard receptacle on case.

Stk. No.	Type	Watts	Lbs.	Size	Each. Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
4F141	SD-50	50	2¾	3½x3½x2⅞"	12.79	11.51	10.87	10.23	5.69	5.18
4F142	SD-100	100	4¼	4⅜x4⅞x3 1/16"	17.73	15.96	15.07	14.18	....	....
4F143	SD-150	150	7	5¼x5 5/16x4⅝"	25.04	22.54	21.28	20.03	....	....
4F144	SD-250	250	8¾	5¼x5 5/16x4⅝"	29.59	26.63	25.15	23.67	....	....
4F145	SD-500	500	14½	5⅞x6 1/16x5 5/16"	37.00	33.30	31.45	29.60	....	....
4F146	SD-1000	1000	22½	6½x7 1/16x6⅛"	61.22	55.10	52.04	48.98		....

230 TO 115 VOLT STEP-DOWN AUTOFORMERS

Fig. KA. Reduce 230 VAC to 115V 50/60 cyc. Std. Fem. receptacle on shell. UL-approved 6-ft. cord and plug included. RMS test insulation.

IF320	P-6287	40	2¼	3½x2½x2⅝"	11.27	10.14	9.58	9.02	5.23	4.76
IF321	P-5062	80	4	3½x3⅜x2 13/16"	11.41	10.27	9.70	9.13	5.58	5.08
IF322	P-5063	100	4½	3⅞x3⅝x3⅛"	15.55	14.00	13.22	12.44	6.19	5.63
IF323	P-5064	150	5¼	4¼x3⅝x3 7/16"	14.58	13.12	12.39	11.66	6.94	6.32
IF324	P-5065	300	9	4 11/16x4¼x3¾"	18.78	16.90	15.96	15.02	8.88	8.08
IF325	P-6141	500	14	4 11/16x5¼x3¾"	23.67	21.30	20.12	18.94	12.19	11.09

ISOLATION TRANSFORMERS

Primary: 50/60 cycles.

Stock No.	Type No.	Input Voltage	Output Voltage	Watts	Lbs.	Size	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
IF919	IS-50	105/115/125	125/115/105	50	5	3 11/16x3⅝x4 11/16	27.72	24.95	23.56	22.18	....	....
IF920	IS-100	105/115/125	125/115/105	100	8½	4⅝x4⅛x5⅝	38.02	34.22	32.32	30.42	....	....
IF921	IS-250	105/115/125	125/115/105	250	18¼	5⅝x4 13/16x6 1/16	47.00	42.30	39.95	37.60	....	....

STEP UP-STEP DOWN AUTOTRANSFORMERS

Type PSU. Designed specifically for use with air conditioners in converting a 208 volt unit to a 230 volt line. 60 cycle operation, 208 v/230 v, 230 v/208v. Converting from 230 volt unit to a 208 volt line is done by a simple connection inside outlet box. Unit is for air conditioners using 1 to 2 hp motors.

Stock No.	Type No.	Size	Mtg. Ctrs.	Mtg. Type	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
IF922	PSU-3000	4x4½x6	2½x3¾	PSU	10	33.43	30.09	28.42	26.74	.....	.....

STRAIGHT ISOLATION TRANSFORMERS

Heavy duty. Maintain rated wattage. Good pri-sec. isolation: Switched 105-115-125V., 50/60 cy., pri. taps; std. AC recptcl. 115-V sec. P-6415: test TV and radio recvrs.; 105,115,125V output recptcl., 117V. 60 cyc. pri.

Stk. No.	Type	Watts	Fig.	Size	Lbs.	Each. Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
IF923	P-6161	250	KA	4 11/16x5½x3¾"	14.2	30.34	27.31	25.79	24.27	14.88	13.54
IF924	P-6125	1000	....	7⅛x7¾x5⅝"	35	125.77	113.19	106.90	100.62	.....	.....
IF315	P-6160	100	KA	4 11/16x3¾x3¾"	7	27.71	24.94	23.55	22.17	10.63	9.67
IF316	P-6415	350	KC	5⅜x4½x5¾"	17	38.20	34.38	32.47	30.56	....	....
IF317	P-6410	50	....	3 9/16x2 13/16x3⅛"	4	11.61	10.45	9.87	9.29	5.25	4.78
IF319	P-6298	500	KA	7⅝x6⅛x7⅝"	28.0	92.68	83.41	78.78	74.14	.....	....
IF404	P-6371	175	TE	5⅝x4 9/16x5¼"	9	36.80	33.12	31.28	29.44	.....	....
IF043	P-6411	15	....	1⅞x3¼x2"	1.0	4.82	4.34	4.10	3.86	2.30	2.09

POWER TRANSFORMERS WITH SPECIAL OR COMBINATION FILAMENT WINDINGS

Stock No.	Mfr's Type	Plate Supply A.C. Volts	D.C.	Rect. Fil. Volts	Amps	Other Volts	Wdgs. Amps	Mtg. Ctrs.	Fig.	Wt. Lbs.	Each, Boxed 1-9	10-49	25-49	50-99	Bulk Packed 100-249	250-499
IF067	P-8174	250-0-250	20	....	....	6.3/6	6/1.2	2 13/16	C1	1½	9.09	8.18	7.73	7.27	....	....
IF055	P-6011	350-0-350	70	5.0CT	3.0	6.3CT	2.5	2⅞x3⅜	M	3.5	12.85	11.57	10.92	10.28	....	....
IF058	P-6014	375-0-375	150	5.0CT	3.0	6.3CT	5.0	3⅛x3¾	M	6	18.65	16.79	15.85	14.92	....	....
IF076	P-6315	370-0-370	275	5.0CT	3.0	6.3	7.0	3x3¾	M	9.5	27.29	24.56	23.20	21.83	....	....
IF815	P-8359	190/160-0				6.3CT	0.6									
		160/190	70	....	....	6.3CT	3.0	2x1⅞	C	2.8	12.08	10.87	10.27	9.66	5.40	4.91

SILICON OR SELENIUM RECTIFIER TRANSFORMERS

Stock No.	Mfr's Type	Rect. Circ.	Out. Resis. Induc. Load Max. DC V	Amps	Out Capacitative Load Max. DC V	Amps	Shpg. Wt. Lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F378	RT-201	CT	11.2	2.0	13.8	2.0	2.5						
		Bridge	23.0	1.25	30.0	1.25	2.5	9.74	8.77	8.28	7.79	4.38	3.99
1F379	RT-202	CT	11.1	4.0	14.7	4.0	3.8						
		Bridge	24.3	2.0	33.0	2.0	3.8	12.31	11.08	10.46	9.85	4.99	4.54
1F380	RT-204	CT	12.0	8.0	14.5	8.0	6.1						
		Bridge	24.0	4.0	32.4	4.0	6.1	16.51	14.86	14.03	13.21	6.45	5.87
1F381	RT-206	CT	11.5	12.0	14.4	12.0	9.1						
		Bridge	24.0	6.0	32.0	6.0	9.1	21.49	19.34	18.27	17.19	9.31	8.47
1F382	RT-208	CT	11.4	15.0	14.8	15.0	12.6						
		Bridge	23.7	8.0	32.5	8.0	12.6	30.97	27.87	26.32	24.78	11.63	10.58
1F383	RT-2012	CT	11.4	22.5	14.3	22.5	20.5						
		Bridge	23.5	12.0	33.0	12.0	20.5	45.89	41.30	39.01	36.71	20.25	18.43
1F384	RT-408	Bridge	44.0	8.0	63.0	8.0	26.5	70.69	63.62	60.09	56.55	33.75	30.71

PCF SERIES POWER CIRCUIT TRANSFORMERS

Stock No.	Type No.	Pri. Volts	Sec. Volts	Sec. Amps	V-A Cap	Wt.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F886	PCF-2025	230	115	.25	25	2	9.54	8.59	8.11	7.63	4.24	3.86

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TRANSISTOR INTERSTAGE TYPES

Stock No.	Mfr's. Type	Imp. in Ohms Pri.	Imp. in Ohms Sec.	Max. Pri. Ma. DC	Power Watts	Mtg. Ctrs.	Fig.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F428	TA-2	100CT	10CT	100	.25	1 13/16	A	3.59	3.23	3.05	2.87	1.56	1.42
1F429	TA-3	100	1000CT	100	.25	2	A	2.99	2.69	2.54	2.39	1.61	1.47
1F430	TA-4	500CT	5000CT	12	.03	2	A	4.66	4.19	3.96	3.73	2.20	2.00
1F672	TA-19	100CT	10CT	.....	.15	2 5/32	A-1	5.95	5.36	5.06	4.76	2.51	2.28
1F674	TA-24	500CT	50000	.....	.15	2 5/32	A-1	5.32	4.79	4.52	4.26	2.49	2.27
1F676	TA-28	1500	500CT	.....	.15	2 5/32	A-1	5.86	5.27	4.98	4.69	2.33	2.12
1F677	TA-30	5000CT	7500CT	.....	.15	2 5/32	A-1	5.60	5.04	4.76	4.48	2.34	2.13
1F678	TA-31	5000CT	10000CT	.....	.15	2 5/32	A-1	5.86	5.27	4.98	4.69	2.33	2.12
1F679	TA-32	5000CT	80000CT	.....	.15	2 5/32	A-1	6.10	5.49	5.19	4.88	2.63	2.39
1F680	TA-34	10000	200CT	.....	.15	2 5/32	A-1	5.65	5.09	4.80	4.52	2.63	2.39
1F681	TA-35	10000	2000CT	.....	.15	2 5/32	A-1	4.84	4.36	4.11	3.87	2.34	2.13
1F682	TA-36	10000	3000CT	.....	.15	2 5/32	A-1	5.32	4.79	4.52	4.26	2.00	1.82
1F683	TA-38	500CT	150CT	.....	.15	2 5/32	A-1	4.92	4.43	4.18	3.94	2.38	2.17
1F684	TA-46	100000	1500CT	.....	.30	1 3/8	A	5.86	5.27	4.98	4.69	2.24	2.04

TRANSISTOR DRIVER TYPES

* Tri-Filar Wound
1:1:1 Imp Ratio - 50 ohms per winding

Stock No.	Mfr's Type	Imp. in Ohms Pri.	Imp. in Ohms Sec.	Max. Pri. Ma. DC	Power Watts	Mtg. Ctrs.	Fig.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F433	TA-7	100	100CT	100	.5	2 3/8	A	3.82	3.44	3.25	3.06	1.65	1.50
1F443	TA-16	20	36CT	400	1.0	1 3/4	A	3.37	3.03	2.86	2.70	1.63	1.48
1F821	TA-59	500CT	200CT	50	.5	1 3/4	A	4.10	3.69	3.49	3.28	1.66	1.51
1F822	TA-61*	.....	.....	.....	.....	2	S	4.21	3.79	3.58	3.37	2.00	1.82

TRANSISTOR OUTPUT TYPES

Stock No.	Mfr's. Type	Imp. in Ohms Pri.	Imp. in Ohms Sec.	Max. Pri. Ma. DC	Power Watts	Mfg. Ctrs.	Fig.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F437	TA-10	2000CT	16/8/4	.....	.2	1 3/8	A	7.27	6.54	6.18	5.82	....	3.33
1F440	TA-12	20CT	8	500	10	2	A	3.59	3.23	3.05	2.87	1.69	1.54
1F686	TA-21	500CT	4/8/16	.....	.15	2 5/32	A-1	5.60	5.04	4.76	4.48	2.44	2.22
1F689	TA-26	1250	4/12	.....	.15	2 5/32	A-1	5.86	5.27	4.98	4.69	2.31	2.10
1F691	TA-33	10000CT	4/8/16	.....	.15	2 5/32	A-1	5.90	5.31	5.02	4.72	2.38	2.17
1F693	TA-39	100CT	4/8/16	.....	.30	1 3/8	A	5.05	4.55	4.29	4.04	2.48	2.26
1F696	TA-42	500CT	4/8/16	.....	.30	1 3/8	A	5.45	4.91	4.63	4.36	2.31	2.10
1F697	TA-43	700CT	4/8/16	.....	.30	1 3/8	A	6.10	5.49	5.19	4.88	2.51	2.28
1F824	TA-62	25	4	400	4	2 3/8	A	3.22	2.90	2.74	2.58	1.66	1.51

UNIVERSAL TYPE TRANSISTOR POWER TRANSFORMERS— PRIMARY 117 VOLT 60 Hz

*Tapped primary to obtain lower secondary voltages.

Stk. No.	Mfr's Type	OUTPUT 1 VAC	OUTPUT 1 DCMa	OUTPUT 2 VAC	OUTPUT 2 DCMa	Base Area	Fig.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F441	TP-1	13 or 18	900	13 or 18	900	3x2 1/2	C	8.54	7.69	7.26	6.83	3.60	3.30
1F825	TP-2*	10/20CT/40CT	100	.....	.....	2 13/16 x 1 5/8	A	5.50	4.95	4.68	4.40	2.38	2.17
1F826	TP-3*	10/20CT/40CT	300	.....	.....	3 3/4 x 2	A	7.36	6.62	6.26	5.89	3.44	3.13
1F827	TP-4*	10/20CT/40CT	1000	.....	.....	2 5/8 x 3	C	12.34	11.11	10.49	9.87	5.31	4.83

TRANSISTOR POWER TRANSFORMERS —PRIMARY 117 VOLT 60 Hz

Stk. No.	Type	Secondary #1		Secondary #2		Fig.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F046	P-8197	50CT	1.0	.....	.....	C	7.81	7.03	6.64	6.25	4.08	3.71
1F828	P-8196	80CT	1.2DC	.....	.....	C	11.41	10.27	9.70	9.13	5.85	5.32
1F047	P-8198	54CT	0.5	6.3	0.5	C	7.24	6.52	6.15	5.79	3.78	3.44

UNIVERSAL OUTPUT TRANSFORMERS

Match any voice coil to rated primary ohms.

Stk. No.	Type	Pri. Ohms	Watts	Fig.	Ctrs.	Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F250	A-3856	4000 to 14,000	4	Q	2"	1/2	4.54	4.09	3.86	3.63	1.83	1.67
1F252	A-3850	4000 to 14,000	8	J	2"	3/4	5.00	4.50	4.25	4.00	2.63	2.39

FIG J. TUBE TO LINE

A-3841 Secondaries, 500 ohms; A-3250 500/333/200/125/50 ohms. A-3841 10W., 1.5 lbs., A-3250, 5W., 1lb.

Stk. No.	Type	Use	Primary	Size	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F296	A-3250	Sgl/PP P1	20000/10000/5000	2x3 1/4 x 1 3/4	6.39	5.75	5.43	5.11	2.88	2.62

SILICON RECTIFIER POWER TRANSFORMERS — WT. 7 LBS.

Stock No.	Type No.	Sec. No. 1 V	Sec. No. 1 DCMA	Sec. No. 2 V	Sec. No. 2 Amps	Sec. No. 3 V	Sec. No. 3 Amps	Mfg. Ctrs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packaged 100-249	Bulk Packaged 250-499
1F809	RP-600	300CT	600	6.3	2.5	6.3	2.5	2 3/4 x 3 1/16	23.15	20.84	19.68	18.52	. . .	. . .
1F810	RP-800	200CT	800	6.3	2.0	6.3	2.0	2 3/4 x 2 13/16	20.08	18.07	17.07	16.06	9.20	8.37
1F811	RP-1600	100CT	1600	6.3	1.5	6.3	1.5	2 3/4 x 2 11/16	18.86	16.97	16.03	15.09	8.64	7.86
1F812	RP-2000	80CT	2000	6.3	1.5	6.3	1.5	2 3/4 x 2 13/16	18.13	16.32	15.41	14.50	8.99	8.18
1F813	RP-2500	60CT	2500	6.3	1.5	6.3	1.5	2 3/4 x 2 11/16	20.17	18.15	17.14	16.14	9.44	8.59

MICROPHONE OR LINE TO LINE TRANSFORMERS

Sec. 500/333/200/125/50. Size: 3 1/4 x 1 3/4 x 2" high. Mtg. Ctrs. 2 13/16"

Stk. No.	Type	Primary	Watts	Fig.	Wt.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F763	A-4350	500/333/200/125/50	10	Q	1.0	6.86	6.17	5.83	5.49	2.83	2.58

INTERCOM TRANSFORMERS

Stk. No.	Type	Use.	Pri. Imp.	Sec. Imp.	Fig.	Ht.	Wt. (lb.)	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F311	A-4744	Input	4Ω	25KΩ	VE	1 3/8"	0.5	3.70	3.33	3.15	2.96	1.71	1.56
1F399	A-4748	Input	45 or 50Ω	50KΩ	A	1 3/16"	0.4	4.89	4.40	4.16	3.91	.....	.....

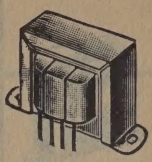


Fig. A

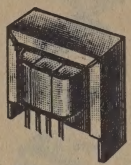


Fig. A-1

Fig. C

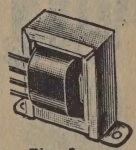


Fig. S

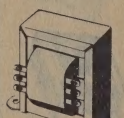


Fig. J

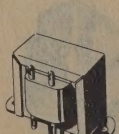
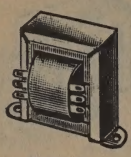
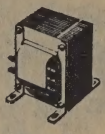


Fig. Q



Type A



Type B

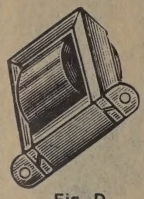


Fig. D.

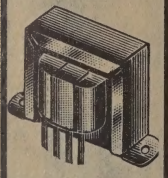


Fig. E

TC-2

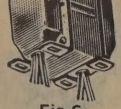


Fig.C
PC Types

CONTROL TRANSFORMERS

Typical applications: Automatic assembly equipment, relays, solenoids, small motors, speed changers, control valves for fluids and gases, fans and blowers, electronic tubes, lighting signal lamps, etc.

Stk. No.	Mfr's. Type	Primary	Secondary Parallel	Secondary Series	VA Rat.	Mfg. Type	Shpg. Wt.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F197	P-6375	115V/230 V 50/60 CPS on all	6V @ 2A	12V @ 1A	12	A	1.0	5.57	5.01	4.73	4.46	2.19	1.99
1F818	P-6376		6V @ 4A	12V @ 2A	24	A	1.5	6.54	5.89	5.56	5.23	3.31	3.01
1F819	P-6377		12V @ 4A	24V @ 2A	48	A	2.5	7.76	6.98	6.60	6.21	3.31	3.01
1F820	P-6378		12V @ 8A	24V @ 4A	96	B	4.2	12.68	11.41	10.78	10.14	5.44	4.95
1F198	P-6379		12V @ 16A	24V @ 8A	192	B	8.0	22.32	20.09	18.97	17.86	8.56	7.79

LOW CURRENT CONTROL TRANSFORMERS

Versatile series of low current control transformers suited for pilot lamps, miniature relays, low current-low voltage power supply application. Primaries 117 volt, 50-60 hz. Three isolated 12-volt secondaries (one with a center tap). Can be series or parallel connected.

Stock No.	Type	Amperes Ea. Sec.	Size H x W x D	Fig.	Wt.	Each Boxed 1-5	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F146	P-8361	.10	1¾x2 1½"	D	.36	5.15	4.64	4.38	4.12	2.11	1.92
1F147	P-8362	.15	2 x2⅜x1¾"	D	.60	4.09	3.68	3.48	3.27	2.50	2.27
1F148	P-8363	.25	2⅜x2⅞x1¾"	D	.85	5.82	5.24	4.95	4.66	2.18	1.98
1F149	P-8364	.50	2⅜x2⅞x2⅛"	D	1.25	6.77	6.09	5.75	5.42	2.85	2.60

MINIATURIZED CONTROL TRANSFORMERS

Primary: 117 volts, 60 hz. Wire lead term. Types P-8390 to 93 have 12 V secondaries. Types P-8394 to 97 have 24 V C.T.

Stock No.	Type	Amperes Ea. Sec.	H x W x D Size	Fig.	Wt.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F950	P-8390	.150	1¼x2⅛x1¼	E	.25	3.44	3.10	2.92	2.75	1.36	1.24
1F951	P-8391	.350	1 ⅜x2⅜x1⅜	E	.35	3.57	3.21	3.03	2.86	1.31	1.19
1F952	P-8392	.700	1⅝x2⅞x1½	E	.60	3.67	3.30	3.12	2.94	1.44	1.31
1F953	P-8393	1.200	2x3¼x1⅝	E	.85	4.49	4.04	3.82	3.59	1.94	1.77
1F954	P-8394	.085	1¼x2⅛x1¼	E	.25	3.80	3.42	3.23	3.04	1.31	1.19
1F955	P-8395	.200	1⅜x2⅜x1⅜	E	.35	3.92	3.53	3.33	3.14	1.41	1.28
1F956	P-8396	.400	1⅝x2⅞x1½	E	.60	4.17	3.75	3.54	3.34	1.69	1.54
1F957	P-8397	.700	1⅞⅝x3¼x2	E	.85	4.27	3.84	3.63	3.42	1.81	1.65
Primary: 117 volts, 60 hz. Wire lead term. 28 volts C.T secondaries.											
1F958	P-8600	.085	1¼x2⅛x1¼	E	.25	3.38	3.04	2.87	2.70	1.76	1.60
1F959	P-8601	.175	1⅜x2⅜x1⅜	E	.35	3.67	3.30	3.12	2.94	1.91	1.74
1F961	P-8603	.800	1⅝x3¼x2	E	1.0	4.35	4.10	3.87	3.64	2.38	2.17
Primary: 117 volts, 60 hz. Wire lead term. 36 volts C.T. secondaries.											
1F962	P-8610	.065	1¼x2⅛x1¼	E	.25	3.47	3.12	2.95	2.78	1.81	1.65
1F963	P-8611	.135	1⅜x2⅜x2	E	.35	3.30	2.97	2.81	2.64	1.73	1.57
1F964	P-8612	.300	1½x2⅞x1⅝	E	.60	3.67	3.30	3.12	2.94	1.91	1.74
1F965	P-8613	.550	1⅝x3¼x2	E	1.0	4.59	4.13	3.90	3.67	2.39	2.18

AUTO RADIO TRANSISTOR FILTER CHOKE

Similar to Fig. A-1, but with 4 vert. mtg. tabs.

Stock No.	Mfg. Type	Inductance @ DCMA	DC Res. In Ohms	RMS V Insulation	Mtg. Ctrs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Pack 100-249	250-499
1F721	TC-2	11mhy @ 1000 ma	.75	1000	1¼x7/16	2.32	2.09	1.97	1.86	1.00	.91

"8400" SERIES POWER TRANSFORMERS

All units have low temp. rise, well within limits set by EIA. PM types are Fig. M. PC types are Fig. C. PS types are Fig. S. PA types are Fig. A. Provide 260 VDC to condenser input filter.

Stock No.	Mfr's. Type	Plate V.	CT Ma.	Rect. V.	Rect. A.	Fil. V. CT	Fil. A.	Mtg. Ctrs.	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F004	PC-8403	500	70	5.0	2.0	6.3CT	2.5	2 x2 1/16	3¼	10.31	9.28	8.76	8.25	4.31	3.92
1F006	PC-8404	520	90	5.0	2.0	6.3CT	3.0	2¼x2¼	4	11.24	10.12	9.55	8.99	4.88	4.44
1F008	PC-8405	540	120	5.0	3.0	6.3CT	3.5	2½x2 3/16	5	12.46	11.21	10.59	9.97	6.06	5.52
Designed for use with choke input filter. VR tube regulated supply, speaker field in filter, or higher voltage with condenser input filter. Has two 6.3 V @ 3.0 A Wdgs.															
1F018	PC-8410	720	120	5.0	3.0	6.3CT	3.5	2½x2 7/16	5½	15.41	13.87	13.10	12.33	6.13	5.58
1F020	PC-8411	750	150	5.0	3.0	6.3CT	4.5	2¾x2 13/16	5¾	17.38	15.64	14.77	13.90	8.25	7.51
1F022	PC-8412	800	200	5.0	3.0	6.3CT	5.0	3 x2 13/16	8¼	19.03	17.13	16.18	15.22	8.88	8.08
1F024	PC-8413	800	250	5.0	4.0	6.3CT	5.0	3 x3 5/16	10	23.50	21.15	19.98	18.80	.....	.....
1F025	PC-8414†	1200	200	5.0	3.0	6.3CT	3.0	3 x3 1/16	8¼	22.88	20.59	19.45	18.30	11.19	10.18
1F764	PC-8422	650	150	5.0	3.0	6.3CT	5.0	2½x2 9/16	5.8	15.28	13.75	12.99	12.22	7.60	6.92
For use with 6AX5, 6X4, or selenium rectifiers. *Half wave.															
1F026	PS-8415	125*	15	. . .	. .	6.3	0.6	2	¾	3.64	3.28	3.09	2.91	1.73	1.57
1F027	PS-8416	250	25	. . .	. .	6.3	1.0	2⅜	1	4.66	4.19	3.96	3.73	2.00	1.82
1F035	PA-8421	125*	50	. . .	. .	6.3	2.0	3⅛	1½	5.69	5.12	4.84	4.55	2.54	2.31
1F028	PC-8417	440	50	. . .	. .	25.2	0.5	2 x1 9/16	2¼	9.82	8.84	8.35	7.86	4.56	4.15
1F029	PC-8418	460	50	. . .	. .	6.3	2.5	2 x1 9/16	2¼	7.61	6.85	6.47	6.09	3.31	301
1F030	PM-8418	460	50	. . .	. .	6.3	2.5	2 x2½	2¼	7.34	6.61	6.24	5.87	3.38	3.08
1F031	PC-8419	480	70	. . .	. .	6.3	3.0	2 x1 13/16	2½	8.94	8.05	7.60	7.15	3.88	3.53
1F032	PM-8419	480	70	. . .	. .	6.3	3.0	2 x2½	2½	9.21	8.29	7.83	7.37	3.75	3.41
1F033	PC-8420	520	90	. . .	. .	6.3	4.0	2 x2¼	3½	10.24	9.22	8.70	8.19	4.25	3.87
1F765	PM-8420	520	90	. . .	. .	6.3	4.0	2¼x2 13/16	3½	10.97	9.87	9.32	8.78	4.50	4.10

Chicago-Stancor Filters & Chokes ESSEX

STANCOR

HIGH CURRENT FILTER CHOKES

Inductance values rated at 1 volt RMS, 60 Hz. May be used with rectifier Power Transformers.

Stock No.	Type No.	mHys	DC Amps	DC Ohms	Insul Test V.RMS	Mtg. Ctrs.	Fig.	Lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F894	C-2686	25	4.0	.425	1500	2 3/16 x 2 1/8"	NH	3.4	10.04	9.04	8.53	8.03	5.10	4.64
1F049	C-2687	10	8.0	.15	1500	3 1/8 x 2 1/2"	NH	5.3	11.09	9.98	9.43	8.87	6.15	5.60
1F895	C-2688	10	12.5	.11	1500	3 7/16 x 2 3/8"	NH	5.9	13.06	11.75	11.10	10.45	6.40	5.82
1F991	C-2691	80 or 20	2.5 or 5.0	.60 or .15	1500	2 1/2 x 3"	NV	7.0	14.48	13.03	12.31	11.58	8.00	7.28
1F992	C-2692	24 or 6	20 or 40	.12 or .029	1500	3 1/2 x 4 1/2"	NV	21.2	50.46	45.41	42.89	40.37	28.64	26.06

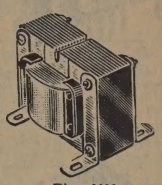


Fig. NH

SMOOTHING CHOKES

Stk.No.	Type	Hys.	mA.	Ohms	Size	Fig.	Lbs.	1-9	10-24	25-49	50-99	100-249	250-499
1F896	C-2708	0.32	600	10	1 11/16 x 3 5/16 x 2"	A	1.3	4.00	3.60	3.40	3.20	2.14	1.95
1F897	C-2343	0.75	300	32	1 5/8 x 2 7/8 x 1 1/2"	A	0.7	3.15	2.84	2.68	2.52	1.11	1.01
1F176	C-2328	0.8	375	25	2 1/4 x 3 3/4 x 2"	A	1.5	5.50	4.95	4.68	4.40	2.41	2.19
1F510	C-2326	1.0	300	43	2 1/4 x 3 3/4 x 2 1/4"	A	1.7	4.55	4.10	3.87	3.64	2.04	1.86
1F533	C-2327	1.5	200	85	1 5/8 x 2 7/8 x 1 1/2"	A	0.7	3.22	2.90	2.74	2.58	1.31	1.19
1F165	C-2304	2.3	150	60	2 x 3 1/4 x 1 3/4"	A	1.0	4.43	3.99	3.77	3.54	1.55	1.41
1F164	C-2303	2.5	130	100	2 x 3 1/4 x 1 3/4"	A	1.0	4.07	3.66	3.46	3.26	1.54	1.40
1F177	C-2334	2.8	300	60	2 5/8 x 2 1/4 x 4"	A	2.5	7.47	6.72	6.35	5.98	2.56	2.33
1F167	C-2309	3	150	90	2 1/4 x 3 3/4 x 2 1/4"	A	1.7	3.85	3.47	3.27	3.08	1.83	1.67
1F173	C-1412	4.0	250	60	3 x 3 1/2 x 3 5/8"	C	4.3	11.24	10.12	9.55	8.99	4.75	4.32
1F157	C-1707	7	50	550	1 3/8 x 2 3/8 x 1 3/8"	A	0.5	3.30	2.97	2.81	2.64	1.09	.99
1F160	C-1710	7	150	200	2 5/8 x 4 x 2 1/4"	A	2.2	5.65	5.09	4.80	4.52	2.69	2.45
1F338	C-1414	7.5	400	60	4 3/4 x 4 x 5 1/8"	C	11.8	30.46	27.41	25.89	24.37	....	....
1F169	C-1355	8.0	75	290	2 5/16 x 1 3/4 x 2 1/16"	...	1.0	4.19	3.77	3.56	3.35	1.75	1.59
1F159	C-1709	8	85	250	2 x 3 1/4 x 2"	A	1.4	3.42	3.08	2.91	2.74	1.69	1.54
1F901	C-1722	8.0	300	80	4 5/8 x 3 3/4 x 3 1/2"	NV	7.3	14.50	13.05	12.33	11.60	7.19	6.54
1F163	C-1001	10.5	110	225	2 5/8 x 3 5/8 x 2 1/4"	A	2.3	5.04	4.54	4.28	4.03	2.60	2.37
1F162	C-1002	15	75	400	2 1/4 x 3 3/4 x 2 1/4"	A	1.7	3.92	3.53	3.33	3.14	2.00	1.82
1F902	C-1003	16.0	50	580	2 x 3 1/4 x 1 3/4"	A	1.0	3.98	3.58	3.38	3.18	1.54	1.40
1F178	C-1515	20.0	15	900	1 5/8 x 2 7/8 x 1 1/2"	A	0.7	3.67	3.30	3.12	2.94	1.55	1.41
1F903	C-1345	350	5	5600	2 x 3 1/4 x 1 3/4"	A	1.0	4.89	4.40	4.16	3.91	2.25	2.05

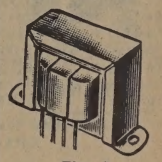


Fig. A

HIGH FIDELITY OUTPUT TRANSFORMER

Frequency response ±1 db 20 to 20,000 Hz.

Stock No.	Type No.	Pri. Imp. in Ohms	Sec. Imp. Ohmas	Audio Watts	Mtg. Ctrs.	Fig.	Wt.	Each, Boxed 1-9	10-24	25-49	50-99
1F904	A-8053	5000CT	16/8	50	2 3/4 x 3 1/16	C	6.5	19.70	17.73	16.75	15.76
1F907	A-8072	7600CT	16/8/4	25	2 3/4 x 3 1/16	C	6.5	29.45	26.51	25.03	23.56

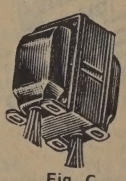


Fig. C

SINGLE PLATE TO VOICE COIL TRANSFORMERS

Stock No.	Type No.	Imp. - Ohms Pri.	Sec.	DC Ma.	Audio Watts	Mfg. Type	Mtg. Ctrs.	Shpg. Wt.	Each, Boxed 1-9	10-24	25-49	50-99
1F268	A-3879	10,000	4	30	5	A	2	0.4	2.72	2.45	2.31	2.18
1F910	A-3327	25,000	4	5	5	A	2	0.4	2.74	2.47	2.33	2.19

PUSH-PULL PLATES TO VOICE COIL

Stk. No.	Type	Fig.	Impedance - Ohms Primary	Secondary	Watts	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F912	A-3800	C	5,000 CT	500/250/15/8/4	30	10.34	9.31	8.79	8.27	4.81	4.38
1F913	A-3304	C	10,000 7,000 CT	500/15/8/4	25	10.24	9.22	8.70	8.19	4.25	3.87

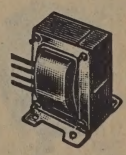


Fig. NV

LINE TO VOICE COIL

Stk. No.	Type	Fig.	Impedance - Ohms Primary	Sec.	Watts	Size	Lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F366	A-8101	Q	500	6-8/3.2	5	2 3/8 x 1 3/8 x 1 3/8"	1/2	2.90	2.61	2.47	2.32	1.08	.98
1F369	A-3818	J	1,500/1,000/500	15/8/4	25	3 5/8 x 2 1/4 x 3 1/8"	2 1/2	6.76	6.08	5.75	5.41	2.98	2.71
1F370	A-8104	J	3,000/2,000/1,500/ 1,000/500	16/8/4	10	2 15/16 x 1 3/4 x 2 5/16"	1 1/2	5.77	5.19	4.90	4.62	2.08	1.89
1F280	A-7947	Q	2,000, 1,500, 1,000, 500	6-8/3.2	8	1 5/8 x 2 13/16 x 1 9/16"	3/4	4.59	4.13	3.90	3.67	1.71	1.56

25 VOLT LINE TO VOICE COIL TRANSFORMERS

Stk. No.	Type	Pri. Imp.	Sec. Imp.	Watts	Mtg. Ctrs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F389	A-8095	125/250/500/ 1000/2000	8/4	5/2.5/1.25/ .62/.31	2"	4.40	3.96	3.74	3.52	1.58	1.44
1F390	A-8096	78/156/312 625/1250	16/8/4	8/4/2/11 0.5	2"	6.09	5.48	5.18	4.87	1.81	1.65

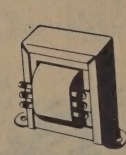


Fig. J

70.7 VOLT TO VOICE COIL TRANSFORMERS

Stock No.	Type No.	Power Steps in Watts	Impedance in Ohms Pri.	Sec.	Mtg. Type	Mtg. Ctrs.	Shpg. Wt.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-500
1F373	A-8102	8/4/2/1/0.5	625/1,250/2,500/ 5,000/10,000	16/8/ 4	J	2	0.7	4.55	4.10	3.87	3.64	1.85	1.68
1F126	A-8105	5/2.5/1.25/ .62131	1000/2000/4000/ 8000/16,000	8/4	Q	2	0.4	4.64	4.18	3.94	3.72	1.66	1.51
1F344	A-8084	4/2/1/.5/.25/ .12	1250/2500/5000/ 10000/20000/40000	8	A	2 3/8	.07	4.02	3.62	3.42	3.22	1.75	1.59
1F972	A-8076	20/10/5/2.5/	.....	4/8/16	S	2 3/8	1.0	9.61	8.65	8.17	7.69	5.01	4.56
1F973	A-8077	24/12/6/3/1.5	.....	4/8/16	S	2 3/8	1.5	6.16	5.54	5.24	4.93	3.21	2.92
1F974	A-8078	30/20/10/5	.....	4/8/16	S	2 3/8	1.0	6.74	6.07	5.73	5.39	3.51	3.19
1F975	A-8079	30/40/25/15	.....	4/8/16	S	2 3/8	1.4	6.52	5.87	5.54	5.22	3.40	3.09

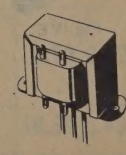


Fig. Q

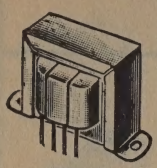


Fig. A

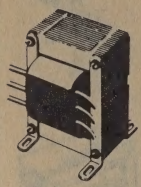


Fig. NV

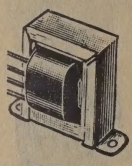


Fig. S

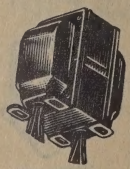


Fig. C

Fig. VE

FILAMENT TRANSFORMERS

All have 117V, or 117/107V primaries except + which has 6.3 volt primary; * electrostatic shield.

Stk. No.	Type	Secondary Volts	Secondary Amps	Size	Fig.	Wt. Lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F093	P-4026	2.5	1.5	2 7/8x1 1/2x1 5/8"	A	3/4	4.52	4.07	3.84	3.62	1.88	1.71
1F100	P-6133*	2.5 CT	5	2 11/16x3 3/16x2 1/4"	S	1 1/2	6.64	5.98	5.64	5.31	2.66	2.42
1F101	P-3024*	2.5 CT	10	3 3/16x2 5/8x2 5/8"	C	2 1/2	7.85	7.07	6.67	6.28	3.35	3.05
1F102	P-3060	2.5 CT	10	3 1/2x2 7/8x2 1/2"	NV	2 1/2	9.36	8.42	7.96	7.49	4.16	3.79
1F333	P-6454	2.5 CT	10.0	3 5/8x2 1/2x3 1/8"	S	2 1/2	7.17	6.45	6.09	5.74	2.80	2.55
1F095	P-6467	5.0 CT	3.0	3 3/16x2x2"	A	1 1/2	5.09	4.58	4.33	4.07	2.15	1.96
1F336	P-3026	5.0 CT	3.0	2 5/8x2 5/8x2 5/8"	C	2 1/4	7.14	6.43	6.07	5.71	3.74	3.40
1F334	P-6455	5.0 CT	6.0	3 3/16x2 1/4x2 5/8"	S	2	6.32	5.69	5.37	5.06	3.09	2.81
1F104	P-6135	5.0 CT	10	3 1/8x2 1/2x2 7/8"	NV	3	8.36	7.52	7.11	6.69	3.75	3.41
1F097	P-6468*	5.0 CT	30.0	3 9/16x3 7/8x4 3/16"	C	4 1/8	19.42	17.48	16.51	15.54	9.63	8.76
1F376	P-6492	5.0 CT	30.0	4 3/4x3 3/4x3 7/8"	C	7 1/2	17.85	16.07	15.17	14.28	....	....
1F375	P-6465	6.3 CT	0.6	1 3/8x2 3/8x1 3/8"	A	4/4	3.10	2.79	2.64	2.48	1.39	1.26
1F539	P-8190	6.3	1.2	2x3 1/4x1 3/4"	A	1	4.75	4.28	4.04	3.80	2.19	1.99
1F540	P-8191+	6.3	1.2	2x3 1/4x1 3/4"	A	1	5.09	4.58	4.33	4.07	1.98	1.80
1F105	P-6134	6.3 CT	1.2	1 5/8x2 3/4x1 3/4"	A	1	3.14	2.83	2.67	2.51	1.49	1.36
1F138	P-6462	6.3	3.0	3 5/8x2 5/8x3"	S	2	7.64	6.88	6.49	6.11	3.93	3.58
1F106	P-5014*	6.3 CT	3	3 1/8x2 1/2x2 1/2"	NV	2	7.22	6.50	6.14	5.78	3.16	2.88
1F123	P-6466	6.3 CT	3	2x3 5/16x2"	A	1 1/2	4.67	4.20	3.97	3.74	2.18	1.98
1F098	P-4019*	6.3 CT	4.0	2 5/8x3 3/16x2 5/8"	C	2 3/4	8.56	7.70	7.28	6.84	3.50	3.19
1F107	P-3064*	6.3 CT	6	3 1/8x2 1/2x2 7/8"	NV	2 1/2	8.59	7.73	7.30	6.87	3.04	2.77
1F139	P-6456	6.3 CT	6.0	2 1/4x3 5/8x2 1/2"		2	7.31	6.58	6.21	5.85	2.68	2.44
1F108	P-6308*	6.3 CT	10	3 1/2x2 7/8x2 7/8"	NV	3 1/2	12.04	10.84	10.23	9.63	4.63	4.21
1F109	P-6309*	6.3 CT	20	4 5/8x3 3/4x3"	NV	7	13.83	12.45	11.76	11.06	6.88	6.26
1F110	P-5015*	7.5 CT	4	3 1/8x2 1/2x2 7/8"	NV	3	9.79	8.81	8.32	7.83	3.25	2.96
1F337	P-6138*	7.5 CT	8.0	3 1/8x2 7/8x3 7/8"	NV	4 7/8 Ω	11.26	10.13	9.57	9.01	5.25	4.78
1F048	P-8380	10.0 CT	3.0	2 1/4x3 3/4x2 3/8"	A	1.6	5.84	5.26	4.96	4.67	3.04	2.77
1F112	P-5016*	10.0 CT	4	3 1/2x2 7/8x2 5/8"	NV	3 1/2	9.97	8.97	8.47	7.98	4.21	3.83
1F141	P-6458*	10.0 CT	5.0	3 1/16x2 1/2x2 7/8"	NV	3	9.16	8.24	7.79	7.33	3.23	2.94
1F119	P-6139*	10.0 CT	8.0	3 7/8x3 1/8x3 1/8"	NV	5	10.76	9.68	9.15	8.61	5.19	4.72
1F142	P-6461	10.0 CT	10.0	3 7/8x3 1/4x3 5/8"	NV	5	13.98	12.58	11.88	11.18	7.09	6.45
1F120	P-8130	12.6 CT	2.0	2x3 1/4x2"	C	1 1/2	4.84	4.36	4.11	3.87	2.38	2.17
1F944	P-8180	25.2 CT	1.0	2 1/8x3 1/4x2"	A	1.4	4.17	3.75	3.54	3.34	2.28	2.07
1F882	P-8358	12.6 CT	3.0	3 5/8x2 1/8x2 1/4"	A	2	5.32	4.79	4.52	4.26	2.83	2.58
1F116	P-6469	25.2	1.0	2x3 1/4x2"	A	1 1/2	4.27	3.84	3.63	3.42	2.18	1.98
1F883	P-8357	25.2 CT	2.0	4x2x2 5/8"	A	2 1/4	6.56	5.90	5.58	5.25	3.64	3.31
1F945	P-8388	25.2 CT	2.8	2 1/4x4x2 5/8"	A	2.2	8.02	7.22	6.82	6.42	3.59	3.27
1F946	P-8389	6.3	1.0	1 1/2x2 7/8x2 3/8"	A	0.6	3.14	2.83	2.67	2.51	1.41	1.28
1F967	P-8609	26.8 CT	1.0	2 1/8x3 1/4x2 13/16"	A	1.3	4.13	3.72	3.51	3.30	2.16	1.97
1F968	P-8606	26V CT	.....	1 3/8x2 1/8x1 3/4"	A	.25	6.67	6.00	5.67	5.34	3.48	3.17
1F969	P-8607	26V CT	.25	1 3/4x2 7/8x2 3/8"	A	.70	6.67	6.00	5.67	5.34	3.48	3.17
1F970	P-8605	48V CT	1.1	2 3/8x4x3 9/16"	A	2.3	8.62	7.76	7.33	6.90	..	..

FILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY

Stk. No.	Type	Secondary Volts	Secondary Amps	RMSV Insul.	Pri. V.	Fig.	Ht.	Base Area	Wt. Lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F884	P-6430	6.3 CT	3.0	2500	117	C	3 1/8	2 1/2x3 7/8	3	8.56	7.70	7.28	6.85	4.43	4.22
		6.3 CT	3.0	2500											
1F971	P-6434	12.6 CT	2.5												
		12.6 CT	2.5	1500	117	C	3 1/8	2 13/16x2	3.5	8.91	8.02	7.57	7.13	4.64	4.03

TUBE CHECKER MULTI-TAPPED FILAMENT TRANSFORMER

Stock No.	Type No.	Secondary Volts	Primary Volts	Ht.	Base Area	Mtg. Ctrs.	Wt.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F885	P-1834-3	1.1/1.4/1.5/2.0/3.0/ 3.3/4.0/5.0/6.3/7.5/ 12/20/25/30/35/50/ 70/85/110/117	105/115/125	2 5/8	4x2 1/2	3 9/16	2.4	18.31	16.48	15.56	14.65	7.86	7.15

CATHODE RAY TUBE POWER TRANSFORMERS

Stock No.	Type No.	Plate Supply AC Volts	DCMA	Other Windings Volts	Other Windings Amps	Mtg. Type	Size	Wt.	Each, Boxed 1-9	10-24	25-49	Bulk Packed 50-99	100-249
1F310	P-8179	1600 half wave	3.0	6.3/5.2.5	1.0								
				6.3/5/2.5	3.0	M	3x2 1/2x3 3/8	3	15.38	13.84	13.07	12.30	.. ..
1F090	P-8150	1550 half wave	1.5	.....	.....	SC	3x2 1/2x3 1/16	2	13.30	11.97	11.31	10.64	5.95 5.41
1F091	P-8151	2400 half wave	5.0	2.5	2.0	C	3 9/16x3 7/8x4 5/16"	7	19.18	17.26	16.30	15.34	.. .. ..

TV BOOSTER TRANSFORMER

Stock No.	Type	Plate Supply AC Volts	DCMA	Filament Volts	Filament Amps	Ht.	Base Area	Mtg. Ctrs.	Fig.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F525	P-8181	150 half wave	25	6.3CT	0.5	2	2 7/16x1 3/4	2	VE	5.37	4.83	4.56	4.30	2.38	2.17

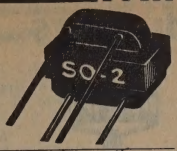
AUDIO TRANSFORMERS

1F302 (Type A-53) Interstage type; 7000-20,000 ohm plate impedance to 1G. Remainder Push Pull Inputs; One 7000-15,000 ohm plate impedance to 2 G maximum primary DC 10MA.

Stk. No.	Type No.	Ratio	Size	Fig.	Mtg. Ctrs.	Lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F302	A-53	1:3	1 3/8x2 3/8x1 1/2	A	2"	1/2	3.74	3.37	3.18	2.99	1.46	1.33
1F918	A-53C	1:3	1 3/8x2 3/8x1 3/8	A	2	1/2	3.83	3.45	3.26	3.06	1.63	1.48
1F294	A-52C	1:2	1 3/8x2 3/8x1 3/8	A	2	1/4	4.27	3.84	3.63	3.42	2.29	2.08
1F291	A-63C	1:3	1 5/8x2 3/8x1 3/8	A	2 3/8	3/4	4.52	4.07	3.84	3.62	1.88	1.71
1F300	A4711	1:1	1 5/8x2 7/8x1 1/2	A	2 3/8	3/4	4.69	4.22	3.99	3.75	2.36	2.15

Miniature Transformers

"SUB-OUNCERS"



Tiny transformers for use in hearing aids, pocket radios, etc. Measure only $^{23}/_{32}$x$^{7}/_{8}$x$^{19}/_{32}$"H. Weight .03 lb. each. Frequency response, 200 Hz to 20k Hz cps. **Indicates split winding.

Stock No.	Type	Application	Pri. Imp.	Sec. Imp.	1-24	25-99	100-Up
3F390	SO-1	Input	200,50	250,000 62,500	5.40	4.59	4.32
3F391	SO-2	Inter.	10,000	90,000	5.25	4.46	4.20
3F392	SO-3	Plate to line	10,000 25,000	200,500	4.80	4.08	3.84
3F396	SO-7	transis. Int.	20,000 30,000	800,1200	4.20	3.57	3.36
3F397	SO-8	transis. to PP	10,000	2,000CT	4.80	4.08	3.84
3F398	SO-9	PP transis. to VC	500 CT	3.2	4.20	3.57	3.36
3F399	SO-10	transis. to VC	2,000 4,000 CT	8/16	4.05	3.44	3.24
3F595	SO-11	transis. Inters	400 CT 500 CT	400** 500**	4.65	3.95	3.72
3F596	SO-12	transis. Inters	400 CT 500 CT	120** 150**	4.65	3.95	3.72
3F532	SO-CH	Mtg. Channel for any SO			.30	.26	.24

SUB-SUBOUNCER UNITS

Impedance ratios are constant; these units can be used for other impedances if in same ratios. Units may be reversed. Suffix 'P' means printed circuit molded types to MIL Grade 5. Size: $^{43}/_{64}$x$^{3}/_{4}$x$^{7}/_{16}$". Weight .02 lb.

Stock No.	Type	Application	Pri. Imp.	Sec. Imp.	1-24	25-99	100-Up
3F377	SSO-3	P1. to Line	10K/25K	200/500	5.70	4.85	4.56
3F378	SSO-4	Ouput	30K	50	5.40	4.59	4.32
3F379	SSO-5	React. 50 Hyatl mil dc	4400 ohms dc Res.		4.65	3.95	3.72
3F381	SSO-7	Transis. Inter.	20,000 30,000	800 1,200	4.50	3.83	3.60
3F382	SSO-8	Transis. to PP	10,000	2,000CT	4.95	4.21	3.96
3F384	SSO-10	Transis. to VC	10,000	3.2	4.50	3.83	3.60
3F385	SSO-11	Transis. Output	500-600	50-60	4.05	3.44	3.24
3F599	SSO-16	Ouput	1.2K 1.5K	3.2/4	3.90	3.32	3.12
3F326	SSO-17	Out. or driver	10K 12K	500CT 600CT	4.35	3.70	3.48
3F328	SSO-19	Match	500CT	600CT	4.35	3.70	3.48
3F329	SSO-20	Ouput	1.5K CT	600CT	4.35	3.70	3.48
3F332	SSO-21	Xtal/ chopper	200K CT	1,000CT	6.15	5.23	4.92
5F1454	SSO-21P	Xtal/ chopper	200K CT	1,000CT	9.45	8.03	7.56
3F333	SSO-22	Inter.	10K CT 12K CT	1,500CT 1,800CT	5.25	4.46	4.20
3F334	SSO-23	Reactor	8 Hys. @ 2 ma		3.45	2.94	2.77
3F335	SSO-24	Reactor	3.5 Hys. @ 2 ma		3.60	3.06	2.88
3F336	SSO-25	Transis. Inter.	10K CT 12K CT	10K CT 12K CT	5.70	4.85	4.56
3F533	SSO-CH	Mtg. Channel for any SSO			.30	.26	.24

TRANSISTORS SUPPLY TRANSFORMERS

Hermetically sealed, metal cased to MIL-T-27C. Primary 115 V 50/60 Hz. Shpg. wt. approx. 1 lb.

Stock No.	Type	Secondary Volts	Secondary Amps	Size (Inches)	1-24	25-99	100-Up
2F813	H-142	20CT	0.6	$1^{15}/_{16}$x$1^{13}/_{16}$x$2^{3}/_{4}$	15.75	13.40	12.60

UNIVERSAL SUPPLY TRANSFORMERS

High reliability units for many applications. Metal cases hermetically sealed to Mil. T-27C. Pri. 115V 50/60 hz with taps to modify sec. V. 6% and 12% . (†) Approx. DCV when used with typical silcon rectifier circuits.

Stock No.	Type	Sec. DC Ranget	Wt. Lbs.	1-24	25-99	100 Up
2F815	H-915	6V/.085A-53V/.025A	3/8	14.85	12.62	11.88
2F816	H-925	6V/.28A-53V/.085A	7/8	15.00	12.76	12.00
2F817	H-935	6V/1.52A-53V/.48A	1¾	22.50	19.14	18.00
2F818	H-94	6V/3.8A-53V1.2A	4½	25.20	21.42	20.16
2F820	H-96	6V/23A-53V/7.5A	21	63.00	53.55	50.40

DI-T TRANSISTOR TRANSFORMERS
Meet MIL-T-27C-TF4RX

DI-T. Smaller than the DO-T Deci-Ouncers. Power ratings and other characteristics identical to DO-T's, except frequency response is approximately ±3 db, 400 Hz to 100k Hz. Hermetically sealed; rated for Class R (105°C max. operating) temp. conditions. Size $^{11}/_{32}$"Dx$^{5}/_{16}$" H, wt. 1/15 oz.

DI-T200. As above, uninsulated leads spaced on .1" radius for printed circuit boards. Size .350Dx $^{13}/_{32}$" H., wt. $^{1}/_{15}$ oz.

Stock No.	Type No.	Application	Primary Impedance	Secondary Impedance	1-24	25-99	100-Up
3F128	DI-T9	Output	10K/12KCT	500/600CT	6.60	5.61	5.28
5F1455	DI-T25	Interstage	10K/12KCT	1.5/1800CT	7.20	6.12	5.76
3F499	DI-T36	Isol. or Int.	10K/12KCT	10K/12KCT	7.50	6.38	6.00
2F643	DI-T37	Isol. or Int.	2K/2.5KCT	8K/10K split	7.80	6.63	6.24
2F991	DI-T52	Interstage	4K/5KCT	8K/10KCT	7.80	6.63	6.24
3F531	DI-TSH	Hypermalloy shield for DI-T's			.90	.77	.72
2F651	DI-T240	Interstage	400/500CT	400/500 split	8.40	7.14	6.72
2F652	DI-T245	Output	500/600CT	50/60CT	6.90	5.87	5.52
2F653	DI-T250	Output	500CT	600CT	7.20	6.12	5.76
2F654	DI-T255	Output	1K/1200CT	50/60CT	6.90	5.87	5.52
2F655	DI-T260	Output	1500CT	600CT	7.20	6.12	5.76
2F656	DI-T265	Isol. or Int.	2K/2500CT	8K/10K split	8.70	7.40	6.96
2F657	DI-T270	Output	10K/12KCT	500/600CT	7.80	6.63	6.24
2F658	DI-T273	Output	10K/12.5KCT	1200/1.5KCT	7.80	6.63	6.24
2F659	DI-T276	Interstage	10K/12KCT	2K/2400CT	7.80	6.63	6.24
2F661	DI-T283	Isol. or Int.	10K/12KCT	10K/12KCT	8.40	7.14	6.72
2F662	DI-T288	Interstage	20K/30KCT	800/1200CT	8.10	6.89	6.48

MILITARY STANDARD TRANSFORMERS
Mil. Spec. MIL-27C-TF ARX

Type N. Primaries are 105/115/125V. 54/66 cyc.

Stk. No.	Type	Secondary	Wt. Lbs.	1-24	25-99	100-Up
2F572	N-587A	6.3V - 2A	1½	18.90	16.07	15.12
2F573	N-588A	6.3V - 5A	2¾	19.80	16.83	15.84

"OUNCER" AUDIOS

Famous one ounce audio transformers represent the acme in compact quality transformers. High fidelity from 30-20,000 CPS. Maximum output level +8 db at 6.3 mw. Application: Input and Mixing, Interstage and Output Transformers. Fully impregnated and sealed in a drawn aluminum housing. Size: ⅞" dia. x $^{13}/_{16}$". Wt. 1 oz.

Stock No.	Type	Primary	Secondary	1-24	25-99	100-Up
3F360	0-1	50, 200-250, 500-500	50,000	8.55	7.27	6.84
3F361	0-2	50, 200-250. 500-600	50,000CT	8.85	7.52	7.08
3F362	0-3	7.5-30	50,000	8.25	7.01	6.60
3F363	0-4	15,000	60,000	7.35	6.25	5.88
3F365	0-6	15,000	95,000CT	8.25	7.01	6.60
3F366	0-7	15,000-4MA	95,000CT	8.25	7.01	6.60
3F367	0-8	15,000	50, 200-250,500-600	8.55	7.27	6.84
3F369	0-10	30,000 CT PP to line	50, 200-250,500-600	9.15	7.78	7.32
3F370	0-12	50, 200-250	50, 200-250,500-600	8.55	7.27	6.84
3F372	0-14	200	½ megohm	8.25	7.01	6.60
3F374	0-16	250CT	50,000	11.10	9.44	8.88
3F322	0-19	10,000/2,500 (split) 4 Ma	4,000/1,000 (split)	8.55	7.27	6.84
3F157	0-18	10K/2.5K(split)4 Ma	2000/500 (split	8.55	7.27	6.84
3F678	0-20	1500 CT 8 Ma	500/125 split	6.90	5.87	5.52
3F993	0-25	600/150 split	2000/500 split	8.55	7.27	6.84
5F1456	0-26	10,000CT		8.55	7.27	6.84
3F136	0-30	500/125 split 20 Ma	500/125 split	8.70	7.40	6.96
3F325	0-17	Mumetal shield, slip fit over ouncer		1.65	1.40	1.32
2F754	0-BR	Mounting bracket for Ouncers		.45	.38	.36

HVC HERMITIC VARIDUCTORS

Variable inductors with higher "Q" and wider inductance ranges . . . plus hermetic sealing to MIL-T27B specs. Screw adjustment on top permits inductance changes from —70% to +200% of mean value. DC current shown is maximum recommended. All $1^{1}/_{8}$x$2^{5}/_{32}$"x$1^{9}/_{32}$". Weight, 2 ounces.

Stock No.	Mfr's. Type	Min. Hys.	Mean Hys.	Max. Hys.	DC Ma	1-24	25-99	100-Up
3F534	HVC-1	.002	.006	.02	100			
3F535	HVC-2	.005	.015	.05	60			
3F536	HVC-3	.011	.040	.11	40	9.90	8.42	7.92
3F537	HVC-4	.03	.1	.3	30			
3F538	HVC-5	.07	.25	.7	20			
3F539	HVC-6	.2	.6	2	15			
3F540	HVC-7	.5	1.5	5	10			
3F541	HVC-8	1.1	4.0	11	7	10.50	8.93	8.40
3F542	HVC-9	3.0	10	30	5			
3F543	HVC-10	7.0	25	70	3.5	10.80	9.18	8.64
3F544	HVC-11	20	60	200	2	11.70	9.95	9.36
3F545	HVC-12	50,	150	500	1.5	12.90	10.97	10.32

Transformers and Inductors

DO-T TRANSISTOR TRANSFORMERS

Provides unprecedented power handling capacity, reliability, plus ultra small size. Hemetically sealed, metal cased to MIL-T-27C-TF4RX. Greater power rating, ±2 db, 200 cps —20KC. Low distortion. Anchored leads stand 10 lb. pull test; tinned and insulated copper conductors. For transistor use only. Size $^{15}/_{32}$" long; $^{11}/_{32}$" diameter. Weight 1/10 oz.

Stock No.	Mfr's. Type	Appli-cation	Primary Impedance	Secondary Impedance	1-24	25-99	100-Up
3F550	DO-T1	Inter.	30,000/20,000	1200/800	6.00	5.10	4.80
3F552	DO-T3	Out.	1200/1000	60/50	5.40	4.59	4.32
3F553	DO-T4	Out.	600	3.2	5.40	4.59	4.32
3F554	DO-T5	Out.	1200	3.2	5.40	4.59	4.32
3F555	DO-T6	Out.	10,000	3.2	6.00	5.10	4.80
3F557	DO-T8	Inductor	3.5 hys at 2ma	560 ohms	4.80	4.08	3.84
3F660	DO-T9	Out.	10,000/12,000	500/600 CT	6.60	5.61	5.28
3F662	DO-T11	Driver	10,000/12,500	2K/2500CT	6.60	5.61	5.28
3F663	DO-T12	Out.	150/200CT	12/16	5.70	4.85	4.56
3F664	DO-T13	Out.	300/400CT	12/16	5.70	4.85	4.56
3F666	DO-T15	Out.	800/1070CT	12/16	6.00	5.10	4.80
3F670	DO-T19	Out.	300CT	600	6.00	5.10	4.80
3F671	DO-T20	Out.	500CT	600	6.00	5.10	4.80
3F673	DO-T22	Out.	1500CT	600	6.00	5.10	4.80
3F674	DO-T23	Inter.	20K/30KCT	800/1200CT	6.90	5.87	5.52
3F675	DO-T24	Input.	200,000CT	1000CT	9.90	8.42	7.92
3F676	DO-T25	Inter	10K/12K CT	1.2K/1.5KCT	7.20	6.12	5.76
2F669	DO-T26	Induct	6 hys @ 2 ma	2100 ohms	5.70	4.85	4.56
3F658	DO-T27	Induct	1.25 hy. at 2 ma	DC 100 ohm	4.80	4.08	3.84
3F219	DO-T30	Out.	320/400CT	3.2/4	5.70	4.85	4.56
3F255	DO-T36	Isol.	10K/12KCT	10K/12KCT	7.50	6.38	6.00
3F236	DO-T37	Isol.	2000/2500CT	8K/10K Split	7.80	6.63	6.24
2F670	DO-T41	Inter.	400/500CT	400/500 Split	7.50	6.38	6.00
3F252	DO-T43	Inter.	400/500CT	40/50 Split	7.50	6.38	6.00
2F672	DO-T46	Input	100,000CT	500 CT	9.60	8.16	7.68
2F673	DO-T47	Isol	9000/10,000CT	9K/10KCT	8.10	6.89	6.48
2F674	DO-T48	Inter.	8K/10KCT	1.2K/1.5CT	7.80	6.63	6.24
2F994	DO-T51	Inter.	2K/2.5KCT	2K/2.5K split	7.80	6.63	6.24
2F995	DO-T52	Inter.	4K/5KCT	8K/10K CT	7.80	6.63	6.24
2F996	DO-T410	Pri. 28 v.	380-1 Kc.	2-6.3V/30 ma	7.80	6.63	6.24
2F997	DO-T420	Pri. 28 v.	380-1 Kc.	28V/10ma	7.80	6.63	6.24
3F659	DO-TSH	Hipermalloy shield for DO-T's			.90	.77	.72

Type LS-HYBRID AND REPEAT COILS

High eff. low wave-form distortion, uniform freq. response. Electrostatic shielding $3^1/_8$ x $2^5/_8$ x $3^1/_4$". Wt. 3 lbs.

2F831	LS-68	600/150 split	2 split 600/150	31.05	26.39	24.84
3F549	LS-140	600/600 split	500/600 split	32.55	27.67	26.04
3F290	LS-141	3 sets of Bal.	Wdgs. 500/600 CT	28.80	24.48	23.04

HIGH LEVEL MATCHING TRANSFORMER

Type LS-33. Primary impedance: 50, 125-150, 200,250,333,500/600. Max. level. 20 watts. in LS-2 case. LxWxH: $4^7/_{16}$ x $3^1/_2$ x $4^3/_{16}$".

Stk. No.	Type	Wt. Lbs.	1-24	25-99	100-Up
3F2325	LS-33	7.5	35.40	30.09	28.32

AUDIO TRANSFORMER

TYPE LS-30X. (Low imp. to grid.) Primary impedance: 50, 125/150, 200/250/333, 500/600 ohms. Secondary impedance; 50, 150/150, 200/250/333, 500/600 ohms. L-$3^1/_8$ x W-$2^5/_8$ x H-$3^1/_4$. Weight 63 lbs.

Stk. No.	Type	Max Level DBM	Unbal DC in Prim.	1-24	25-99	100-Up
2F746	LS-30X	+20	.3 MA	34.50	29.33	27.60

UTC HIGH Q TOROID INDUCTORS

The MQ series are ideal for audio, carrier and supersonic fields. Laboratory adjusted to 1% tolerance, inductance is virtually independent of frequency, temperature and vibration. Low hum pickup. Shielded case affords high permeability. Hermetically sealed to meet MIL-T-27C. Case similar to HVC above.

Stock No.	Type	Hy	Ma.	Size	Oz.	1-24	25-99	100-Up
3F504	MQA-8	.2	50	$1^9/_{32}$ x $1^1/_{16}$ x $2^1/_{32}$"	4	10.80	9.18	8.64
3F505	MQA-10	.5	30	$1^9/_{32}$ x $1^1/_{16}$ x $2^1/_{32}$"	4	11.40	9.69	9.12
3F506	MQA-11	.7	25	$1^9/_{32}$ x $1^1/_{16}$ x $2^1/_{32}$"	4	11.70	9.95	9.36
3F507	MQA-12	1	20	$1^9/_{32}$ x $1^1/_{16}$ x $2^1/_{32}$"	4	12.00	10.20	9.60
3F514	MQB-5	.5	60	$2^9/_{16}$ x $1^3/_{16}$ x $2^{13}/_{16}$"	14	18.00	15.30	14.40
3F515	MQB-6	1	40	$2^9/_{16}$ x $1^3/_{16}$ x $2^{13}/_{16}$"	14	19.50	16.58	15.60
3F521	MQB-8	3.5	22	$2^9/_{16}$ x $1^3/_{16}$ x $2^{13}/_{16}$"	14	20.10	17.09	16.08
2F685	MO-5	.5	23	$^3/_4$ x $1^1/_{16}$ x $^3/_{16}$"	1	10.50	8.93	8.40

TVC HERMETIC VARIDUCTORS

TVD Inductors are identical to the HVC units below but provide taps at 30% and 50% of total turns. Manufactured and guaranteed to MIL-T-27C by full environment testing. Ideal for oscillator circuits impedance matching, and phase inversion where high Q and adjustable inductance are required. Dimensions: $1^1/_8$ x $^{25}/_{32}$ x $1^9/_{32}$". Approximate weight: 2 ounces.

Stock No.	Type	Min. Hys.	Mean Hys.	Max. Hys.	DC Ma	1-24	25-99	100-Up
3F166	TVC-4	.03	.1	.3	30	12.00	10.20	9.60
3F167	TVC-5	.07	.25	.7	20	12.00	10.20	9.60
3F169	TVC-7	.5	1.5	5	10	11.70	9.95	9.36

PIP TRANSISTOR PULSE TRANSFORMER

Meets Mil. Spec. MIL-T-21038B-TP6RX. Subminiature, hermetically sealed metal case. Checked in transistor test circuit to give required pulse width. Size: $1^1/_{32}$" dia. x $^7/_{32}$" height. Wt. 1/20 oz.

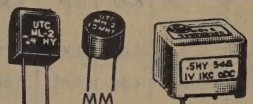
Stock No.	Type	Width μ sec.	Rise time	Imp. Out	1-24	25-99	100-Up
2F550	PIP-1	.05	.02	50			
2F551	PIP-2	.1	.025	50			
2F552	PIP-3	.2	.03	100			
2F553	PIP-4	.5	.05	100			
2F554	PIP-5	1.0	.08	100	6.00	5.10	4.80
2F555	PIP-6	2.0	.10	100			
2F557	PIP-8	5.0	.30	200			
2F558	PIP-9	10.0	.35	200			

MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

Hermetically sealed to MIL-T-21038B-TP7SX by vacuum molding and suited for service from —70°. C to +130°C. Wound core structure. Where minimum rise time is important use next lower type.

3F081	H45	.05	.022	250	11.70	9.95	9.36
3F084	H48	.50	.03	500			
3F086	H-50	2	.05	500	7.95	6.76	6.36
3F087	H51	3	.10	500			
2F708	H-56	20	.25	1000			
2F709	H-57	25	2.	1000	8.10	6.89	6.48
2F633	H-60	.05	.016	50	9.30	7.91	7.44
2F634	H-61	.1	.016	50	9.30	7.91	7.44
2F636	H-63	.5	.027	100	9.30	7.91	7.44

MINIDUCTORS MIL-T-27C-TF5RX



Hi Q in miniature form. Ideal for transistor use and printed circuits. High temp. stability (—55°C to 100°C). MIL-0 to 4, MO-.1 to 1 are medium low frequencies—400 cyc., MM and MW for medium frequencits and MH for high frequencies. ML case $^7/_{16}$ x $^{31}/_{64}$ x $^9/_{16}$". Wt. 1/3 oz. MM and MH cases $^7/_{16}$ x 1/4 H. Wt. .07 oz. MO case $^3/_4$" x $1^1/_{16}$" x $^{13}/_{16}$"H. Wt. 1 oz. MW case $^{23}/_{32}$"D x $^{13}/_{32}$"H. Wt. 1/4 oz.

TYPE MH

Stk. No.	Type	Ind. @ 0 ma	DC MA	1-24	25-99	100-Up
3F029	MH-1	.6 Mhy	90	8.40	7.14	6.72
3F038	MH-2	1.5 Mhy	57	8.40	7.14	6.72
3F147	MH-4	6 Mhy	28	9.00	7.65	7.20
3F148	NH-5	10 Mhy	22	9.30	7.91	7.44
3F159	MH-7	25 Mhy	14	9.60	8.16	7.68
3F312	MH-8	40 Mhy	11	9.60	8.16	7.68

Type ML

Stk. No.	Type	Ind. @ 0 ma	DC MA	1-24	25-99	100-Up
3F183	ML-1	.25 Hy	9			
3F186	ML-4	1.4 Hy	3			
3F187	ML-5	2.5 Hy	1			
3F188	ML-6	4.0 Hy	.7	8.40	7.14	6.72
3F189	ML-7	6.0 Hy	.6			
3F194	ML-8	10 Hy	.5			

Type MM

Stk. No.	Type	Ind. @ 0 ma	DC MA	1-24	25-99	100-Up
3F198	MM-2	5 Mhy	40	7.80	6.63	6.24
3F247	MM-4	12.5 Mhy	25	8.10	6.89	6.48
3F248	MM-5	20 Mhy	20	8.40	7.14	6.72
3F249	MM-6	30 Mhy	16	8.40	7.14	6.72
3F306	MM 7	60 Mhy	11	9.00	7.65	7.20

TYPE MO

Stk. No.	Type	Ind @ 0 ma	DC MA	1-24	25-99	100-Up
2F683	MO-1	1 Hy	16	10.20	8.67	8.16
2F686	MO-7.5	7.5 Hy	4	10.50	8.93	8.40
2F688	MO-50	50 Hy	14	11.10	9.44	8.88
2F689	MO-100	100 Hy	1	11.10	9.44	8.88

TYPE MW

Stk. No.	Type	Ind. @ 0 ma	DC MA	1-24	25-99	100-Up
2F802	MW-.05	.05 Hy	25	7.50	6.38	6.00
2F803	MW-.10	.10 HY	18	7.80	6.63	6.24
2F804	MW-.25	.25 Hy	11	7.80	6.63	6.24
2F690	MW-5	.5 Hy	8	8.10	6.89	6.48
2F692	MW-1	1.0 Hy	6	9.30	7.91	7.44

Transformers & Filters

HERMETICALLY SEALED COMPONENTS

Hermetically sealed audio units that meet MIL-T-27B-TF4RX specifications. Units in RC-25 case are $1\frac{13}{31}$x$2\frac{61}{64}$x$1\frac{17}{16}$". Mtg. (slot center) $1\frac{7}{8}$ to $1\frac{7}{32}$", and weigh 2 oz.; RC-50 case units are $1\frac{3}{8}$x$1\frac{5}{8}$x$2\frac{5}{16}$", weight ½ lb. Response ±2 db. § center tapped (*split).

MINIATURE AUDIO UNITS IN RC-25 CASE

Stock No.	No.	Uses	Pri. Ohms	Sec. Ohms	Response in Cycles	1-24	25-99	100-Up
3F450	H-1	Mike pick-up line to grid	50,200§ 500§	50,000	50-10,000	9.90	8.42	7.92
3F454	H-5	Sgl. pl.-PP g.	15,000	95,000§	50-10,000	9.30	7.91	7.44
3F455	H-6	As above, with DC in pri.	15,000	95,000 split	200-10,000	11.25	9.56	9.00
3F456	H-7	Singles or PP plates to line	20,000§	150/600*	200-10,000	10.20	8.67	8.16
3F457	H-8	Mix/Match	150/600*	600§	50-10,000	9.60	8.16	7.68
2F722	H-14	Tr. Inters	10K/2.5K*	4K/1K*	100-10,000	9.90	8.42	7.92
2F723	H-15	Tr. to line	1,500 CT*	500/125*	100-10,000	9.60	8.16	7.68

UTC INTERSTAGE AND LINE FILTERS

Meets MIL-F-18327B specs. BMI and BML types are band-pass units. HMI and HML types are high-pass units. LMI types are low-pass units. Filters with I in type number are interstage, input imp., 10,000 ohms, L in type number are line units. All housed in hermetically sealed cases, shielded to reduce hum pick-up. Base area, $1\frac{3}{16}$x$1\frac{11}{16}$". Mtg. ctrs., ¾x1¼". Ht.: BMI, LMI, BML, 1⅝" HMI, HML, LML, 2½". Average weight, 8 ounces.

LMI,LML

HMI,HML

BMI,BML

Stock No.	Type	Freq.	1-24	25-99	100-Up
3F477	BMI-60	60			
3F558	BMI-100	100			
3F478	BMI-400	400	32.40	27.54	25.92
3F479	BMI-1000	1000			
5F1457	BTI-60	60	39.00	33.15	31.20
2F806	HMI-100	100	33.90	28.82	27.12
3F573	BML-1000	1000	32.40	27.54	25.92
3F481	LMI-200	200			
3F574	LMI-400	400			
3F575	LMI-500	500			
3F576	LMI-800	800	33.90	28.82	27.12
3F577	LMI-1000	1000			
3F482	LMI-3000	3000			
3F580	LMI-4000	4000			
3F581	LMI-5000	5000			
3F484	HML-200	200	42.00	35.70	33.60
3F583	HML-300	300			
2F809	LML-2500	2500			
2F810	LML-3000	3000	33.90	28.82	27.12
3F590	LML-4000	4000			

BPM MINIFILTERS

Same characteristics as larger units, with slightly lower attenuation and operating levels. MIL-F-18327B. Input and output 10,000 ohms. (*) Low pass. Case similar to SM above. Size: ¾x¾x1⅛". Wt. 1 oz.

Stock No.	Type	Freq.	1-24	25-99	100-Up
2F730	BPM-400	400	30.00	25.50	24.00
3F037	BPM-1000	1000			
2F811	BPM-10,000	10,000	30.00	25.50	24.00
5F1458	LPM-500*	500*	31.50	26.78	25.20

OSCILLOSCOPE TRANSFORMER

Type H-198. Highly shielded scope transformer in hermetically sealed Mil-T-27BTF4RX specs. 800, 1600 & 2400 V. plate windings (no CT) supply approx. 1000, 2000 or 3000 V. DC at 5 ma. allowing great flexibility in application. Has 1.25 V. .2A rect. fil. winding connected to one end of HV winding. Separate 6.3 V., .6A fil. winding insulated to withstand anode voltages. Pri. 115V 50/60 cycle. Case similar to SM. Size $3\frac{1}{16}$x$2\frac{5}{8}$x$4\frac{1}{4}$".

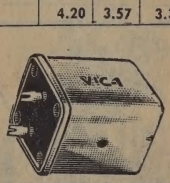
Stk. No.	Type	Wt.	1-24	25-99	100-Up
3F078	H-198	4.5	37.50	31.88	30.00

ULTRA COMPACT "A" SERIES

Excellent shielding Max. level 7 db. For top or bottom mtg. Size 1½x1½x2". ‡Indicates split winding. Wt. ½ lb.

Stock No.	Type	Pri. Imped.	Sec. Imped.	±2 db.	1-24	25-99	100-Up
3F340	A-10	50, 125-150,200-250,333,500-600	50,000‡	20-20,000	19.80	16.83	15.84
3F341	A-11	50, 200, 500	50,000 CT	20-20,000	14.85	12.62	11.88
3F342	A-12	50, 125-150, 200-250, 333, 500-600	80,000‡	20-20,000	19.50	16.58	15.60
3F354	A-15	10,000/2,500‡	2000/500‡	40-20,000	12.00	10.20	9.60
3F344	A-16	15,000	60,000	20-20,000	14.70	12.50	11.76
3F345	A-18	15,000	80,000pp‡	20-20,000	17.40	14.79	13.92
3F346	A-19	15,000 8 ma DC Pri.	80,000pp‡	40-20,000	14.55	12.37	11.64
3F347	A-20	Same as A-10 Pri.	Same as Pri.	10-50,000	19.50	16.58	15.60
3F348	A-21	50,200-250, 500-600	Same as Pri.	30-30,000	13.20	11.22	10.56
3F355	A-22	500 CT	500/125‡	40-20,000	10.95	9.30	8.76
3F824	A-23	500 CT	16/4‡	40-20,000	10.95	9.30	8.76
3F349	A-24	15,000‡	50,125-150 200-250, 333, 500-600	20-40,000	19.20	16.32	15.36
3F350	A-25	15,000	Same as above	40-20,000	15.45	13.13	12.36
3F351	A-26	30,000‡ P to P	Same as above	20-40,000	19.35	16.45	15.48
3F352	A-27	100,000‡	Same as above	30-20,000	18.30	15.56	14.64
3F080	A-35	10,000/2500‡	500/125‡	30-20,000	12.60	10.71	10.08
3F098	A-37	500/125‡	50/12.5‡	40-20,000	12.00	10.20	9.60
2F739	A-39	600/150‡	2000/500‡	20-20,000	13.80	11.73	11.04
2F740	A-43	600/150‡	600/150‡	20-30,000	18.90	16.07	15.12
2F742	A-42	Inductor ‡ Series 4 hys @ 50 ma Par. 1 hy @ 100 ma			8.10	6.89	6.48
3F050	A-40	Transformer, 115V 60 cycle to two 6.3V CT .2 secs.			12.15	10.33	9.72
2F832	A-48	Hybrid. 3 500/600 ohm windings.			18.00	15.30	14.40
3F358	A-33	Mumetal shield slip fit over A case			4.20	3.57	3.36

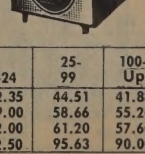
VARIABLE INDUCTORS



Variable units for use in tuned audio cricuits. Adjustment of set screw on side of case permits change in inductance of +85% to —45% of mean value shown. In die-cast case. Size: $1\frac{11}{32}$x$1\frac{1}{4}$x$1\frac{7}{16}$". Current rating shown is max. MADC. Weight, 5½ oz.

Stk. No.	Type	DC MA	Hys.	1-24	25-99	100-Up
3F405	VIC-6	30	.084	7.80	6.63	6.24
3F406	VIC-7	25	.13	7.80	6.63	6.24
3F407	VIC-8	21	.21			
3F408	VIC-9	18	.34	8.10	6.89	6.48
3F409	VIC-10	15	.54			
3F410	VIC-11	12	.85			
3F411	VIC-12	10	1.3			
3F414	VIC-15	6	5.4	8.40	7.14	6.72
3F416	VIC-17	4	13	8.70	7.40	6.96

POWER LINE ISOLATION TRANSFORMERS



Ultrashielded hermetically sealed units. Less than 1/10th mmfd. effective capacity between primary and secondary permits isolation formerly obtained only from battery power. Separate terminal for each shield. Input and output terminals on opposite sides of case. Primary & secondary—115 V 50/60 Hz.

Stock No.	Type No.	Watts Mil.	Watts Ind.	Wt. Lbs.	1-24	25-99	100-Up
2F735	HIT-1	50	60	5½	52.35	44.51	41.88
2F736	HIT-15	120	150	13	69.00	58.66	55.20
2F737	HIT-2	160	200	15½	72.00	61.20	57.60
2F738	HIT-3	400	480	35	112.50	95.63	90.00

Transformers

UTC

400-CYCLE FILAMENT TRANSFORMERS

Combine smallness of size and lightness of weight with the maximum possible reliability. These versatile midgets are suitable for either ground or airborne use applications. Molded specifically to meet MIL-T-27B-TF5SX specifications. Primary, 105/115 volts, 380-1000 cycles per second. Secondary, 6.3 volts, center tap.

Stock No.	Type	Sec. Amp.	LxWxH	Wt. Lbs.	1-24	25-99	100-Up
3F071	H-101	3.5	1 25/32 x 1 21/32 x 2"	.3	17.10	14.54	13.68

TRANSISTOR FILAMENT SUPPLY TRANSFORMERS

Primary 115 V, 50/60 cycles, tapped on S-77 for dual sec. volt.

Stock No.	Type No.	Sec.V RMS	Sec. A RMS	Fig.	1-24	25-99	100-Up
3F140	S-75	6.3 6.3	.6 .6	G-1	10.35	8.80	8.28
3F142	S-77	17/21.5 17/21.5	1.5 1.5	G-5	18.90	16.07	15.12

FILAMENT TRANSFORMERS—105-115 V PRIMARIES

Stock No.	Type	Sec. (CT)	Sec. Amps	Insulation V.	Fig.	1-24	25-99	100-Up
3F004	S-57	2.5	10	10,000	G-5	19.35	16.45	15.48
3F005	S-58	2.5	20	10,000	G-5	20.25	17.21	16.20
3F007	S-60	5-5.25	22	10,000	G-7	26.55	22.57	21.24
3F008	S-61	6.3/7.5	10	3,000	G-5	19.80	16.83	15.84
3F009	S-62	10	10	3,000	G-5	18.90	16.07	15.12
3F010	S-63	11,12 14	10	5,000	G-7	27.45	23.33	21.96

MULTIPLE FILAMENT TRANSFORMERS

Insulation, 3000 V. G-5 case.

Stock No.	Type	Fil.1 V	Fil.1 A	Fil.2 V	Fil.2 A	1-24	25-99	100-Up
3F026	S-70	6.3CT	5	6.3CT	5	20.70	17.60	16.56

PLATE AND FILAMENT TRANSFORMERS

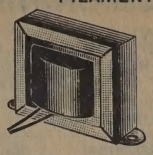
Stock No.	Type	Ratings	Fig.	1-24	25-99	100-Up
3F031	S-40	H.V.; 1050-850 CT at 250 ma. Rect. fil. 5V-3A, fil. No. 1,6.3 VCT-3A; fil. No. 2, 6.3 VCT-3A	G-7	36.00	30.60	28.80
3F033	S-42	H.V.; 1200-1050CT at 300ma. Rect. fil.; 5V-6A; fil. No. 1,7.5 tapped 6.3 V-3A; fil. 6.3 VCT-3A.	G-8	40.50	34.43	32.40

*NEW VARIMATCH MODULATION UNIT

Will match any modulator tubes to any RF load. Primary from 500 to 20000 ohms. Secondary from 300 to 30000 ohms.

Stk.No.	Type	Max. Watts	Max. Input.	1-24	25-99	100-Up
5F1450	CVM-O	12	25	21.45	18.23	17.16

FILAMENT/TRANSISTOR TRANSFORMERS



Type ft Channel Frame. Primary: 115 volts 50/60 Hz. Test Volts RMS: 1500 All units are low temperature rise, vacuum-sealed against humidity with impregnating materials to prevent corrosion and electrolysis. Approximate weight 2 lbs. FT13, FT14, FT15 & FT16 have taps on primary to modify nom. sec. V. ±6% +12%.

Stock No.	Type No.	Secondary Volts	Secondary Amps	Mtg. Ctrs.	1-24	25-99	100-Up
3F295	FT2	6.3 VCT	1.2	2 3/8"	5.70	4.85	4.56
3F298	FT8	6.3 CT	8	3 9/16"	8.25	7.01	6.60
3F299	FT10	24 CT or 12	2 4	3 9/16"	9.45	8.03	7.56
2F702	FT13	26 VCT	.04	1 3/4"	8.25	7.01	6.60
2F703	FT14	26 VCT	.25	2 3/8"	7.80	6.63	6.24
2F822	FT15	48 VCT	1	3 9/16"	10.50	8.93	8.40

FILTER, SWINGING AND AUDIO CHOKES

**Audio. M=Millihenries, A=Amperes. ‡Swinging.

Stock No.	Type	Hnry.	Ma.	Ohms	TestV.	Fig.	1-24	25-99	100-Up
3F107	S-30‡	20/4	175	90	1500	G-4	9.90	8.42	7.92
3F114	S-37	8	550	60	6000	G-8	26.10	22.19	20.88
3F115	S-38‡	20/4	550	60	6000	G-8	26.10	22.19	20.88
3F096	S-81‡	100/- 8M 25/2M	2.5A	.6 .15	1500	G-3	10.35	8.80	8.28

PLATE TRANSFORMERS

Stock No.	Type	High VAC	DCMA	Fig.	1-24	25-99	100-Up
3F040	S-44	1150-1050 CT	500	G-9	48.00	40.80	38.40
3F041	S-45	1800-1500 CT	200	G-8	36.00	30.60	28.80
3F043	S-47	3000-2500 2000 CT	300	G-10	58.50	49.73	46.80
3F044	S-48	Same as above	500	G-11	65.25	55.46	52.20
3F045	S-49	4200-3600- 3000 CT	300	G-11	63.00	53.55	50.40
3F046	S-50	6000-5000 CT	300	G-12	121.50	103.28	97.20

NEW RECEIVING FILTER

Hermetically sealed. Metal cased. Pin terminals fit subminiature 7-pin socket. Meets MIL-F-18327C Specs. 600 ohms source and load. TGR Case 1½x1½x4¼". Wt. 15 oz.

Stk.No.	Type	Freq.	1-24	25-99	100-Up
5F1452	TGR-1785	1785	60.00	51.00	48.00

MICROTRAN

POWER SUPPLY TRANSFORMERS

Fig.K

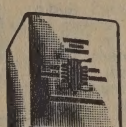


Fig.A

For silicon rectifier circuitry, and filament applications. MIL designation. TF4RX01. Hermetically sealed per MIL-T-27B. Primary 105/115/125V.

Stk.No.	Type	Secondary A.C.V.	Secondary RMS Amp.	60Hz. MILCase	1-9	10-49	50-99	100-249
7F905	M8087	12.6 C.T.	3.0	GA	21.60	19.44	18.00	14.40
7F312	M8045	28 C.T.	.6	FA	21.15	19.04	17.63	14.10
7F170	M8046	49 C.T.	2.5	LA	33.00	29.70	27.50	22.00
7F172	M8064	6.3 C.T.	6	AH	11.55	10.40	9.63	7.70
7F923	M8076	12.6 C.T.	.3	AH	11.70	10.53	9.75	7.80
7F304	M8065	26 C.T.	1.5	EA	23.25	20.93	19.38	15.50
7F305	M8066	26 C.T.	3	FA	31.50	28.35	26.25	21.00
7F931	M8079	26 C.T.	4	HA	31.50	28.35	26.25	21.00
7F710	M8020	35 C.T.	3	GA	28.50	25.65	23.75	19.00

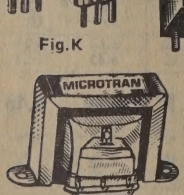


Fig.B

400 HZ TOROIDAL POWER TRANSFORMERS

MIL designation TF5SX01ZZ. Figure B Epoxy molded/Pri. 115 volts 400 Hz.

Stk.No.	Type	Sec. Volts	Sec. ma	V.A.	OD in.	H in.	Wt. oz.	1-9	10-49	50-99	100-249
7F969	M8106	28 C.T.	320	9	1 5/32	1 1/8	2	17.55	15.80	14.63	11.70
7F970	M8107	28 C.T.	710	20	1 1/2	1 1/4	4	17.10	15.39	14.25	11.40

NEW PLUG-IN PRINTED CIRCUIT POWER TRANSFORMERS

Designed for use in latest solid state circuitry. Provide fixed mounting centers. Dual secondaries may be parallel connected to give twice the rated voltage of one winding. Series connection provides a center tap.

Stk.No.	Type No.	Secondary Parallel	Secondary Series	Watts	Size-inches	1-9	10-49	50-99	100-249
7F210	PC6506	6.3 V C.T. @ .250 A	(Single Secondary).	1.5	1x1-11/64x1-25/64	5.10	4.59	4.25	3.40
7F211	PC6512	12.6 V @ 120A	25.2 V C.T. @ .060 A	1.5	1x11/64x1-25/64	5.40	4.86	4.50	3.60
7F212	PC6608	6.32V @ .70A	12.6 V C.T.@ .35A	4.5	1-1/10x1-25/64x2	5.10	4.59	4.25	3.40
7F213	PC6616	28V @ .156A	56 V C.T. @ .078A	4.5	1-1/10x1-25/64x2	5.25	4.73	4.38	3.50
7F214	PC6708	6.3 V @ 1.2 A	12.6 V C.T. @ .60 A	7.5	1-3/10x1-45/64x2-3/8	5.25	4.73	4.38	3.50
7F215	PC6712	12.6 V@ .6 A	25.2 V C.T. @ .30 A	7.5	1-3/10x1-45/64x2-3/8	5.25	4.73	4.38	3.50
7F216	PC6716	28 V @ .27 A	56V C.T. @ .135 A	7.5	1-3/10x1-45/64x2-3/8	5.25	4.73	4.38	3.50

Transformers MICROTRAN

SM & SMT SERIES SUB-MINIATURE AUDIO & TRANSISTOR TRANSFORMERS

FIG. A. Open frame construction, with mounting channel (1 5/32" mtg. ctrs.). Height, 1 9/32", wt. 3/4 oz. MIL TF6RX. Frequency response ±2 db from 200 hz to 15 khz, except (*) 80-10,000 hz.

Stock No.	Type & Case	Impedance Primary	Impedance Secondary	Pri. Unbal. DCMA	Oper. Level DBM	1-9	10-49	50-99	100-249
7F772	SM1-FB*	200/50	250,000/62,500	0	6	5.25	4.73	4.38	3.50
7F771	SMT1-FB	600	600	9	23	4.50	4.05	3.75	3.00
7F904	SMT9-FB	600 C. T.	1200 C. T.	18	23	4.95	4.46	4.13	3.30
7F744	SMT19-FB	2500	2500 C. T.	5	26	5.25	4.73	4.38	3.50
7F907	SMT26-FB	600 C. T.	600 C. T.	18	23	5.10	4.59	4.25	3.40

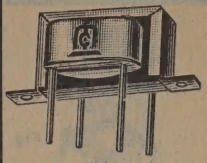


Fig. A

PM SERIES "PICO MINIATURE" TRANSFORMERS

For use in impedance matching applications. Frequency response ±2 db 300 hz to 100 khz. PM-F types **Fig. B** are open-frame construction, with leads, resin impregnated, MIL type TF6RX; size .406 x .250 x .375", wt., .05 oz. PM-M types **Fig. C** are epoxy molded, with gold-plated leads on .1" centers for printed circuit applications, Mil type TF5RX, size .410 x .465 x .310", wt., .1 oz.

Stock No.	Type	Impedance Primary	Impedance Secondary	Power Level M.W.	1-9	10-49	50-99	100-249
7F881	PM13-M	25,000	1000/250 Split	40	11.40	10.26	9.50	7.60
5F1250	PM17-M	10,000 C.T.	10,000 C.T.	50	10.95	9.86	9.13	7.30
7F887	PM34-M	600 C.T.	600 C.T.	50	10.80	9.72	9.00	7.20
7F888	PM36-M	500	500/125 Split	50	11.10	9.99	9.25	7.40
7F553	PM29-M	10,000 C.T.	500 C.T.	50	11.10	9.99	9.25	7.40
7F885	PM31-M	2,500	2,500 C.T.	50	10.65	9.59	8.88	7.10
7F886	PM33-M	1,500 C.T.	600	50	10.50	9.45	8.75	7.00

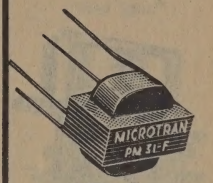


Fig. B

UM SERIES "ULTRA MINIATURE" TRANSISTOR TRANSFORMERS

Frequency response ±2 db 300 to 10,000 hz. UM-F types are open frame, with wire leads MIL TF-6RX, 3/8 x 3/8 17/32" wt. .08 oz. UM-M types **Fig. D** are molded, 1/2"H x 1/2"D, MIL TF5RX wt., .14 oz.

7F808	UM23-M	20,000	1,200 C.T.	300	8.10	7.29	6.75	5.40
7F554	UM27-F	400 C.T.	11	500	4.20	3.78	3.50	2.80
7F555	UM27-M	400 C.T.	11	500	7.05	6.35	5.88	4.70
7F878	UM28-F	Choke 10 hy. (0dc)		650	3.75	3.38	3.13	2.50
5F1254	UM29-M	600 C.T.	600 C.T.	400	8.25	7.43	6.88	5.50
7F899	UM31-M	10K CT	1200 CT	500	9.60	8.64	8.00	6.40
7F1000	UM32-M	1500 CT	600	500	7.65	6.89	6.38	5.10
5F1256	UM34-M	10K CT	600 CT	500	9.45	8.51	7.88	6.30
7F1001	UM35-M	15K CT	15K CT	300	10.05	9.05	8.38	6.70

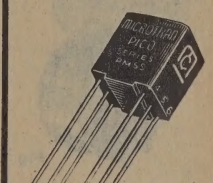


Fig. C

VM SERIES "VERI-MINIATURE" TRANSISTOR TRANSFORMERS

Frequency response ±2 db 200 hz to 10 khz. **Fig. C** VM-M types are epoxy molded, with 1" leads, for printed circuit applications; Mil TF5RX; 9/16 x 9/16 x 1/2", wt. 1/4 oz. VM-FPB types **Fig. E** are plug-in tab mounted channel construction, with wire leads; Mil TF6RX; 15/32 x 17/32 x 7/16", wt. .2 oz.

7F556	VM3-M	25,000	600 (1 ma)	5	7.20	6.48	6.00	4.80
5F1258	VM5-FPB	50,000	600 (1.0 ma)	5	4.65	4.19	3.88	3.10
7F557	VM13-M	20,000	1000 C.T. (.75 ma)	5	7.80	7.02	6.50	5.20
7F858	VM14-FPB	600 C.T.(7 ma)	600 C.T.	15	4.50	4.05	3.75	3.00
7F347	VM14-M	600 C.T.(7 ma)	600 C.T.	15	7.65	6.89	6.38	5.10

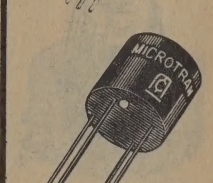


Fig. D

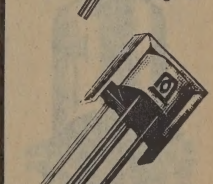


Fig. E

MM SERIES "MICRO MINIATURE" TRANSFORMERS

MM-M types **Fig. F** are epoxy molded with PC pin leads, Mil TF5RX, 7/8 x 25/32 x 17/32", wt., 1/2 oz. MM-H types **Fig. G** are hermetically sealed, with solder hooks; Mil TF4RX; 15/32"D x 11/16"H, wt. 3/4 oz. **Fig. A** MM-FB types are open frame with channel, 63/64" mtg. ctrs. x 15/32"H, wire leads, Mil type TF6RX, wt. .38 oz. All types frequency response flat ±2 db 200 hz-15 khz.

Stock No.	Type	Impedance Primary	Impedance Secondary	Oper. Level DBM	1-9	10-49	50-99	100-249
7F631	MMT1-FB	600	600	22	3.90	3.51	3.25	2.60
5F1260	MM6-FB	100,000	. . . . .	20	4.95	4.46	4.13	3.30
5F1265	MMT26-H	600 C.T.	600 C.T.	22	7.65	6.89	6.38	5.10

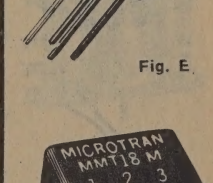


Fig. F

M & MT SERIES MINIATURE AUDIO AND TRANSISTOR TRANSFORMERS

M-A types are aluminum cased, MIL TF3RX, .875D x 1 3/16" H, wt. 1 1/4 oz. M-FB types are open frame with mtg. channel (1 3/8" ctrs.), MIL TF6RX, wt. 1 oz.

Stock No.	Type	Impedance Primary	Impedance Secondary	Pri. Unbal. DCMA	Oper. Level DBM	1-9	20-49	50-99	100-249
5F903	M2-FB	50/250/600 C.T.	50,000 C.T.	0	5	6.30	5.67	5.25	4.20
5F907	M6-FB	15,000	95,000	0	5	5.25	4.73	4.38	3.50
5F911	M12-A	50/250 C.T.	50/250/600 C.T.	0	8	9.90	8.91	8.25	6.60
5F920	M12-FB	50/250 C.T.	50/250/600 C.T.	0	8	5.85	5.27	4.88	3.90
5F916	M15-FB	10,000	1 megohm	0	11	5.40	4.86	4.50	3.60
7F657	MT1-FB	600	600	10	23	3.75	3.38	3.13	2.50
5F917	MT1-H	600	600	10	23	7.80	7.02	6.50	5.20
7F664	MT9-FB	600 C.T.	1200 C.T.	4	23	4.65	4.19	3.88	3.10
7F929	MT10-FB	25,000	600	3	22	4.05	3.65	3.38	2.70
7F670	MT18-FB	25,000 C.T.	1,200 C.T. 6	..	32	4.80	4.32	4.00	3.20
5F920	MT20-FB	50,000 C.T.	1200/300 Split	3	20	4.80	4.32	4.00	3.20
7F672	MT21-FB	4,000 C.T.	600/150 Split	3	32	5.25	4.73	4.38	3.50

Fig. G

MICROTRAN Transformers & Inductors

Fig. A

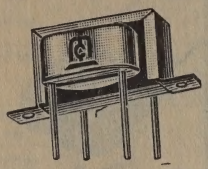


Fig. B

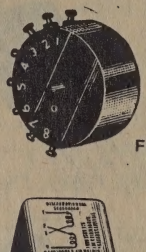


Fig. C

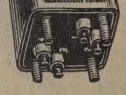


Fig. D

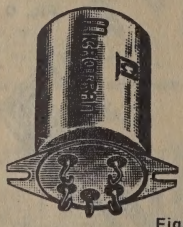


Fig. E

Fig. F

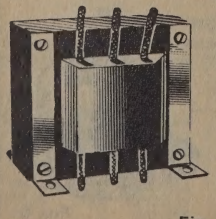


Fig. G

LOW LEVEL CHOPPER INPUT TRANSFORMERS

Fig. A. Transfers 30 to 500 cps. transducer or themocouple signals to instrument amplifiers. Signal range .5 μv to .5 volts. 3 mu-metal shields give 90 db magnetic shielding. 1⅜Dx1²⁵⁄₃₂Hx½ M.C. Wt., 5 oz. +sec. is center tapped.

Stk. No.	Type	Turns Ratio: Full Pri. to Full Sec.	Turns Ratio: ½ Pri. to Full Sec.	Ind. of Full Pri. @ 60 hz	Imp. of Full Pri. @ 60 hz	1-9	10-49	50-99	100-249
7F819	M8025	1:7.7	1:15.4	17.5 HY	6,600	13.80	12.42	11.50	.9.20
7F820	M8026	1:3.2	1.6.4	60 HY	22,500	13.80	12.42	11.50	9.20
7F939	M8052	1:4.53	1:9.06	90 HY	34,000	15.60	14.04	13.00	10.40
7F322	M8053†	1:0.5	1:1	140 HY	53,000	14.10	12.69	11.75	9.40

DC TO DC CONVERTER TRANSFORMERS—SWITCHING TYPE

Fig. B. Open frame with channel and leads; MIL designation TF6RX09ZZ. 1¹¹⁄₁₆x1³¹⁄₁₆x²⁷⁄₃₂.

Stk. No.	Type	Imput DCV	Output mw	Bridge Output DCV	Bridge Output DCuA	1-9	10-49	50-99	100-249
7F320	M8072	2.7	190	480	400	8.40	7.56	7.00	5.60

DC TO DC CONVERTER TRANSFORMERS—BLOCKING OSCILLATOR

Fig. B Laminated Series—400 Hz. Open frame figure— FB. MIL designation TFNRX09YY. * Typical.

Stk. No.	Type	Input* DCV	Input* Ma. DC	Output* DCV	Output* μa DC	L	W	H	1-9	10-49	50-99	100-249
7F317	M8050	3	20	1000	25	1¹¹⁄₁₆"	1³⁄₁₆"	²⁷⁄₃₂"	7.35	6.62	6.13	4.90
7F944	M8074	3	45	535	90	1¹¹⁄₁₆"	1³⁄₁₆"	²⁷⁄₃₂"	6.30	5.67	5.25	4.20
7F318	M8073	4	2-15	425-500	50	⅜"	⅜"	⅜"	5.25	4.73	4.38	3.50

DC TO DC CONVERTER TRANSFORMERS

Fig. C. Switching type. Epoxy molded with terminals and clearance hole for mounting. MIL designation TF5RX09Z. Clearance hole .170 except * .140.

Stk No.	Type	Input DCV	Output	Bridge Output DCV	Bridge Output DCMa.	In.	H In.	1-9	10-49	50-99	100-249
7F947	M8114	28	50	28	1750	2⅛	1¼	27.75	24.98	23.13	18.50
7F948	M8115*	13.8	5	500	10	1¼	¾	21.30	19.17	17.75	14.20
7F949	M8116	13.8	50	70	700	2⅛	1¼	28.50	25.65	23.75	19.00
7F951	M8118	28	50	70	700	2⅛	1¼	27.75	24.98	23.13	18.50
7F550	M8132	13.8	30	30	1000	1¼	¾	18.90	17.01	15.75	12.60
7F551	M8133	28	30	30	1000	1¼	¾	18.45	16.61	15.38	12.30

ISOLATION/ POWER TRANSFORMERS

Electrostatic shielding. MIL designation. TF4X01. All Fig. D. with 115 V. Primary except *Fig. E 26 V. Primary **Fig. E 115 V primary. +Fig. D. 105/115/125V primary.

Stk. No.	Type	Output Voltage	Current RMS Amps.	V.A. Rating	MIL Case	1-9	10-49	50-99	100-249
			60 Hz						
7F953	M8095	115/12.6/12.6 C.T.	.030/.25/.25	3.5/3.15/3.15	EA	28.50	25.65	23.75	19.00
7F552	M8151	115C.T.	.13	15	FA	23.40	21.07	19.50	15.60
			400Hz						
7F956	*M8082	12.6/12.6 C.T.	.15/ .15	1.9/1.9	YY*	10.50	9.45	8.75	7.00
7F323	**M8058	115C.T.	.017	2	YY*	10.20	9.18	8.50	6.80
7F324	M8059	115C.T.	.35	40	EB	17.10	15.39	14.25	11.40
7F325	M8060	115	1.3	150	GA	28.50	25.65	23.75	19.00
7F1/8	+ M8062	115C.T.	4.4	500	KA	55.50	49.95	46.75	37.00

TOROIDAL INDUCTORS—QGL & QGM SERIES

Two constructions: Fig.F QG-F—open frame wax dipped ⅝Dx⁹⁄₃₂. QG-M—epoxy molded. ⅞Dx⅜.

Stk. No.	Type	Mhys.	DCR	μμF	1-9	10-49	50-99	100-249
7F983	QGL100-F	100	50	42	4.95	4.46	4.13	3.30
7F985	QGM1-M	1	1.4	22	7.35	6.62	6.13	4.90

60 HZ ISOLATION AND POWER TRANSFORMERS

Center tap permits use in either F.W. Bridge or F.W.C.T. circuitry. Electrostatic shielding. All Fig. B. except * Fig. G.

Stk. No.	Type	In. V	Output V	Rms. Amp.	Mtg. Cntrs.	1-9	10-49	50-99	100-249
7F156	M8294	115	115 C.T.	.0085	1¾	5.55	5.00	4.63	3.70
7F157	M8295	115	115 C.T./12.6 C.T./12.6	.030/.25/.25	2⅜	11.40	10.26	9.50	7.60
7F158	M8296	115	115 C.T.	.35	3⁹⁄₁₆	12.15	10.94	10.13	8.10
7F159	M8278*	115	115 C.T.	.9	2⅛x2¾	17.55	15.80	14.63	11.70

FILTER INDUCTORS FOR LOW VOLTAGE SOLID STATE CIRCUITRY

Stk. No.	Type	Series Conn. Hys.	Series Conn. Amps.	DCR Ohms	Parrallel Conn. Hys.	Parrallel Conn. Amps.	Mtg. Cntrs.	1-9	10-49	50-99	100-249
7F160	M8198	3.5	.050	200	.875	.10	1¾	3.60	3.24	3.00	2.40
7F162	M8200	.5	.3	30	.125	.6	2⅜	5.85	5.27	4.88	3.90
7F163	M8201	.32	.6	16	.08	1.2	2¹³⁄₁₆	6.60	5.94	5.50	4.40
7F164	M8202*	.2	1.0	4	.05	2.0	2¹³⁄₁₆x2⅛	10.05	9.05	8.38	6.70
7F165	M8203*	.07	2.5	.84	.0175	5.0	3⅛x2½	12.90	11.61	10.75	8.60

60 HZ CONTROL AND POWER SUPPLY TRANSFORMERS

For relays, silicon rectifier circuitry, and filament applications. All Fig. B except * Fig. G.

Stk. No.	Type	Secondary ACV	Secondary RMS Amp	Dimensions L (in)	Dimensions W (in)	Dimensions H (in)	Mounting Centers	1-9	10-49	50-99	100-249
7F089	M8243	6.3 C.T.	2.0	3¼	1⅝	1¹⁵⁄₁₆	2¹³⁄₁₆	9.00	8.10	7.50	6.00
7F091	M8287	12.6 C.T.	3.0	3¹¹⁄₁₆	2⅛	2¼	3⅞	8.85	7.97	7.38	5.90
7F094	M8222*	18.5 C.T.	3.0	3⅜	2½	3³⁄₃₂	2¹³⁄₁₆x2½	11.70	10.53	9.75	7.80
7F095	M8288*	26 C.T.	2.5	3	2¾	2¾	2½x2½	12.15	10.94	10.13	8.10
7F096	M8245	28 C.T.	.6	3¼	2⅛	1¹⁵⁄₁₆	2¹³⁄₁₆	9.60	8.64	8.00	6.40
7F097	M8255*	30 C.T.	2.5	3¾	2¾	3¹⁵⁄₃₂	3⅛x2¼	12.90	11.61	10.75	8.60
7F098	M8223*	35 C.T.	3.0	4⅛	3	3¾	3⁷⁄₁₆x2⅜	16.35	14.72	13.63	10.90
7F099	M8289	40 C.T.	.1	2⅜	1⅜	1½	2	7.80	7.02	6.50	5.20
7F151	M8290	40 C.T.	.3	2¹³⁄₁₆	1⅝	1⅝	2⅜	8.70	7.83	7.25	5.80
7F152	M8291	40 C.T.	.75	3¹¹⁄₁₆	2⅛	2¼	3⅛	9.45	8.51	7.88	6.30
7F153	M8246*	49 C.T.	2.5	4½	3¼	4³⁄₃₂	3¾x2½	19.65	17.69	16.38	13.10
7F154	M8224*	70 C.T.	1.0	3¾	2¾	3¹⁵⁄₃₂	3⅛x2¼	12.45	11.21	10.38	8.30
7F155	M8256*	80 C.T.	.6	3	2⅝	2¾	2½x2⅜	12.45	11.21	10.38	8.30

Triad Transformers

1" mtg. ctrs., 1-3/32x5/8x3/4" D.

MINIATURE AUDIO—"TRIJETS"

Stock No.	Type	Application*	Pri. Imp.	Sec. Imp.	Resp.	1-9	10-24	25-49	50-99	100-249	250-Up
5F1362	T-1X	Line to Grid	600/250/50	50,000	60-15,000	5.00	4.50	4.05	3.76	3.53	3.35
5F1363	T-12X	Plate to Grid	15,000	60,000CT	60-15,000	5.32	4.79	4.31	4.01	3.77	3.58
5F1364	T-23X	Plate to Line	20,000CT	2000CT	60-15,000	5.38	4.84	4.35	4.04	3.79	3.60
3F917	T-31X	Line to Line	600/250/50	600/250/50	50-15,000	4.83	4.34	3.90	3.62	3.40	3.23
5F1365	T-34X	Line to Line	500CT	500/CT/125	50-20,000	3.60	3.24	2.92	2.72	2.56	2.43
5F1366	T-35X	Line to Trans	600CT	2000CT/500	50-20,000	3.95	3.55	3.19	2.96	2.78	2.64

TYPE SP "RED SPEC" TRANSISTOR TRANSFORMERS

Type SP. Nickel-alloy leads spaced on standard 1/10" grid ctrs. to fit printed cir. brds. Base: .310x.410". Lead length, 3/4". Meet MIL-T-27B specs. *SP-66 is output-isolation transformer. Wt., 1 oz.

INPUT Response: ±2 dB, 230 Hz-15 kHz @ 25 mw., 100 Hz-50 kHz @ 1 mw.

Stock No.	Type	MIL-T-27B Designation	Pri. Imp.	Sec. Imp.	Pwr. M.W.	1-9	10-24	25-49	50-99	100-249	250-Up
5F1367	SP-4	TF5SX16ZZ	200KCT	1,000CT	10	10.50	9.45	8.51	7.91	7.44	7.07
3F012	SP-5	TF5SX16ZZ	50KCT	1,000CT	25	9.95	8.96	8.06	7.50	7.05	6.70

OUTPUT Response: ±2dB. 250 Hz-50kHz @ 50 mw. 150 Hz-50 kHz @ 1 mw.

5F1368	SP-33	TF5SX17ZZ	1000	50	50	7.10	6.39	5.75	5.34	5.01	4.75
5F1369	SP-42	TF5SX17ZZ	150CT	12	50	7.28	6.55	5.90	5.49	5.16	4.90
5F1370	SP-50	TF5SX17ZZ	500CT	600	50	7.62	6.86	6.17	5.74	5.40	5.13
3F283	SP-52	TF5SX13ZZ	1.5CT	600	50	7.98	7.18	6.46	6.01	5.65	5.37
3F291	SP-65	TF5SX13ZZ	8KCT	3.2	50	7.50	6.75	6.08	5.65	5.31	5.04
3F292	SP-66	TF5SX13ZZ	10KCT*	10KCT	50	8.48	7.63	6.87	6.39	6.00	5.74

TYPE TY EPOXY MOLDED TOROIDAL TYPES

Type TY. Hermetically sealed. Single-hole mounting and peripheral terminals permit ready stacking. Meet MIL-T-27B, Grade 5, Class R specs. DC Source Volts: *12.6, #28. Av. Shpg wt., 1¼ lb.

Stock No.	Type	DCV from Rectifier	Max. DC Ma.	D.xH. (in.)	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
4F438	†TY-68S	250/125	50	1 11/32x1 3/4	.2	7.52	6.77	6.09	5.66	5.32	5.05
5F1371	TY-74S	600/300	200	2x4 1/8x3	1.07	12.25	11.03	9.93	9.23	8.68	8.25
3F633	*TY-78	250/125	100	1 3/4x1 1/16	.35	14.72	13.25	11.93	11.09	10.42	5.05
3F634	*TY-79	300/150	200	1 3/4x1	.35	14.72	13.25	11.93	11.09	10.42	9.90
3F636	*TY-81	375/187.5	200	2x1	.50	15.19	13.67	12.30	11.44	10.75	10.21
3F637	*TY-82	450/225	150	2x1	.50	14.72	13.25	11.93	11.09	10.42	9.90
3F638	*TY-83	500/250	250	2 3/4x1 3/8	.85	21.17	19.05	17.15	15.95	14.99	14.24
3F639	*TY-84	600/300	200	2 3/4x1 3/8	1.00	21.57	19.41	17.47	16.25	15.28	14.52
3F640	#TY-88	250/125	80	1 5/16x9/16	.25	13.02	11.72	10.55	9.81	9.22	8.76

(†)Open type.

EC AND EK SERIES TOROIDS

EC SERIES. 2% inductance tol. Supplied in molded epoxy to meet MIL-T-27B. Size: 1 5/16 dia. x 23/32" ht. Shpg. wt. 1½ lbs. **EK** series comes with plastic coated leads. Size: 1 11/16D x 7/8H.

Stk. No.	Type	Ind.	Approx. Ohms	DC-ma for 5% ind. drop	1-9	10-24	25-49	50-99	100-249	250-Up
4F015	EC-001A	1 mh	.40	520	5.72	5.15	4.64	4.32	4.06	3.86
5F1372	EC-005A	.5 mh	.92	233	5.73	5.16	4.64	4.32	4.06	3.86
4F036	EC-010A	10 mh.	1.30	165	6.20	5.58	5.02	4.67	4.39	4.17
4F038	EC-020A	20 mh	1.85	116	6.27	5.64	5.08	4.72	4.44	4.22
5F1373	EC-030	30 mh	4.20	82	3.98	3.58	3.22	2.99	2.81	2.67
4F039	EC-030A	30 mh	2.85	95	5.92	5.33	4.80	4.46	4.19	3.98
5F1374	EC-070	70 mh	8.30	62	4.13	3.72	3.35	3.12	2.93	2.78
4F053	EC-100A	100 mh	13.00	52	6.92	6.23	5.61	5.22	4.91	4.66
4F054	EC-200A	200 mh	23.00	37	6.72	6.05	5.45	5.07	4.77	4.53
4F055	EC-250A	250 mh	33.00	33	6.80	6.12	5.51	5.12	4.81	4.57
4F057	EC-300A	300 mh	35.00	30	6.95	6.26	5.63	5.24	4.93	4.68
4F058	EC-500A	500 mh	72.00	23	6.93	6.24	5.62	5.23	4.92	4.67
5F1375	EC-1000	1000 mh	134	16.5	4.85	4.37	3.93	3.65	3.43	3.26

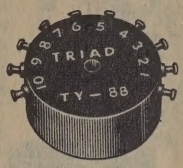
TYPE F FILAMENT TRANSFORMERS, SINGLE SECONDARY—Primary 115 volts, 60 Hertz

Stk. No.	Type	Secondary Volts	Secondary Amperes	Test Volts	Mtg. MW	Dim., In. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-over
3F720	F-1X	2.5CT	3	1500	2 3/8	.....	.68	4.08	3.67	3.30	3.06	2.87	2.72
3F722	F-3X	2.5CT	10	3000	3 1/8	.....	1.75	5.73	5.15	4.63	4.30	4.04	3.83
3F724	F-7X	5 CT	3	1500	2 13/16	2 13/16	1.25	4.60	4.14	3.72	3.45	3.24	3.07
3F958	F-13X	6.3	.6	1500	2	.....	.37	2.67	2.40	2.16	2.01	1.89	1.80
3F959	F-14X	6.3CT	1.2	2500	2 3/8	.....	.75	3.65	3.28	2.95	2.74	2.57	2.44
5F1376	F-43X	6.3	4	1500	2 13/16	.....	1.25	5.03	4.52	4.06	3.77	3.54	3.36
3F960	F-16X	6.3CT	3	2500	2 13/16	.....	1.25	4.33	3.89	3.50	3.25	3.05	2.89
3F961	F-18X	6.3CT	6	1500	3 9/16	.....	2.25	6.77	6.09	5.48	5.09	4.78	4.54
3F775	F-18A	6.3CT	6	1500	2	1 11/16	2.50	7.75	6.97	6.27	5.83	5.48	5.20
3F776	F-21A	6.3CT	10	1500	2 1/4	2	3.50	9.90	8.91	8.01	7.44	6.99	6.64
5F1377	F-22A	6.3CT	20	2000	2 1/2	3	7	13.75	12.37	11.13	10.35	9.72	9.23
2F532	F-45X	24CT	1	1500	2 13/16	.....	1.3	3.77	3.39	3.05	2.84	2.67	2.54
5F1378	F-54X	35CT	1.5	1500	3 9/16	.....	2.2	5.60	5.04	4.53	4.21	3.95	3.75
3F777	F-22A	6.3CT	20	2000	2 1/2	3	7	13.75	12.37	11.33	10.35	9.72	9.23
3F778	F-25X	12.6CT	1.5	1500	2 13/16	.....	1.25	4.32	3.88	3.49	3.24	3.04	2.88
5F1379	F-44X	12.6CT	2	1500	2 13/16	.....	1.25	4.30	3.87	3.48	3.23	3.03	2.87
3F996	F-26X	12.6CT	2.5	1500	3 1/8	.....	1.55	8.13	7.31	6.57	6.11	5.74	5.45
3F779	F-40X	26.8CT	1	1500	2 13/16	.....	1.25	15.65	14.08	12.67	11.78	11.07	10.51
3F726	F-41X	25.2CT	2	1500	3 9/16	.....	2.25	5.53	4.97	4.47	4.15	3.90	3.70
3F631	F-28U	7.5/6.3CT	25	3000	3	3 1/16	7.50	21.82	19.63	17.66	16.42	15.43	14.65
3F632	F-29U	12/11/10CT	11	3000	2 3/4	2 9/16	6.5	3.72	3.34	3.00	2.79	2.62	2.48
4F435	F-42A	12.6CT	2.5	1500	2 1/4	2	3.7	4.76	4.28	3.85	3.58	3.36	3.19

TYPE F MULTIPLE SECONDARY

5F1380	F-32A	6.3CT	3	1500	2	2 1/8	4	7.72	6.94	6.24	5.80	5.45	5.17
5F1381	F-34A	6.3CT	1.75	1500	2	1 11/16	2.5	9.53	8.57	7.71	7.17	6.73	6.39
5F1382	F-83A	12.6CT	5	1500	2 1/2	2 5/8	6	13.50	12.15	10.93	10.16	9.55	9.07

"Red Spec"



Epoxy Molded Toroidal

EC Series

Case X

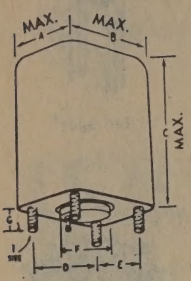
Case V

Triad Transformers

Size For HS & HSM							
Case	A	B	C	D	E	G	I	Wt. lbs.
AH	1 5/16	1 5/16	1 3/4	1 1/4		3/8	6-32	4 oz.
AJ	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	3/8	6-32	9 oz.
EA	1 13/16	1 15/16	2 3/4	1 3/8	1 1/4	3/8	6-32	1

TYPE HS-HSM HERMETICALLY SEALED TRANSFORMERS

HS-HSM series transformers are designed to meet MIL-T-27B requirements. Equip. using these transformers need not be redesigned to submit for MIL. approval. These transformers are permanently marked with electrical and environmental data as specified in MIL-T-27B. All are "Climatite" treated. Avg. wt. 10 oz.



TYPE HS TRANSFORMER 380/1500 HERTZ

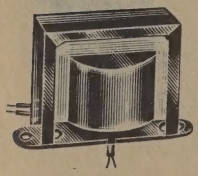
Stk. No.	Type	MIL Type	Primary A.C. Volts	Fil. Volts	Fil. Amps	Case	1-9	10-24	25-49	50-99	100-249	250-up
3F738	HS-436	TF4RX01AH	115	6.3CT	1	AH	11.75	10.58	9.52	8.85	8.35	7.90
3F741	HS-438	TF4RX01EA	105-115-125	24CT	1.5	EA	20.59	18.53	16.68	15.51	14.58	13.85
3F745	HS-443	TF4RX01YY	105-115-125	12.6CT,12.6	0.8	AJ-2	18.69	16.82	15.14	14.08	13.24	12.58
4F455	HS-444	TF4SX01FA	0-75.5-99.7-115-120	26CT	2	FA	31.32	28.19	25.37	23.59	22.17	21.06

TYPE HS AND JAF AUDIO TRANSFORMERS

Stk. No.	Type	Mil. Type	Primary Imp.	Secondary Imp.	Freq. Resp.	1-9	10-24	25-49	50-99	100-249	250 up
4F444	HS-52	TF1QX13YY	20K CT/5000	600/250/150-62.5	20-20,000	26.17	23.64	21.28	19.79	18.60	17.67
5F2170	HS-56V	TF1VX16YY	600K/250/150/62.5	600/250/150/62.5	10-30,000	30.19	27.17	24.25	22.74	21.38	20.31
5F2171	HS-66	TF1QX16YY	600K/250/150/62.5	600/250/150/62.5	10-30,000	25.71	23.14	20.83	19.37	18.21	17.30
4F446	JAF-33	TF1QX21YY	5000 CT	5000 CT.	60-15,000	16.49	14.84	13.36	12.42	11.09	11.09

TYPE HS ISOLATION TRANSFORMERS—115 V., 380/1500 HERTZ

Stk. No.	Type No.	Mil. Type	Current	Volt-Amperes	Wt. lbs.	1-9	10-24	25-49	50-99	100-249	250-up
3F359	HS-470	TF4RX01EA	.35A	40	1.5	17.97	16.17	14.55	13.53	12.72	12.08
3F594	HS-472	TF4RX01GA	1.39A	160	3.1	22.09	19.88	17.89	16.64	15.64	14.86

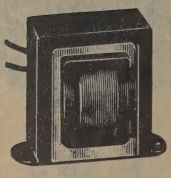


CASE X

TYPE R COMBINED PLATE AND FILAMENT TRANSFORMERS— Primary 115 Volts, 50-60 Hertz

All types are "Climatite" treated for protection against moisture and for elimination of lamination chatter. Hold temp. rise below 55°C. Only copper foil static shields, grounded to the case and core, are used. Leads are UL approved. All connection dated dates permanently marked on case.

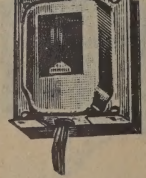
Stock No.	Type No.	Plate Supply AC V	Plate Supply DC Ma	Rect. Fil. Volts	Rect. Fil. Amp	Other Fil. Volts	Other Fil. Amp.	Mtg. Dim. MW	Mtg. Dim. MD	1-9	10-24	25-49	50-99	100-249	250-up
3F942	R-4A	500CT	40	.....	.....	6.3CT	2	1 3/4	1 7/8	7.32	6.58	5.92	5.50	5.17	4.91
3F943	R-5A	600CT	65	.....	.....	6.3CT	2.7	2	1 11/16	8.55	7.69	6.92	6.43	6.04	5.73
3F945	R-7A	600CT	50	5	2	6.3CT	2	2	1 11/16	8.22	7.40	6.66	6.19	5.82	5.53
3F946	R-8A	500CT	75	5	2	6.3CT	2.5	2	2 3/16	9.52	8.56	7.70	7.16	6.73	6.39
3F949	R-11A	700CT	90	5	3	6.3CT	3.5	2 1/4	2 5/8	11.85	10.66	9.59	8.91	8.37	7.95
3F950	R-20A	700CT	200	5	3	6.3CT	8	2 3/4	3 1/4	17.55	15.79	14.21	13.21	12.41	11.78
4F441	R-22A	320/380CT	70	.....	.....	6.3CT	.6	2	1 11/16	8.68	7.81	7.02	6.52	6.12	5.81



CASE Z

TYPE TY OUTPUT AND DRIVER TRANSISTOR TRANSFORMERS—HIGH LEVEL

Stock No.	Type No.	Pri. Match Imped	Pri. Cur. MA.	Sec Match Imped.	Max. Level	Size	1-9	10-24	25-49	50-99	100-249	250-up
2F949	TY 30X	100CT	100	8/4	2 W	1 3/16 x 2 1/16 x 1 1/4"	3.82	3.43	3.08	2.86	2.68	2.54
2F950	TY 31X	200CT	50	8/4	2 W	1 3/16 x 2 1/16 x 1 1/4"	3.73	3.35	3.01	2.79	2.62	2.48
5F2172	TY 45X	500CT	...	16/8/4	.2 W	1 3/16 x 1 5/8 x 1"	5.35	4.81	4.32	4.01	3.76	3.57
2F952	TY 53X	200CT	10	400CT	.6 W	1 15/16 x 3 5/16 x 1 3/4"	4.83	4.34	3.90	3.62	3.40	3.23
5F2173	TY 55X	2000CT	...	500CT	.2 W	1 3/16 x 1 5/8 x 1"	6.00	5.40	4.86	4.51	4.23	4.01
2F954	TY 63X	48CT	275	16/8	5 W	1 15/16 x 3 5/16 x 1 3/4"	5.57	5.01	4.50	4.18	3.92	3.72
2F955	TY 64X	32CT	575	16/8/4	10 W	1 15/16 x 3 5/16 x 1 3/4"	4.95	4.46	4.01	3.73	3.51	3.33
2F958	TY 67A	6CT	5A	16/8/4	40 W	3 15/16 x 3 9/32 x 3 3/8"	11.57	10.41	9.37	8.71	8.19	7.78



CASE A

TYPE TY TRANSISTOR DRIVER TRANSFORMERS—SPLIT SECONDARY

Stock No.	Type	Turns Ratio	DC Res. Pri.	DC Res. Ea. Sec.	Max. Pri. DC. MA	Power level	Min. Pri. Induct.	1-9	10-24	25-49	50-99	100-249	250-up
4F450	TY-160X	6:1.1	45	3.6	50	3-5W	3.5H	5.47	4.92	4.43	4.12	3.87	3.68

TYPE TY DC-TO-AC TRANSISTOR TRANSFORMERS

Stock No.	Mfr. Type	DCV Pri.	Secondary (115 VAC)	Dimensions (HWD, in.)	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-up
3F651	TY-46B	28	400cps 60W.	1 7/8 x 2 1/4 x 2	1 7/8"	1 3/8"	1/2	13.35	12.02	10.82	10.06	9.46	8.99
3F652	TY-75A	12	60cps 115W.	3 7/8 x 3 9/32 x 3 1/2	2 1/2"	2 3/8"	5	16.54	14.89	13.40	12.46	11.71	11.12
3F653	TY-76A	12	60cps 60W.	2 21/32 x 2 5/8	2"	1 11/16"	3	10.67	9.60	8.64	8.04	7.56	7.18

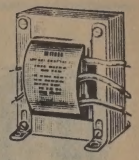
TYPE "C" SMOOTHING FILTER REACTORS

Stk. No.	Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-up
3F753	C-30X	50	15	3500	1500	2	....	.42	3.45	3.10	2.79	2.59	2.43	2.30
3F754	C-1X	15	20	1000	1000	1 3/4	....	.21	2.70	2.43	2.18	2.02	1.89	1.79
5F2174	C-2X	2	15	70	1500	1 1/4	....	.21	2.38	2.14	1.92	1.78	1.67	1.58
3F952	C-3X	10	50	500	1500	2 3/8	1 3/4	.75	3.17	2.85	2.56	2.38	2.23	2.11
3F755	C-5X	12	75	390	1000	2 13/16	....	1.00	3.78	3.40	3.06	2.84	2.66	2.52
5F2178	C-6X	5	65	330	1500	1 1/2	2 3/8	.6	3.15	2.83	2.54	2.36	2.21	2.09
3F757	C-7X	10	90	270	1000	2 13/16	....	1.3	4.00	3.60	3.24	3.01	2.82	2.67
3F761	C-16A	10	200	150	2500	2 1/4	2 3/8	4.5	9.08	8.17	7.35	6.83	6.42	6.09
5F2175	C-24X	1	250	50	1500	2 3/8	....	.75	3.08	2.77	2.49	2.31	2.17	2.06
4F432	C-27X	0.7	290	30	1500	2 3/8	....	.75	2.88	2.59	2.33	2.16	2.03	1.92
4F452	C-36X	.5	300	30	1500	2	....	.5	2.78	2.50	2.25	2.09	1.96	1.86
3F765	C-40X	.32	600	10	1500	2 13/16	....	1.3	3.62	3.25	2.92	2.71	2.54	2.41
3F734	C-47U	.3-.075	1A-2A	3-.75	1500	2 1/4	2 11/16	4.6	8.37	7.53	6.77	6.29	5.91	5.61
3F735	C-48U	.08-.02	2.5A-5A	.61-.155	1500	2 1/2	3 1/16	6.75	10.50	9.45	8.50	7.90	7.42	7.04
2F540	C-49U	.032-.008	5A-10A	.19-.05	1500	2 3/4	3 1/16	8.0	14.69	13.22	11.90	11.07	10.41	9.89
5F2176	C-58U	.01	8.0	.15	1500	3 1/8	2 1/2	5.5	8.84	7.96	7.16	6.66	6.26	5.95
5F2177	C-59U	.01	12.5	.10	1500	3 7/16	2 3/8	6.25	11.80	10.62	9.55	8.88	8.34	7.92

NOTE: LAST LETTER OF MFR. TYPE NUMBER FOR ITEMS IN THIS SECTION DENOTES CASE STYLE

TYPE F UNIVERSAL RECTIFIER TRANSFORMERS—Primary 60 Hertz

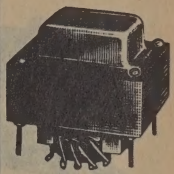
Stk. No.	Type No.	Pri-Volts	Secondary AC Volts	Secondary Amps RMS	Rectifier Circuit HW Volts DC	Rectifier Circuit FWB Volts DC	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Over
3F984	F-47U	115	17-18	3	6-7	13-14	1⅝	2⅜	3.2	10.02	9.01	8.10	7.53	7.07	6.71
3F962	F-48U	115	17-18	6	6-7	13-14	2½	2 11/16	5.5	12.32	11.08	9.97	9.27	8.71	8.27
3F985	F-49U	115	36												
			36	3	13		3	3 1/16	9.75	18.20	16.38	14.74	13.71	12.89	12.25
3F963	F-60U	115	6.5-13-19.5-26	3	9	26 18	2¼	2 3/16	3.5	8.45	7.60	6.84	6.36	5.97	5.67
3F986	F-61U	115	24-27-30-33-36	3	13	26	2½	2 11/16	5.65	12.80	11.52	10.36	9.63	9.05	8.59
3F965	F-64U	115	7-8-9	7		5-6-7	2¼	2 3/16	3.5	9.89	8.90	8.01	7.45	7.00	6.65
3F990	F65U	110-120	0-140 150-160	.75	60	115	2½	2 13/16	5.8	12.51	11.25	10.12	9.41	8.84	8.39
3F987	F-67U	110-120	24-27-30-33-36	8	13	26	3	3 5/16	10¾	24.60	22.14	19.92	18.52	17.40	16.53
3F623	F-79U	115	24-26 28-30	15	11.4	22.8	3¾	4 9/16	18½	34.38	30.94	27.84	25.89	24.33	23.11



Case U

TYPE F LOW VOLTAGE RECTIFIER TRANSFORMERS—50-60 Hertz

Stk. No.	Type	Pri-Volts	Secondary AC Voltage	Secondary AC Amps	Case Dim. H	Case Dim. W	Case Dim. D	Wt.	1-9	10-24	25-49	50-99	100-249	250-Up
3F620	F-90X	115 Tapped	10-20CT-40CT	.1	1⅝	2 13/16	1⅝	¾	4.33	3.89	3.50	3.25	3.05	2.89
3F621	F-91X	115 Tapped	10-20CT-40CT	.3	2 3/32	3 1/16	2	1½	5.12	4.60	4.14	3.85	3.61	3.42
3F622	F-92A	115 Tapped	10-20CT-40CT	1	3 3/16	2 21/32	3	3¼	8.50	7.65	6.88	6.39	6.00	5.70
5F1350	F-93X	115 Tapped	10-20CT-40CT	.035	2 19/32	4	2¼	2.4	6.30	5.67	5.10	4.74	4.45	4.22
5F1351	F-94X	115 Tapped	10-20CT-40CT	.75	1⅜	2⅜	1⅜	.5	4.27	3.84	3.45	3.20	3.00	2.85



Case C

TYPE R TRANSFORMERS FOR PREAMPLIFIERS, VTVM, etc.—Primary 115 volts, 60 Hertz

Stk. No.	Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Fil. Windings Volts-Amps.	Mtg. Dim-In. MW	Mtg. Dim-In. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Over
2F534	R-2C	135	15	6.3V-9A		1¼	1	6.35	5.72	5.15	4.79	4.50	4.28
5F1352	R-23B	250 CT	22	6.3 12-A	1⅞	2⅜	2 3/16	1.75	7.10	6.39	5.75	5.34	5.01
3F932	R-3A	500 CT	20	6.3 V. CT.-2A.	1¾	1¾	1¾	6.83	6.15	5.54	5.15	4.84	4.60
3F933	R-29A	230 CT	40	6.3V-1.5A.	1¾	1⅝	1¾	6.52	5.86	5.27	4.90	4.60	4.37
3F934	R-30X	135	50	6.3V.-1.5A.	3⅛		1½	6.27	5.64	5.07	4.71	4.42	4.19
3F935	R-54X	115	15	6.3V.-6A.	2⅜		1	3.12	2.80	2.52	2.34	2.19	2.08

TRANSFORMERS FOR CATHODE RAY TUBES—Primary 115 Volts—50-60 Hertz

Stk. No.	Type	Plate Supply AC Volts	Plate Supply DC Ma	Filament Windings Volts and Amperes	HxWxD	1-9	10-24	25-49	50-99	100-249	250-Up
3F853	R-43C	1600	3	6.3/5/2.5V., 1A 6.3/5/2.5V., 3A	2⅜x3 1/16x2 9/16	12.49	11.24	10.12	9.41	8.85	8.41
4F264	R-41C	440-0-440-1250	125/5	6.3V.-6A,2.5V-1.75A 2.5V-1.75A, 5.0V-3.0A	3¼x4 3/16x3½	15.97	14.37	12.93	12.02	11.30	10.74

NOTE: Last Letter of Manufacturer Type Number for Items on This Page Denotes Case Style

SOLID STATE RECTIFIER/PRI. 117 VAC., 50-60 Hz.—For Delco 50 & 100 W. Amps.

Stk. No.	Type	Sec. V.	Test V.	Mtg. MW	Dim. In. MD	Wt. lbs.	1-9	10-24	45-49	50-99	100-249	250-Up
4F451	R-82B	70	1500	3¾	3	8¼	17.78	16.00	14.40	13.39	12.58	11.95
4F460	R-250R	60	1500	2¾	2 11/16	6.0	15.70	14.13	12.71	11.82	11.11	10.55

LOW FREQUENCY TRANSFORMERS—30 TO 500 Hertz

One half of primary balanced to other half in both inductance and "Q".

Stock No.	Type	Primary Imp. in Ohms	Secondary Imp. in Ohms	Size	Weight	1-9	10-24	25-49	50-99	100-249	250-Up
2F535	G-19	1000 CT.	1000 CT.	2⅛Hx1¼x1 1/16"	5¼ oz.	25.11	22.60	20.34	18.92	17.78	16.89
3F785	G-25	40000 CT.	10000 CT.	2⅛Hx1¼x1 1/16"	5¼ oz.	31.11	28.00	25.20	23.44	22.03	20.93

TYPE "A" LOW LEVEL OUTPUT TRANSFORMERS

Mtg. Centers: Type A-31X, 2"; Type A-51X, 1¾". Type A-53X, 2⅜".
Type A-12J and A-65J have split Secondary Winding.

Stock No.	Type No.	Application	Freq. Resp.	Pri. Imp.	Sec. Imp.	Wt. Lbs.	1-9	10-24	25,49	50-99	100-249	250-Up
2F536	A-31X	Plate to Grid.	100-10,000	10,000	90,000 CT	.45	4.48	4.03	3.62	3.36	3.15	2.99
3F783	A-53X	Single or p.p. Plate to line	70-7,000	18000 CT	600/250/50	.6	4.08	3.67	3.30	3.07	2.89	2.75
5F1353	A-9J	Line to Grid	30-15000	85,000	600/250/50	.35	12.00	10.80	9.72	9.03	8.48	8.05
5F1354	A-115J	Line to Grid	30-15000	60,000	600/250/50	.35	11.57	10.41	9.36	8.70	8.17	7.76
5F1355	A-12J	Line to Grid	30-15000	60,000	600CT/150	.35	11.93	10.73	9.65	8.97	8.43	8.00
5F1356	A-40J	Plate to Grid	30-15000	115,000 CT	15000	.35	11.78	10.60	9.54	8.87	8.33	7.91
2F538	A-65J	Plate to line	30-15000	15,000	600CT/150	.35	9.69	8.72	7.85	7.30	6.86	6.52
5F1357	A-67J	Line to line	30-15000	600CT/150	600CT/150	.35	13.50	12.15	10.93	10.16	9.55	9.07

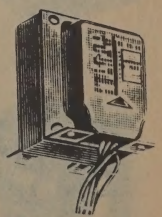
G-22

TYPE "A" INPUT TRANSFORMERS, Line or Microphone to Grid

Stk. No.	Type No.	Application	Freq. Resp.	Pri. Imp.	Turn Ratio	Mtg. Dim. MW	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
3F766	A-1X	Line or sgle btn mike to grid.	100-15,000	100	1:31.4	1¾	.21	3.40	3.06	2.75	2.55	2.39	2.27

TYPE "N" ISOLATION TRANSFORMERS—50/60 HERTZ *Autoformer

Stock No.	Type No.	V. A. Output	Input Volts	Output Volts	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	1-4	5-24	25-49	50-99	100-249	250-Over
5F1359	N-4M	150	230	115	2¼	2⅜	4.7	11.21	10.08	9.07	8.43	7.92	7.52
4F433	N-5M*	250	230	115	2½	3	7.0	14.63	13.16	11.84	11.01	10.34	9.82
5F1358	N-1X	50	230	115	3⅛	...	1.5	4.72	4.24	3.81	3.54	3.32	3.15
5F1360	N-9M	1250	230	115	3½	5⅛	24	53.43	48.09	43.28	40.25	37.84	35.95
3F750	N-51X	35	115	115	3⅛	...	1.7	5.45	4.90	4.41	4.10	3.85	3.65
3F603	N-68X	50	230/115	115	3⅛	...	1.7	6.77	6.09	5.48	5.09	4.78	4.54
3F751	N-53M	85	115	115	2¼	2⅜	4.7	14.12	12.70	11.43	10.62	9.98	9.48
3F604	N-54M	150	115	115	2½	3	7.0	16.32	14.68	13.21	12.28	11.54	10.96
2F541	N-55M	250	115	115	3	3⅞	11.0	25.44	22.90	20.61	19.17	18.02	17.12
2F542	N-57M	500	115	115	3½	5⅛	23.75	54.19	48.77	43.89	40.82	38.37	36.45
5F1361	N-66A	250	115-230	115	3	3⅝	11	21.15	19.03	17.12	15.92	14.96	14.21
3F605	N-67A	150	230/115	115	2½	3	7.0	12.70	11.43	10.28	9.56	8.98	8.53
3F786	N-74A	150	575/115	115	2½	3	7	12.83	11.54	10.38	9.65	9.07	8.61

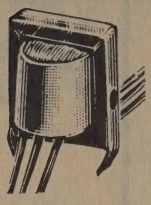


Case A

TM Thordarson Transformers

KEY TO APPLICATION OF TRANSFORMERS BELOW

A-Imput J-Interchange D-Driver S-Output to line



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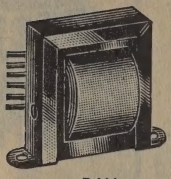

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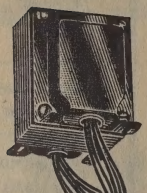

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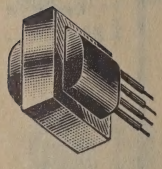

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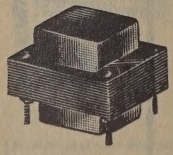

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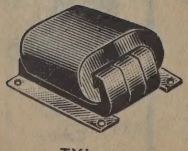


TYL

AUDIO TRANSISTOR TRANSFORMER—OPEN FRAME

(*) Split Center Tap Winding

Stock No.	Type	Mtg. Type	Impedance Pri.	Impedance Sec.	Use	Mgt. Cntrs.	Power MW	Each Boxed 1-9	10-24	25-49	50-99
5F1503	TR-64	BAH	100	100CT	D	1¾	500	5.21	4.69	4.43	4.17
5F1511	TR-5	BCH	490CT	150CT	D	1 3/16	150	5.21	4.69	4.43	4.17
5F1514	TR-66	BAH	500CT	200CT	D	1¾	500	5.21	4.69	4.43	4.17
5F1516	TR-1	BAH	500CT	500CT	D, S	1⅜	300	5.21	4.69	4.43	4.17
5F1520	TR-423	BAH	600	600	D, J	1 5/32	200	5.28	4.75	4.49	4.22
5F1522	TR-459	BAH	600CT	600CT	J	1⅜	200	5.28	4.75	4.49	4.22
5F1525	TR-238	BAH	1000	200CT	D	1 1/16	1	8.43	7.59	7.17	6.74
5F1526	TR-4	BCH	1500	500CT	D, S	1 3/16	150	5.21	4.69	4.43	4.17
5F1527	TR-213	MAH	1500CT	600CT	J, S	....	100	3.83	3.45	3.26	3.06
5F1529	TR-421	BAH	2000CT	500CT	J	1	600	5.28	4.75	4.49	4.22
5F1530	TR-413	BAH	2500	2500CT	J	1	200	5.28	4.75	4.49	4.22
5F1534	TR-454	BAH	4000CT	600*	D, J	1⅜	1.5W	5.28	4.75	4.49	4.22
5F1536	TR-3	BCH	5000CT	10000CT	D, J	1 3/16	150	5.21	4.69	4.43	4.17
5F1541	TR-23	BCH	10000	200CT	D, S		150	5.21	4.69	4.43	4.17
5F1543	TR-210	MAH	10000	500CT		1 3/16					
			12500	600CT	D, S	1 3/16	100	3.83	3.45	3.26	3.06
5F1547	TR-7	BCH	10000	2000CT	J	1 3/16	150	5.21	4.69	4.43	4.17
5F1551	TR-419	BAH	10000CT	10000CT	J	1	100	5.28	4.75	4.49	4.22
5F1567	TR-400	BAH	50000	600	A, J	1	100	5.28	4.75	4.49	4.22

INVERTERS DC TO AC

Converters at low voltage DC to high voltage AC or DC power. Ideally suited for powering all types of battery operated equipment. Complete instructions supplied with each transformer.

Stock No.	Type	Mtg. Type	DVC Supply	Output Voltage	Power Watts	Mtg. Cntrs.	Each Boxed 1-9	10-24	25-49	50-99
5F1575	TR-70	GGV	12	117V@60CPS	50	1⅝x2	22.97	20.67	19.52	18.38
5F1576	TR-71	GGV	12	117V@60CPS	110	2 3/16x2½	30.63	27.57	26.04	24.50
5F1577	TR-287	TYL	28	110/115/125V @400CPS	60	1⅞x1⅜	18.38	16.54	15.62	14.70

OUTPUT-TRANSISTOR TO VOICE COIL

Stock No.	Type	Mfg. Type	Impedance Pri.	Impedance Sec.	Mfg. Cntrs.	Power Watts	Each, Boxed 1-9	10-24	25-49	50-99
5F1593	TR-111	BAH	100CT	4/8/16	1⅜	.3	6.14	5.53	5.22	4.91
5F1601	TR-27	BCH	500CT	3.2	1 3/16	.15	5.21	4.69	4.43	4.17
5F1605	TR-103	BCH	600CT	4/8/16	1 3/16	15	5.84	5.26	4.96	4.67
5F1616	TR-203	MAH	10000	3.2	...	.1	3.83	3.45	3.26	3.06

POWER TRANSFORMERS (*)400-80-0-80-400

Stock No.	Type	Volts	MADC	Volts	Amps	Volts	Amps	Mtg. Type	1-9	10-24	25-49	50-99
5F1896	22R39	125-0-125	25	...		6.3	1	BAV	4.37	3.93	3.71	3.50
5F1897	24R10	220-0-220	50	6.3	.6	25.2	.5	GGV	10.82	9.74	9.20	8.66
5F1910	26R31U	260-0-260	90	..	..	6.3	4	GGV	11.49	10.34	9.77	9.19
5F1913	26R53	268-0-268	260	5	3	6.3	8	GGV	25.27	22.74	21.48	20.22
5F1919	22R02	300-0-300	70	5	2	6.3CT	3	AGF	12.03	10.83	10.23	9.62
5F1920	22R04	300-0-300	90	5	2	6.3CT	3.5	AGF	10.92	9.83	9.28	8.74
5F1921	22R05	300-0-300	120	5	3	6.3CT	5	AGF	19.15	17.24	16.28	15.32
5F1924	24R08	325-0-325	55	5	2	6.3CT	2	AGF	11.36	10.22	9.66	9.09
5F1943	24R06U	375-0-375	150	5	3	6.3CT	4.7	GGV	18.06	16.25	15.35	14.45
5F1951	22R35	400-0-400	340	5	6	6.3CT	7	GGV	38.28	34.45	32.54	30.62
5F1956	22R36	600-0-600	200	5	3	6.3	5	GGV	38.28	34.45	32.54	30.62

MULTI-TAPPED LOW VOLTAGE RECTIFIER

Stock No.	Type	Secondary AC. Volts	Recom. Capacitor	Mtg. Type	Mtg. Centers	1-9	10-24	25-49	50-99
5F2061	23V60	11.7 to 29.4	1000 MFD						
		11.1 to 28.5	500 MFD	AH	2x2⅛	11.49	10.34	9.77	9.19
5F2062	23V61	12.2 to 29.7	2000 MFD						
		12.2 to 29.7	1000 MFD	AJ	2¼x2⅜	11.49	10.34	9.77	9.19
5F2063	23V62	11.7 to 29.2	4000 MFD						
		11.8 to 29.2	2000 MFD	FA	2½x2⅞	18.84	16.42	15.50	14.59
5F2064	23V63	12.0 to 29.8	6000 MFD						
		12.0 to 29.6	3000 MFD	HA	2¾ x3¼	22.97	20.67	19.52	18.38
5F2065	23V64	12.2 to 29.7	7500 MFD						
		12.1 to 29.2	4000 MFD	KA	2 5/16x3¾	30.63	27.57	26.04	24.50

LOW VOLTAGE CONTROL

Stock No.	Type	VA Out	Primary Voltage	Secondary Voltage	Secondary Amps	Mtg. Type	Mtg. Centers	1-9	10-24	25-49	50-99
5F2022	23V51	24	115/230	6 or 12	4 or 2	BHV	2 3/16	7.66	6.89	6.51	6.13
5F2023	23V160	24	115	24	1	BGH	2 3/16	8.03	7.23	6.83	6.42
5F2024	23V52	48	115/230	12 or 24	4 or 2	BHV	3⅛	7.29	6.56	6.20	5.83
5F2025	23V53	96	115/230	12 or 24	8 or 4	CHV	2⅜x2¼	14.59	13.13	12.40	11.67

SILICON RECTIFIER POWER TRANSFORMERS

Stock No.	Type	Secondary Volts	Secondary MADC	Secondaries 6.3V @	Secondaries 6.3V @	Mtg. Type	Mtg. Centers	Each Boxed 1-9	10-24	25-49	50-99
5F2068	24R105	30-0-30	2500	1.5A	1.5A	GGV	2¾x2¹¹⁄₁₆	21.62	19.46	18.38	17.30
5F2070	24R104	40-0-40	2000	1.5A	1.5A	GGV	2¾x2¹³⁄₁₆	21.62	19.46	18.38	17.30

LOW VOLTAGE RECTIFIER TRANSFORMERS 50/60 CYCLES

Primary Voltage 115 except (††) 110/120.

Stock No.	Type	Secondary Voltage	Secondary Amps	Mtg. Type	Mtg. Centers	Each Boxed 1-9	10-24	25-49	50-99
5F2047	23V103	6.3/13/19.5/26	3	LAV	2¼x2³⁄₁₆	10.94	9.85	9.30	8.75
5F2049	23V116	10/20CT/40CT	.1	BAH	2⅜	6.14	5.53	5.22	4.91
5F2050	23V117	10/20CT/40CT	.3	BAH	3⅛	7.66	6.89	6.51	6.13
5F2051	23V118	10/20CT/40CT	.75	BAH	3⁹⁄₁₆	12.65	11.39	10.75	10.12
5F2054	23V100	17/18	3	LAV	2x2⅜	9.58	8.62	8.14	7.66
5F2057	23V105††	24/27/30/33/36	8	LAV	3x3⁵⁄₁₆	29.16	26.24	24.79	23.33
5F2058	23V112	24/26/28/30	15	LHV	3¾x4⁹⁄₁₆	45.94	41.35	39.05	36.75
5F2059	23V102	36/36	3/3	LAV	3x3¹⁄₁₆	21.87	19.68	18.59	17.50
5F2060	23V119	10/20CT/40CT	1	GGV	2x2¼	12.65	11.39	10.75	10.12

ISOLATION TRANSFORMERS 50/60 Hz

Stock No.	Type	VA Out	Primary Voltage	Sec. Volt	Mtg. Type	Mtg. Centers	Each Boxed 1-9	10-24	25-49	50-99
5F2026	23V17	35	115	115	BAH	3⅛	6.55	5.90	5.57	5.24
5F2027	23V80	40	115/230	115	BAH	3⅛	8.43	7.59	7.17	6.74
5F2029	23V18	80	115	115	GGV	2½x2⁵⁄₁₆	14.59	13.13	12.40	11.67
5F2032	23V74	150	115/230	115	GGV	2½x3	22.97	20.67	19.52	18.38
5F2034	23V28	500	105/115/125	115	GMV	4⅝x4¼	76.58	68.92	65.09	61.26
5F2035	23V88	1200	110/120	110/120	GMV	3⅝x6⅝	91.88	82.69	78.10	73.50

CHOKES

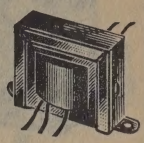
Stock No.	Type	Inductance Henrys	Inductance MADC	DC Ohms	Volts RMS	Mtg. Centers	Mtg. Type	Each Boxed 1-9	10-24	25-49	50-99
5F2082	20C51	35	15	1850	2500	2	BAH	2.52	2.27	2.14	2.02
5F2093	20C48	8	80	250	2500	2¹³⁄₁₆	BAH	3.43	3.09	2.92	2.74
5F2094	20C53	12	80	375	2500	2¹³⁄₁₆	BAH	3.83	3.45	3.26	3.06
5F2103	20C54	8	150	145	2700	2x1¾	GGV	6.14	5.53	5.22	4.91
5F2105	26C41	1.5	200	90	2500	2⅜	BAH	3.06	2.75	2.60	2.45
5F2127	20C03	.01	12.5A	.11	1500	3⁷⁄₁₆x2⅜	LHH	12.28	11.05	10.44	9.82

OUTPUT—SINGLE PLATE TO LINE OR VOICE COIL

Stock No.	Type	Impedance Pri.	Impedance Secondary	Pri. MADC	Watts	Mtg. Type	Each Boxed 1-9	10-24	25-49	50-99
5F1994	24S51	5000	3.5	40	5	BAH	2.18	1.96	1.85	1.74
5F2004	24S54	15-20000	3.5	10	5	BAH	2.55	2.30	2.17	2.04
5F2005	24S99	25000	3.5	5	5	BAH	2.76	2.48	2.35	2.21

FILAMENT TRANSFORMERS WITH SINGLE SECONDARY

Stock No.	Type	Secondary Volts	Secondary Amps	Test Volts RMS	Mtg. Centers	Mft. Type	1-9	10-24	25-49	50-99
5F2130	21F01	2.5CT	10	2500	2¹³⁄₁₆	BAV	9.58	8.62	8.14	7.66
5F2132	21F02	2.5CT	10	10000	2x1¾	CAV	9.58	8.62	8.14	7.66
5F2133	21F03	5.0CT	3	2500	2⅜	BAV	9.58	8.62	8.14	7.66
5F2137	21F20	5.0CT	15	10000	2½x3	CAV	13.76	12.38	11.70	11.01
5F2140	21F21	6.3	.6	2500	2	BAH	2.91	2.62	2.47	2.33
5F2141	21F08	6.3CT	1	2500	2	BAV	2.91	2.62	2.47	2.33
5F2142	21F09	6.3CT	1.2	2500	2⅜	BAH	2.91	2.62	2.47	2.33
5F2145	21F10	6.3CT	3	2500	2¹³⁄₁₆	BAH	5.21	4.69	4.43	4.17
5F2168	21F83	25.2CT	2	1500	3⁹⁄₁₆	BAH	6.24	5.62	5.30	4.99
5F2149	21F11	6.3CT	6	2500	2x1¾	CAV	7.64	6.88	6.49	6.11
5F2150	21F96	6.3CT	8	2500	3⁹⁄₁₆	BAH	7.64	6.88	6.49	6.11
5F2151	21F12	6.3CT	10	2500	2x2	CAV	9.58	8.62	8.14	7.66
5F2153	21F77	6.3CT	20	2500	2½x3	GGV	16.04	14.44	13.63	12.83
5F2156	21F18	10.0CT	5	2500	2x1¾	CAV	9.20	8.28	7.82	7.36
5F2157	21F68	10CT/11CT/12CT	11	3000	2¾x2⁹⁄₁₆	LAV	16.04	14.44	13.63	12.83
5F2158	26F67	12.6CT	2	2500	2¹³⁄₁₆	BAH	4.75	4.28	4.04	3.80
5F2159	21F81	12.6CT	2.5	2500	3⅛	BAH	6.24	5.62	5.30	4.99
5F2160	21F52	12.6/25.2	7/3.5	2500	2¼x2⅝	GGV	19.14	17.23	16.27	15.31
5F2161	26F68	24.0	1	2500	2¹³⁄₁₆	BAH	8.41	7.57	7.15	6.73
5F2162	21F97	24CT/12	2/4	1500	3⁹⁄₁₆	BAH	7.28	6.55	6.19	5.82
5F2163	21F51	25.2	1	2500	2¹³⁄₁₆	BAH	5.51	4.96	4.68	4.41
5F2164	21F100	26.0CT	.04	2500	1¾	BAH	6.55	5.90	5.57	5.24
5F2165	21F101	26.0CT	.25	2500	2⅜	BAH	6.55	5.90	5.57	5.24
5F2166	21F27	26.5CT	.6	7500	2¹³⁄₁₆	BAH	7.64	6.88	6.49	6.11
5F2167	21F82	26.5CT	1	1500	2¹³⁄₁₆	BAH	6.24	5.62	5.30	4.99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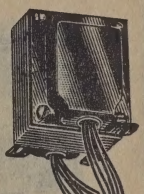
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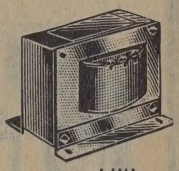
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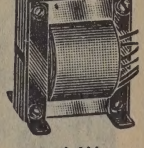
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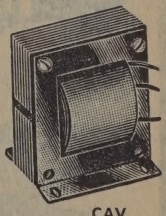
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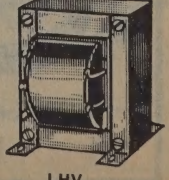
LHV

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Constant Voltage Transformers

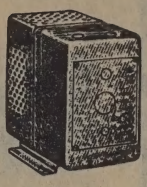


Fig. A.

Fig. B

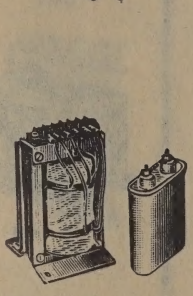


Fig. C.

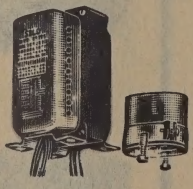
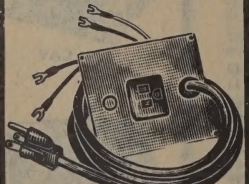


Fig. D.



Adapter Kits

CVS HARMONIC NEUTRALIZED TYPE TRANSFORMERS

Contain less than 3% total rms harmonic content in the output. For all AC applications where harmonics can affect operation. Features built-in harmonic neutralizing circuits. No filters required. Regulation is ±1% for an input range of 15% of nominal voltage. (†) 95-130/175-235/190-260. (**) 190-260/380-520. (‡) an input range of 95-130/190-260. (+) 95-130.

60 HERTZ SINGLE PHASE

No.	Type	V Out.	VA	Lbs.	Fig.	Adapt.	Size Inches	1-9	10-49	50-99
5F1108	23-13-030-2†		30	8	A	d	$6\frac{1}{8}$x$5\frac{3}{16}$x4	32.45	28.55	25.30
5F987	23-13-060-2†		60	10	A	d	$6\frac{15}{16}$x$5\frac{3}{16}$x4	38.50	33.90	30.05
5F1102	23-23-060-2**		60	10	A	d	$6\frac{15}{16}$x$5\frac{3}{16}$x4	42.10	37.05	32.85
5F988	23-22-112-2 ‡	118	120	14	A	d	$8\frac{1}{8}$x$5\frac{3}{16}$x4	49.30	43.40	38.45
5F1103	23-23-112-2**		120	14	A	d	$8\frac{1}{8}$x$5\frac{3}{16}$x4	52.90	46.55	41.25
5F943	23-22-125‡		250	28	A	b	$9\frac{5}{8}$x$7\frac{7}{16}$x$5\frac{3}{8}$	67.30	59.20	52.50
5F1104	23-23-125**		250	29	A	b	$9\frac{5}{8}$x$7\frac{7}{16}$x$5\frac{3}{8}$	72.10	63.45	56.25
5F944	23-22-150**		500	45	A	c	$12\frac{7}{16}$x$6\frac{7}{16}$x$9\frac{1}{16}$	104.60	92.05	81.60
5F1105	23-26-150**		500	46	A	c	$12\frac{7}{16}$x$6\frac{7}{16}$x$9\frac{1}{16}$	111.80	98.40	87.20
5F467	23-25-175*		750	54	A	c	$16\frac{13}{16}$x$6\frac{7}{16}$x9	144.25	126.95	112.50
80W014	23-25-210*		1000	72	A	....	$17\frac{7}{8}$x$6\frac{7}{16}$x9	175.50	154.45	136.90
5F1106	23-26-210**		1000	72	A	....	$17\frac{7}{8}$x$6\frac{7}{16}$x9	234.40	206.25	182.85
80W005	23-25-215*		1500	128	B	....	$9\frac{5}{16}$x$9\frac{1}{32}$x$10\frac{11}{16}$	307.75	270.80	240.05
80W009	23-25-220*	118/236	2000	140	B	....	$19\frac{7}{8}$x$9\frac{1}{32}$x$10\frac{11}{16}$	307.75	270.80	240.05
80W011	23-26-220**		2000	148	B	....	$19\frac{7}{8}$x$9\frac{1}{32}$x$10\frac{11}{16}$	427.95	376.60	333.80
80W010	23-25-230-3*		3000	194	B	....	$21\frac{7}{8}$x$9\frac{1}{32}$x$10\frac{11}{16}$	427.95	376.60	333.80
80W012	23-26-230**		3000	196	B	....	$21\frac{7}{8}$x$9\frac{1}{32}$x$10\frac{11}{16}$	668.35	588.15	521.30
80W013	23-25-250*		5000	335	B	....	$20\frac{13}{16}$x$9\frac{1}{32}$x$10\frac{11}{16}$	668.35	588.15	521.30
80W022	23-26-250**		5000	342	B	....	$20\frac{13}{16}$x$9\frac{1}{32}$x$10\frac{11}{16}$	992.90	873.75	774.45

50 Hertz Single Phase

5F414	23-13-560-2†		60	11	A	d	$7\frac{1}{4}$x$5\frac{13}{16}$x4	44.45	39.40	34.65
5F415	23-23-560-2**		60	11	A	d	$7\frac{1}{4}$x$5\frac{13}{16}$x4	48.10	42.35	37.50
5F416	23-22-612‡	118	120	21	A	b	$8\frac{3}{4}$x$7\frac{7}{16}$x$5\frac{3}{8}$	56.50	49.70	44.05
5F417	23-22-625‡		250	35	A	c	$11\frac{5}{16}$x$6\frac{7}{16}$x9	76.95	67.70	60.00
5F418	23-22-650-1		500	53	A	c	13x$6\frac{7}{16}$x9	120.20	105.80	93.75
80W003	23-25-720*	118/236	2000	170	B	....	$20\frac{5}{8}$x$9\frac{1}{32}$x$10\frac{11}{16}$	366.65	322.65	285.95

400 HERTZ SINGLE PHASE

5F1109	43-13-060†		60	5	C	....	$5\frac{3}{4}$x$3\frac{3}{8}$x$2\frac{3}{4}$	48.10	43.30	40.85
5F1110	43-13-112†		120	7	C	....	$5\frac{3}{4}$x$3\frac{3}{8}$x$2\frac{3}{4}$	66.10	59.50	56.20
5F1111	43-13-125†	118	250	11	C	....	$7\frac{13}{16}$x$4\frac{5}{8}$x$3\frac{3}{4}$	90.15	82.15	76.65
5F1112	43-13-150†		500	13	C	....	$7\frac{13}{16}$x$4\frac{5}{8}$x$3\frac{3}{4}$	112.95	101.65	96.05
5F1113	43-13-210†		1000	20	C	....	$8\frac{5}{8}$x6x5	152.65	137.40	129.75

Electronic Power Types

Available in electronic-power component types providing a regulated source of plate and filament voltages. The CVF series provides 6.0 or 6.3 volts of output regulated within ±1% over line variations of ±15%. The series CVE series, a combination of the plate and filament types, regulates within ±3% Both series, which include filaments with stabilized voltage supplies, operates reliably, feature long component life, and need less servicing than competitor's materials. Fig. D.

CVE PLATE—FILAMENT SERVICE 60 HERTZ

Stk. No.	Type	Rectifier Tube	D.C. Input V to filter	Filament Windings 6.3	Filament Windings 5.0V	Volt Range	Lbs.	Dimensions Inches	1-9	10-49	50-99
5F486	7104	5Y3	275v D.C. @ 50 M.A.	2.5 amps C.T.	2A	100-130	6	$3\frac{1}{8}$x$4\frac{13}{16}$x$3\frac{3}{16}$	16.05	14.10	12.50
5F487	7106	5Y3	385v D.C. @ 110 M.A.	3.0 amps C.T.	2A	100-130	8	$3\frac{1}{8}$x$4\frac{13}{16}$x$3\frac{15}{16}$	19.80	17.40	15.45

50 HERTZ

5F490	71MB04	5Y3	50 M.A.	C.T.		180-250	6	$3\frac{1}{8}$x$4\frac{13}{16}$x$3\frac{5}{16}$	18.55	16.30	14.45

CVF—FILAMENT SERVICE 60 HERTZ

Stk. No.	Type	Voltage Rating Reg. Out.	Voltage Rating Input Range	Out. Cap. amps	VA	Wt. Lbs.	Dimension Inches	1-9	10-49	50-99
5F973	20-01-015	6.0V	95-130	2.50	15	4	$4\frac{5}{8}$x$3\frac{1}{2}$x$2\frac{5}{8}$	19.25	16.95	15.00
5F717	20-06-015	6.0V	95-130	2.50	15	3	$2\frac{11}{32}$x$4\frac{5}{16}$x$2\frac{7}{16}$	18.05	15.90	14.10
5F974	20-02-015	6.3V	95-130	2.38	15	4	$4\frac{5}{8}$x$3\frac{1}{2}$x$2\frac{5}{8}$	19.25	16.95	15.00
5F482	20-03-015	6.3V	95-130	2.38	15	4	$2\frac{7}{16}$x$4\frac{3}{4}$x$3\frac{3}{8}$	26.45	23.30	20.65
5F718	20-04-015	6.3V	95-130	2.38	15	3	$2\frac{11}{32}$x$4\frac{5}{16}$x$2\frac{7}{16}$	18.05	15.90	14.10
5F976	20-04-030-2	6.3V		5.0	32	6	$3\frac{1}{8}$x$4\frac{13}{16}$x$3\frac{1}{8}$	20.45	18.00	15.95
5F977	20-04-065	6.3V	95-130X/	10.0	63	8	$3\frac{1}{8}$x$4\frac{13}{16}$x$3\frac{11}{16}$	26.45	23.30	20.65

50 HERTZ

5F484	20-04-530	6.3V	95-130X190-260	5.0	32	7	$3\frac{1}{8}$x$4\frac{13}{16}$x$3\frac{5}{16}$	24.05	21.15	18.75
5F485	20-04-565	6.3V	95-130X190-260	10.0	63	9	$3\frac{1}{8}$x$4\frac{13}{16}$x$4\frac{1}{16}$	30.05	26.45	23.45

CORD/RECEPTACLE ADAPTER KITS

Used when input and output receptacle is preferred.

Stk. No.	Type	Circuit	Adapter Code	NET
5F997	999-019	3-wire	b	4.30
5F998	999-020	3-wire	c	2.85

Stk. No.	Type	Circuit	Adapter Code	NET
5F957	999-104	2-wire	d	4.30
5F958	999-105	3-wire	d	3.75

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DIVISION OF SOLA BASIC INDUSTRIES

TYPE CVN NORMAL HARMONIC TYPE TRANSFORMERS

CVN type transformers provide the same ±1% regulation as the sinusoidal series. Contain an average of 20% rms harmonic content and are especially recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments, and where rectification is required. (†) indicates 95-130. (*) indicates 95-130/175-235/190-260. (**) indicates an input voltage of 190-260/380-520. (***) indicates 95-130/190-260. (††) indicates 190-260.

60 HERTZ

Stock No.	Type	Output Volts	Cap VA	Dimensions Inches	Adapter Kit Code	Fig.	lbs.	1-9	10-49	50-99
5F989	20-10-015†	118	15	4⅝x3½x2⅝	....	C	4	19.25	17.30	16.35
5F470	20-11-015†	118	15	2 7/16x4¾x3⅜	....	...	4	27.95	25.15	23.75
5F719	20-14-015†	118	15	2 11/32x4 5/16	....	A	3	18.05	16.25	15.35
5F953	20-14-030†	118	30	2 11/32x4 5/16	....	A	5	20.45	18.40	17.35
5F981	20-13-030-2†	118	30	5⅞x5 3/16x4	d	D	7	26.45	23.80	22.25
5F982	20-13-060-2†	118	60	6 11/32x5 3/16x4	d	D	10	32.45	29.20	27.60
5F954	20-14-060†	118	60	3⅛x4 13/16	....	A	8	27.65	24.90	23.50
5F955	20-14-112†	118	120	3⅛x4 13/16	....	A	11	37.50	33.75	31.85
5F983	20-13-112-2†	118	120	7⅜x5 3/16x4	d	D	12	43.35	39.00	36.85
5F471	20-21-112-2††	236	120	7⅜x5 3/16x4	d	D	13	43.35	39.00	36.85
5F984	20-13-115†	118	150	8¾x7 7/16x5⅜	b	D	22	51.70	46.50	43.95
5F472	20-22-125***	118	250	11 1/16x6 7/16x6 15/16	c	D	25	63.70	57.35	54.15
5F473	20-23-125**	118	250	11⅛x6 7/16x6 15/16	c	D	25	63.70	57.35	54.15
5F474	20-22-150***	118	500	12 5/16x6 7/16x6 15/16	c	D	36	99.75	89.80	84.80
5F477	20-26-150**	118x 236	500	12 5/16x6 7/16x6 15/16	c	D	37	106.95	96.30	90.95
5F479	20-22-210***	118	1000	15⅛x6 7/16x6 15/16	....	D	48	165.90	149.30	140.95
80W006	20-25-220	118	2000	20x9 1/32x10 11/16	....	B	128	272.55	245.30	231.65

50 HERTZ

Stock No	Type	Output Volts	Cap VA	Dimensions Inches	Adapter Kit Code	Fig.	lbs.	1-9	10-49	50-99
5F266	20-10-515†	118	15	4⅝x3½x2⅝	....	C	5	22.65	20.45	18.40
5F270	20-13-612†	118	120	8¾x7 7/16x5⅜	b	D	22	51.15	46.05	43.45
5F271	20-13-615†	118	150	9 1/16x7 6/16x5⅜	b	D	25	58.90	53.00	50.05

FIG. E. FIXED CONSTANT VOLTAGE DC POWER SUPPLIES

Will withstand high transient overload without damage or output voltage drop. Output regulation ±1% or less over 100-130v. input range 1% repple except 281100 and 281250 which are ½%. Load regulation less than 4% from 20% to full load. Efficiency approx. 75%. Output impedance approx. 5 ohm. Mounted on standard 19x5¼x9¾" rack panel. Input 100-130 60 hz. AC.

Stock No.	Type	Volts	Amps	VA	Load Regulation 20% F.L.	Load Regulation 50% F.I.	PANEL HT.	WT.	1-9	10-49	50-99
5F1114	281513-2	6	10	60	9	7	3½	27	115.50	103.95	92.40
5F1115	281514-2	12	5	60	7	5	3½	18	115.50	103.95	92.40
5F153	282124	12	10	120	9	5	5¼	31	132.00	118.80	105.60
5F924	281024-1	24	6	144	5	4	5¼	30	115.50	103.95	92.40
5F158	282126	24	10	240	6	4	5¼	48	137.50	123.75	110.00
80W001	282127	24	25	600	7	5	8¾	72	222.20	200.00	177.80
5F1118	28626-1	28	8	224	6	4	5¼	42	132.00	118.80	105.60
5F158	282128	28	15	420	7	5	7	55	214.50	193.00	171.60
5F925	281048	48	4	192	3.5	2.5	5¼	32	121.00	108.90	96.80
5F1119	281561	48	10	480	4	2	5¼	48	170.50	153.45	136.40
5F927	281150	150	2	300	2	1.5	5¼	48	143.00	128.70	114.40
5F929	281250	250	1	250	3	2	5¼	45	126.50	113.85	101.20

POWER SUPPLIES

Model SCRDC-111 Especially designed for use with logic circuitry and as a bulk power source for point of use IC regulators. Offer tight regulation for line and load, holding output voltage variation to within ±0.1% of nominal or 50 mv whichever is greater for an input of 100-130VAC, 50/60 Hz. Static load regulation ±0.5% of nominal or less for static output load change from zero to full load. Dynamic line regulation ±1.0% of nominal or less for line voltage change of ±10% within static range. Dynamic load regulation ±2.0% of nominal or less for step load changes of up to 25% of full load rating between 25 and 100% of full load. Recovery time from dynamic change to static band is less than 250 milliseconds. Output voltage varies less than .05% from 0°C to 40°C. Derate 2.5% per °C up to 50°C (with convection cooling). Input frequency range for all specifications 47 to 63 Hz. Ripple less than 1% of nominal or 300 mv whichever is greater. Efficiency 25 to 75% depending on output voltage. Standard 19 inch rack mounting. Can be used in tandem (series or parallel) for higher voltage and current ratings.

Stock No.	Type	DC Output Volt	DC Output Amps	DC Output Watts	Panel ht. (in.)	Mtg. Ctrs. (in.)	Depth Max. (in.)	Ship. Wt. Lbs.	1-9	10-49	50-99
5F882	39312	4.5	10	45	7	4	8¼	19	115.40	103.85	92.30
5F883	39322	4.5	20	90	7	4	8¼	29	132.00	118.80	105.60
5F884	39313	6	10	60	7	4	8¼	20	115.40	103.85	92.30
5F885	39323	6	20	120	7	4	8¼	30	132.00	118.80	105.60
5F886	39324	12	20	240	7	4	8¼	32	142.00	127.80	113.60
5F887	39314	12	10	120	7	4	8¼	28	130.00	117.00	104.00
5F888	39316	24	10	240	7	4	8¼	31	135.00	121.50	106.00

CV MULTI-TAP TRANSFORMER

112 rectifier outputs from one transformer with line regulation of ±1% or less. Eliminates tandem-hook-ups and special transformers for proto-typing, lab work, and short production runs.

A power source to both AC and DC outputs. Typical AC outputs (Regulated): 3.4,27.2, 24.0, 22.0, 1.4, 36.0, 14.9, 13.4, 12.6, 11.6, 10.8.

Stock No.	Type	VA RATING.	AC Volts	Dimensions	Lbs.	1-9	10-49	50-99
5F968	73-13-130	300	10.2-30.8	5½x9⅝x5⅜	22	83.30	74.95	70.80
5F969	73-13-145	450	9.4-30.2	6⅝x9⅝x5	30	103.65	115.15	97.85

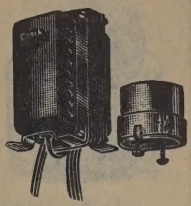


FIG. A

FIG. B

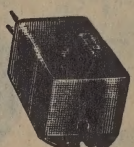


FIG. C

FIG. D

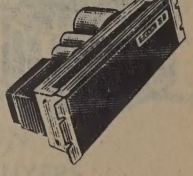
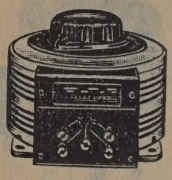
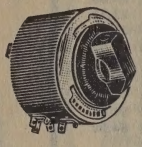


FIG. E

Superior Variable Transformers

POWERSTAT VARIABLE TRANSFORMERS WITH POWERKOTE COILS


A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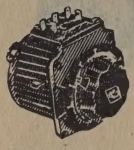
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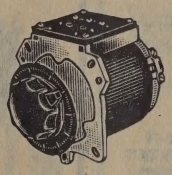
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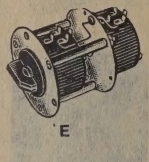
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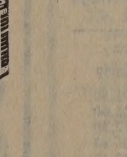
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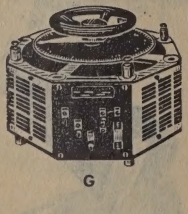
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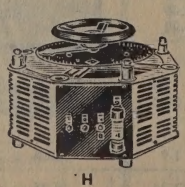

H

Deliver continuously adjustable output voltage from AC line. Zero waveform distortion, good regulation, conservative ratings. All are for 50-60 Hz. (*60 Hz only.) Enclosed for plane-surface mtg. except 10B, 10B-40, 21, 22, and other types with suffix "U" are open types for panel mounting. Mfr's Types 21, 22, 126, 136B, 226, 236B, 1156D and 1256D are for both panel and surface mounting. Suffix "T" indicates terminals enclosed in metal box† indicates when mounted on metal panel, for non-metallic panel, or bracket mounting, derate to 1.75 amps with corresponding reduction in maximum kVA

SINGLE-PHASE TYPES

Portable Types, 116B, 216B have 2-wire parallel blade input cord-plug sets and output receptacles. **In table indicates unit is equipped with 3- wire plug and receptacle. Type LW136B is a double-wound assembly with an isolated secondary winding. Type 22 incorporates a unique coil-winding technique designed to provide higher voltage ratings without increase in size or weight of transformer ††Rating when mounted on metal panel. Derated to 0.5 amp when mounted for non-metallic panel or bracket.

Stock No.	Mfr's Type	Fig.	Input Volts	Output Volts	Output Amps	Output kVA	Max. Size (DWH)	Wt. Lbs.	NET
5F800	10B	B	120	0-132	2.25	0.3	2⅛x2⅞x3⅛"	2.4	13.00
5F754	10B-40	B	40	0-40	7.0	0.28	2¼x2⅞x3⅛"	3.3	16.00
5F1229	12	. .	240	0-240	0.7	0.17	2⅛x2⅞x3⅛"	2.5	20.00
5F809	21	B	120	0-140	4.5	0.63	3⅜x3¾x4½"	6	19.00
5F755	21-40	C	40	0-40	18	0.72	3⅜x3¾x4½"	6	22.00
5F895	22	C	240	0-280	2.25	0.63	4 9/16x3¾x4 13/16"	6	28.00
5F801	116B	C	120	0-140	10.0	1.4	7⅛x5⅛x6½"	12	34.00
5F857	3PN116B	F	120	0-140	10.0	1.4	7⅛x5⅛x6½"	12	40.00
5F807	116BU	F	120	0-140	10.0	1.4	5x5⅛x5¾"	11	25.00
5F756	116BU-40	D	40	0-40	25	1.0	5x5⅛x5¾"	11	32.00
5F740	3PN117B	D	120	0-120	12.0	1.4	7¼x5⅛x6½"	12	44.00
5F839	*117BT	A	120	0-120	12.0	1.4	7⅛x5⅛x6½"	12	35.00
5F743	*117BU	D	120	0-120	12.0	1.4	5x5⅛x5¾"	11	27.00
5F766	126	A	120	0-140	15.0	2.1	6¾x6¼x5⅜"	17	51.00
5F767	126U	C	120	0-140	15.0	2.1	4¼x6x6¾"	16	46.00
5F812	136B	A	120	0-140	22.0	3.1	8⅞x7¾x6⅛"	26	73.00
5F881	LW136B	A	120-240	0-30	25.0	0.75	9x7¾x6⅝"	23	105.00
5F699	*3PN136B	F	120	0-140	22.0	3.1	10¼x7¾x6⅛"	26½	94.00
5F694	136BT	. . .	120	0-140	22.0	3.1	6⅛x7¾x9¾"	26	80.00
6F158	136BU	D	120	0-140	22.0	3.1	4 5/16x7¾x8 11/16"	24	67.00
5F1232	146	A	120	0-140	30.0	4.2	11x10x6⅜"	38	116.00
5F802	216B	F	240	0-280	3.5	0.98	7⅛x5⅛x6½"	12	39.00
5F672	216BU	D	240	0-280	3.5	0.98	5x5⅛x5¾"	11	30.00
6F159	*3PN217B	F	240	0-240	5.0	1.2	7⅛x5⅛x6½"	12	47.00
5F856	*217BT	. . .	240	0-240	5.0	1.2	7⅛x5⅛x6½"	12	40.00
5F685	*217BU	D	240	0-240	5.0	1.2	5x5⅛x5¾"	11	32.00
5F768	226	A	240	0-280	7.5	2.1	6¾x6¼x5⅜"	17	51.00
5F769	226U	B	240	0-280	7.5	2.1	4¼x6x6¾"	16	46.00
5F813	236B	A	120-240	0-280	10.0	2.8	8⅞x7¾x6⅛"	23¾	73.00
6F160	*3PN236B	F	240	0-280	10.0	2.8	10¼x7¾x6⅛"	25¾	94.00
6F161	236BU	C	120-240	0-280	10.0	2.8	4 5/16x7¾x8 11/16"	23¼	67.00
5F1234	246	A	120-240	0-280	15.0	4.2	11x10x6⅜"	38	116.00

Types 1256D-2P and 1256D-3P are single units (Fig. G) ganged and parallel connected. Type 1256D-2P has two units connected in parallel; Type 1256D-3P, three units connected in parallel.

Stock No.	Mfr's Type	Fig.	Input Volts	Output Volts	Output Amps	Output kVA	Max. Size (DWH)	Wt. Lbs.	NET
5F808	1156D	H	120	0-140	50.0	7.0	15⅝x13⅞x9⅜"	79	173.00
5F806	1256D	G	240	0-280	28.0	7.8	15⅝x13⅞x9⅜"	79	173.00

TWO AND THREE GANGED TYPE

Consist of single units ganged together. Types with suffix "2" are open delta connected; Type Nos. which have suffixes "3" and "3Y" are wire connected. All are for 50-60 Hz. (* H[60] Hz only).

Stock No.	Mfr's Type	Input Volts	Output Volts	Output Amps	Output kVA	Max. Size (DWH)	Wt. Lbs.	NET
5F775	10B-2	120	0-132	12.2	0.51	5⅛x3⅞x3⅞"	6	36.00
5F724	*10B-3	240	0-240	2.2	0.94	8⅛x3⅞x3⅞"	8½	59.00
5F776	21-2	240	0-280	4.5	1.3	8¾x3⅛x4 15/16"	13½	54.00
5F725	*21-3	240	0-280	4.5	2.18	10⅞x4⅝x5"	17	85.00
5F896	22-2	480	0-560	2.25	1.3	7½x4⅝x5	13½	72.00
5F777	116BT-2	240	0-280	10	2.8	6x7 3/16x11¼"	24	81.00
5F790	*116BT-3	240	0-280	10	4.8	6x7 3/16x16⅛"	36	116.00
5F733	116BU-2	240	0-280	10	2.8	6x7 3/16x10"	24	65.00
5F736	116BU-3	240	0-280	10	4.8	6x7 3/16x14⅞"	36	91.00
5F746	*117BU-2	120	0-120	12	2.5	11⅛x5⅛x5¾"	22	71.00
5F749	*117BU-3	240	0-240	12	5.0	6x7 3/16x14⅞"	36	97.00
5F778	136B-2	120	0-140	22	5.3	9⅛x8¾x12½"	52	169.00
5F792	136B-3	240	0-280	22	10.66	9⅛x8¾x17¾"	76	249.00
5F683	217BT-2	240	0-240	7	2.9	6x7 3/16x16⅛"	36	96.00
5F684	217BT-3	480	0-480	7	5.8	9⅛x8¾x17¾"	76	137.00
6F162	*236B-3	480	0-560	10	9.7	15½x13⅞x22⅝"	225	249.00
5F794	*1156D-3Y	240	0-280	50	24.2	15⅛x13⅞x22⅝"	225	631.00
6F163	*1256D-3Y	480	0-560	28	27.2	10x6x6 5/32"	24	631.00

TRANSFORMER REPLACEMENT BRUSHES

Stk. No.	Type	Series	NET
5F707	RB216B	216B	2.00
5F711	RB-136	136	2.50
5F712	RB-236	236	2.50
5F703	RB-10B	10B	1.50
5F704	RB-21	21	2.00
5F705	RB-116B	116B	2.00

Stk. No.	Type	Series	NET
5F714	RB-1156B	1156D	4.50
5F716	RB-1256B	1256D	

PARALLELING CHOKE

Stk. No.	Type	Application	NET
5F635	T5000B	136B-2 and 236B-2	26.00

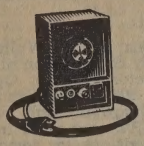
METERED KNOB ASSEMBLIES FOR BACK OF PANEL MOUNTED UNITS

Can be combined with standard cataloged POWERSTAT variable transformers that are designed or adaptable for back panel mounting. Easily adapted for retrofitting existing installations. Large functionally designed knob turns freely while meter remains stationary. Accurate voltmeter insensitive to stray magnetic fields. Consists of metered knob, mounting screws and complete wiring and installation instructions.
VS150—Where 120 volt duty is required. Has 0-150 meter scale.

VS300—Where 240 volt duty is required. Has 0-300 meter scale.

Stk. No.	Type	NET EA.
6F118	VS150	46.00
6F119	VS300	

ENCLOSED LABORATORY POWERSTAT VARIABLE TRANSFORMERS



For use in any application requiring a portable source of variable AC voltage up to 1.6 Kva capacity. Equipped with grounded NEMA cord-plug assembly, on-off switch, pilot light, and fuse. Incorporates POWERSTAT variable transformer. Types N21, N116B, and N116BL feature POWERKOTE coils ofr greater overload resistance, higher current ratings. Resistant to fungus and other contaminating atmospheres. *Suffix "K" indicates metered knob type.

Stock No.	Type	Input Volts	Input Hertz	Output Volts	Output Constant Current Load Max. Amp.	NET
5F1269	N10B	120	60	0-132	1.75	30.00
5F1271	N116B	120	50/60	0-140	10	49.00
5F1273	N116BK*	120	50/60	0-140	10	90.00
5F1274	N116BLK*	120	50/60	0-120	10	90.00

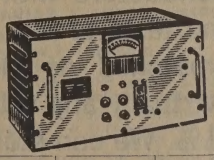
SUPERIOR TYPE UC1MB VOLTBOX

Type UC1MB

Type UC1MB. Voltbox. For AC variable voltage testing up to 10 amps. Has Powerstat, direct reading voltmeter. Input: 120 volts, 50/60 hz. Output: 0-140 volts, 1.4 KVA. Includes renewable fuse, 6-foot-cord-plug. Size: 7⅞x8½". Sh. wt. 17 lbs.

Stock No.	Type	NET
5F820	UC1MB	98.00

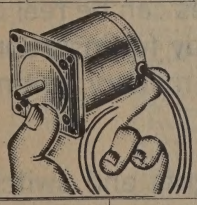
ELECTRO-MECHANICAL TRANSISTORIZED SERIES



Type EMT. Motor driven detector circuit & auxiliary transformer. No critical adjustments. Operating sensitivity adjustable to within ±1%. 50/60 hz AC service. Cabinet mntg. 1 phase.

Stock No.	Type	Max. Output Amps	Rated Output KVA	Shpg. Wt. Lbs.	Each
6F106	EMT4102B	20.0	2.3	90	585.00
6F110	EMT4112B	114.0	13.0	135	680.00
80W15	EMT4115B	144.0	16.6	300	865.00

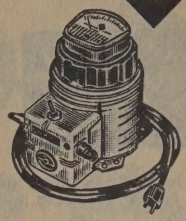
SYNCHRONOUS STEPPING MOTORS



Bifilar Type. Used as a DC stepping device in a wide variety of control functions, automatic and semi-automatic. Maintenance-free; well suited for use in remotely-operated applications, where access for regular servicing is not possible. 200 Steps/Rev. except †72 steps. Avg. shpg. wt., 1½ lbs.

Stk. No.	Type	DC Volts	Amps/ Winding	Each
5F1218	SS25-1002	5.9	0.88	87.00
5F1219	SS25-1001	11.8	0.44	87.00
6F139	SS50-1009	5.5	1.3	80.00
6F140	SS250-1002	9.0	1.55	111.00
6F141	SS250-1027	4.6	3.4	111.00
6F142	SS400-1021	5.3	3.1	153.00
5F796	HS25	5.4	1.5	116.00
5F797	HS50	3.0	4.0	103.00
5F798	HS50L	4.5	3.5	141.00

METERED KNOB POWERSTAT VARIABLE TRANSFORMERS

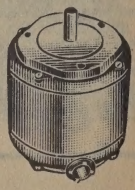


Designed for back-of-panel or general utility mounting. Excellent for use in laboratories, and inspection and test applications where voltage must be controlled without the necessity of installing a separate way of measuring voltage. Have knobs which include a stationary direct-reading voltmeter; Accuracy of ±3% of full scale. 240 volt types have 0-300 volt scales. 120 volt types have 0-150 volt scales.

VS-116B—VS216B SERIES—12 LBS.

Stk. No.	Type	Input Volts	Output Volts	Output Constant Current Load Max. Amps.	Max. KVA	NET EA.
6F120	VS116B	120	0-120	10.0	1.2	74.00
6F121	VS216B	240	0-240	3.5	0.84	78.00
			VS126, VS226 SERIES—18 LBS.			
6F122	VS126	120	0-120	15	1.8	85.00
6F123	VS226	240	0-240	7.5	1.8	
			VS136B, VS236B SERIES—26 LBS.			
6F124	VS136B	120	0-120	22	2.6	112.00
6F125	VS236B	240	0-240	10	2.4	

SLO-SYN SYNCHRONOUS/STEPPING MOTORS



Standard Types. Rugged bi-directional motors that can be used either as AC constant speed motors or DC stepping motors. Rated for continuous duty at 60°C max. Types with suffix P1, P2, etc. have planetary gear speed reduction assemblies mounted on motor to lower speed and increase torque; assemblies are in dustproof enclosure, employ nylon gears. Types with RC suffix have built-in phase shift network for single-phase operation; other units operate from 2-phase current, require external RC network for 1-phase use. Avg. shpg. wt., 6½ lbs.

Stk. No.	Type	Speed (RPM)	Max. Amps	Torque (oz.in)	Each
6F134	SS25	72,000	0.1	25	55.00
6F143	TS50	200,000	0.3	50	73.00
5F847	SS50	72,000	0.3	50	48.00
5F849	SS50P1	16.6	0.3	120	73.00
6F116	SS50P2	3.32	0.3	600	73.00
5F844	SS150	72,900	0.4	150	58.00
5F636	SS150P2	3.323	0.4	2000	83.00
5F637	SS150P3	.665	0.4	2000	93.00
5F641	SS150-P2RC	3.323	0.4	2000	105.00

All types above for 120V, 50/60 hz.

COMPONENT PARTS FOR SINGLE PHASE AC OPERATION

Stk. No.	Type	Description	Each
5F845	R/SS150	Auxiliary resistor for above 250 ohms 25 watts	1.75
5F846	C-SS150	Auxiliary capacitor for above 3.75 mfd. 330 VAC	4.75
5F848	C-SS50	Capacitor for SS50 2.6 mfd.	6.00

R-SS50 auxiliary resistor for above 400 ohms 25 watts. . . .1.75

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INDUSTRIAL BUYERS
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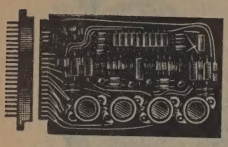
NEWARK can supply all your needs.

Superior Regulators

TRANSLATOR MODULES

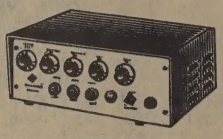


Plug-in printed circuit board capable of stepping motor in increments of 1.8°. Requires 30V, center-tapped dc supply with max. ripple of 5%. Voltage may have to be varied to maintain rated voltage of motor. Triggered by a 10-15 V negative change of voltage with min. pulse width of 50 msec. Input imp. 500Ω. STM1800V is similar to STM1800 but with oscillator adjustable to drive motor to speeds from 4 steps/sec. to max. motor speed. Dropping resistors needed with all motors. Shpg. wt. 1 lb.

Stock No.	Type Number	Each
5F750	STM1800	68.00
5F751	STM1800V	78.00

SLO-SYN PRESET INDEXERS

2SP1800-4

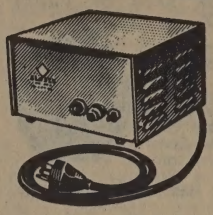


2SP1800B-4

SLO-SYN Preset Indexers automatically provide correct switching sequence needed to drive motors the required number of steps and have provisions for actuating external equipment needed to perform related operations. Dials on control panel can be set to provide desired number of steps. May be operated in any ambient temp. from 0°C to +40°C. Dropping resistor required. Shpg. wt. 19 lbs. except † 64 lbs.

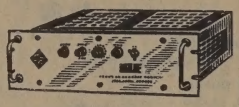
Stk. No.	Type	Count Range	Input Amp.	Each
5F753	SP1800B-4	0-9,999	1.25	875.00
5F898	2SP1800-4†	0-9,999	1.4	1610.00

SLO-SYN TRANSLATOR



Model ST 1800B. A pulse to step converter for use with Bifilar type Slo-Syn Sunchronous stepping motors. Converts 10 to 15V neg. change of voltage with min. pulse width of 50 usec. to correct 4 step switching sequence to drive motor. Input impedance: 500 ohms. Dropping resistors required for all motor types. Input: 1 Amp at 120VAC. Weight: 12 Lbs.
5F795. NET.....395.00

IES SERIES VOLTAGE REGULATOR



Highly accurate units featuring solid state circuitry permitting lighter weight and smaller size than comparable tube types. Features include 3% Max. distortion of input, up to 95% efficiency and wide frequency operating range (50 or 60 Hz ±10%). Correction speed can be considered instantaneous for most applications. Out put Voltage maintained within 100 mV RMS band for any combination of rated input voltage and/or load 1.0-0 Power Factor lagging. Operated at ambient temperatures from 0°C to 50°C. Temperature Coefficient, .01%/°C. Regulates output voltage through controlled firing of inverse parallel pair of SCR's connected in the shunt leg of an autotransformer. Has provisions for remote sensing. Includes overcurrent protection in SCR leg. All types cabinet enclosed and can be rack mounted by removing cabinet feet except IES9115 and IES9215.

Stock No.	Type	Max. Output Amps	Rated Output KVA	Shpg. Wt. Lbs.	Each
6F127	IES9101	8.7	1.0	72	510.00
6F128	IES9103	26.1	3.0	136	775.00
6F129	IES9106	52.2	6.0	181	905.00

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There's nothing psychic about it. E.S.P. means Extra Service Procurement. Newark can supply semiconductors with specific parameters you need, including burn-in and tests to MIL specs. We can deliver capacitors with tolerances matched as close as 0.5%. Newark can deliver any quantity and virtually any value of resistors precisely matched to tolerances of 0.1%. We can stamp, cut, stripe and strip any size or type of wire and cable to meet your needs.

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Auto Transformers STACO

Offers precise voltage control for industrial and laboratory. Proprietary process bonds commutator to core assembly for secure, stable surface, free of distortion under severe overload. Excellent regulation, no wave shape distortion. For 50-60 Hz except *60 Hz only with over-voltage output. Type numbers without suffix are open types for panel mounting. Types with suffice (CT) are enclosed types including terminals, for plane-service mounting.

SINGLE-PHASE TYPES

Portable types, prefix "2PF" for models with 2-wire cord, plug and receptacle or "3PN" with 3-wire grounded cord, plug and receptacle, are housed in rugged case and include switch, fuse, and pilot light.

Stock No.	Type	Fig.	Input Volts	Output Volts	Output Amps	KVA	Size	Wt. Lb.	Each 1-11	Each 12-49
5F301	17	A	120	*0-120/132	1.75	.23	2 13/16 x 2 3/32	3	11.50	9.78
5F302	251	A	120	*0-120/132	2.5	.33	2-1 3/16 x 2-7/16	3½	13.00	11.70
5F329	2PF171	B	120	*0-132	1.75	.23	3-7/8 x 3-7/8 x 3½	3½	23.00	20.70
5F303	371	E	*120	0-120/140	3.75	.53	3-3/4 x 3-3/4 x 3-1/4	5	18.00	16.20
5F304	501	E	120	0-120/140	5.0	.70	3-3/4 x 3-3/4 x 3-5/16	6	19.00	17.10
5F306	1010	F	120	0-120/140	10.0	1.4	5-1/16 x 5 x 4-3/16	12	25.00	22.50
5F1312	1010CT	G	120	0-120/140	10.0	1.4	5 x 6-7/8 x 5-5/8	12	33.00	29.70
5F312	2PF1010	C	120	0-120/140	10.0	1.4	5 x 6-7/8 x 5-5/8	12	34.00	30.60
5F326	3PN1010	C	120	0-120/140	10.0	1.4	5 x 6-7/8 x 5-5/8	12	40.00	36.00
5F308	1510	H	120	0-120/140	15.0	2.1	4-3/8 x 6-1/8 x 6-5/8	20	48.00	43.20
5F330	2510	H	120	0-120 140	25.0	3.5	4-1/8 x 8-3/16 x 7-5/8	23	65.00	58.50
5F1319	2510CT	J	120	0-120/140	25.0	3.5	4-1/8 x 9-5/8 x 7-5/8	23	78.00	70.20
5F309	1020	F	240	0-240/280	3.5	.98	5-5/16 x 5 x 4-3/16	12	30.00	27.00
5F310	1520	H	240	0-240/280	9.5	2.7	4-13/16 x 6-1/8 x 6-5/8	20	48.00	43.20
5F1320	2520	H	240	0-240/280	10.0	2.8	4-1/8 x 8-3/16 x 7-7/8	23	65.00	58.50
5F1321	2520CT	J	240	0-240/280	10.0	2.8	4-1/8 x 9-5/8 x 7-5/8	23	78.00	70.20

Stk. No.	Type	Fig.	Input Volts	Output Volts	Output Amps	KVA	Size	Wt. Lbs.	Each 1-11	Each 12-24	Each 25-49
5F333	3PN171	B	120	*0-132	1.75	.23	3-7/8 x 3-7/8 x 3½	3½	25.00	22.50	21.25
5F328	3PN501	B	120	0-120/140	5.0	.7	5-3/8 x 6-1/16 x 5-3/8	9	30.00	27.00	25.50
5F307	1210	F	120	*0-120	12.0	1.4	5-1/16 x 5 x 4-3/16	12	27.00	24.30	22.95
5F1300	2PF1210	C	120	*0-120	10.0	1.4	5 x 6-7/8 x 5-5/8	12	40.00	36.00	34.00
5F1301	3PN1210	C	120	*0-120	12.0	1.4	5 x 6-7/8 x 5-5/8	12	44.00	39.60	37.40
5F1317	1510CT	J	120	0-120/140	15.0	2.1	5-7/8 x 6-3/8 x 9	20	54.00	48.60	45.90
5F1302	2PF1510	D	120	0-120/140	15.0	2.1	5-7/8 x 6-3/8 x 9	22	62.00	55.80	52.70
5F1303	3PN1510	D	120	0-120/140	15.0	2.1	5-7/8 x 6-3/8 x 9	22	62.00	55.80	52.70
5F1304	2PF2210	D	120	0-140	22.0	3.1	5-5/8 x 7-5/8 x 10-3/4	23	94.00	84.60	79.90
5F313	3PN2210	D	120	0-140	22.0	3.1	5-5/8 x 7-5/8 x 10-3/4	23	94.00	84.60	79.90
5F334	5010	K	120	0-140	50.0	7.0	6½ x 12½ x 12½	60	162.00	145.80	137.70
5F335	5010CT	K	120	0-140	50.0	7.0	6½ x 15-5/8 x 14	70	182.00	163.80	154.70
5F1314	1020CT	G	120	0-240/280	3.5	.98	5 x 6-7/8 x 5-5/8	12	37.00	33.30	31.45
5F314	2PF1020	C	240	0-240/280	3.5	.98	5 x 6-7/8 x 5-5/8	12	39.00	35.10	33.15
5F1305	3PN1020	C	240	0-240/280	3.5	.98	5 x 6-7/8 x 5-5/8	12	46.00	41.40	39.10
5F1315	1220	F	240	*0-240	5.0	1.2	5-5/16 x 5 x 4-3/16	12	32.00	28.80	27.20
5F1316	1220CT	G	240	*0-240	5.0	1.2	5 x 6-7/8 x 5-5/8	12	40.00	36.00	34.00
5F1306	2PF1220	C	240	*0-240	5.0	1.2	5 x 6-7/8 x 5-5/8	12	45.00	40.50	38.25
5F1307	3PN1220	C	240	0-240	5.0	1.2	5 x 6-7/8 x 5-5/8	12	47.00	42.30	39.95
5F1318	1520CT	J	240	0-240/280	9.5	2.7	5-7/8 x 6-3/8 x 9	20	54.00	48.60	45.90
5F1308	2PF1520	D	240	0-240/280	9.5	2.7	5-7/8 x 6-3/8 x 9	22	62.00	55.80	52.70
5F1309	3PN1520	D	240	0-240/280	9.5	2.7	5-7/8 x 6-3/8 x 9	22	62.00	55.80	52.70
5F1310	2PF2520	D	240	0-280	10.0	2.8	5-5/8 x 7-5/8 x 10-3/4	23	94.00	84.60	79.90
5F1311	3PN2520	D	240	0-280	10.0	2.8	5-5/8 x 7-5/8 x 10-3/4	23	94.00	84.60	79.90
5F336	5020	K	240	0-240/280	28.0	7.8	6½ x 12½ x 12½	60	162.00	145.80	137.70

STACO DELUXE VARIABLE AUTOTRANSFORMERS

Designed to meet U/L and CSA standards of safety. Main features are: laminated silicon steel cores ensuring low core loss and low excitation current; continuous voltage control over a wide range; negligible waveform distortion; rugged mechanical construction; neon pilot lights; permanently etched legends; tamper-proof and mar-resistant ventilated case; NEMA approved standard 6-ft. cord and receptacle; moderate voltage drop under load; effeciency as high as 98%; and regulation better than 5% can be attained. Units are protected from overload damage by a thermal circuit breaker. A three-position switch enables selection of "line voltage" or "over voltage" (e.g., 0-120/140 V. on 120 V input) from the off position. Convenience outlet (10 or 15 amps) is energized from the moment line cord is plugged in. Optional voltmeter, ammeter and wattmeter; use suffix "V" for 0-150 VAC voltmeter, suffix "A" for dual range 0-2 and 0-10 amps full scale ammeter, suffix "W" for dual range 0-300 and 0-500 full scale wattmeter. Metered units are supplied with isolated AC and DC outputs rated for 10Z of the total output rating of the unit; available at banana jacks in the front panel.

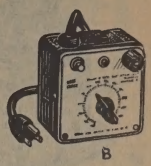
Stock No.	Type	Fig.	Input Volts	Output Volts	Output Amps	Isolated AC/DC Output mA	Size	Wt. Lbs.	Each 1-6	Each 7-24	Each 25-49
5F337	E371	L	120	0-120/140	3.75	....	6 1/8 x 11 1/4 x 5	15	30.00	28.50	27.00
5F317	E501V	M	120	0-120/140	5.0	500	6 1/8 x 17 3/8 x 5 7/8	20	65.00	61.75	58.50
5F1322	E501VA	..	120	0-120/140	5.0	500	10 x 15 1/16 x 5 7/8	25	105.00	99.75	94.50
5F319	E501VAW	O	120	0-120/140	5.0	500	10 x 15 1/16 x 5 7/8	28	165.00	156.75	148.50
5F320	E1010	L	120	0-120/140	10.0	....	6 1/8 x 11 13/16 x 5 7/8	20	65.00	61.75	58.50
5F1323	E1010V	M	120	0-120/140	10.0	1000	6 1/16 x 17 5/8 x 5 7/8	27	85.00	80.75	76.59
5F322	E1010VA	..	120	0-120/140	10.0	1000	10 x 15 1/16 x 5 7/8	33	125.00	118.75	112.50
5F323	E1010VAW	O	120	0-120/140	10.0	1000	10 x 15 1/16 x 5 7/8	35	200.00	190.00	180.00
5F338	E1020	L	240	0-280	3.5	....	6 1/8 x 11 13/16 x 5 7/8	20	63.00	59.85	56.70
5F339	E1210	L	120	0-120	12.0	....	6 1/8 x 11 13/16 x 5 7/8	20	63.00	59.85	56.70
5F340	E1710	L	120	0-140	17.0	....	10 x 15 1/16 x 6 1/4	35	100.00	95.00	90.00
5F341	E1720	L	240	0-280	10.0	....	10 x 15 1/16 x 6 1/4	35	100.00	95.00	90.00

STACO DELUXE ISOLATED VARIABLE TRANSFORMERS

Ideal in testing transformerless receivers and in general experimentation. All units are U/L and CSA approved; come with ventilated case, 0-150 V voltmeter having 2% accuracy, circuit breaker, pilot light, banana jacks, on-off switch, 6-ft. crd with NEMA standard three-prong plug and matching receptacle.

Stock No.	Type	Input Volts	Output Volts	Output AC AMPS	Output DC Amps	Size	Wt. Lbs.	Each 1-6	Each 7-24	Each 25-49
5F324	EJ401V	120	0-140	4.0	4.0	10 x 15 10 x 15 1/32 x 5 7/8	30	110.00	104.50	99.00
5F325	EJ901V	120	0-140	4.0	4.0	10 x 16 5/32 x 7 1/2	43	155.00	147.25	139.50

A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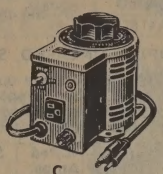
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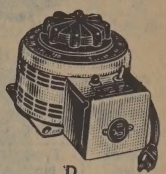
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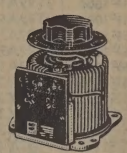
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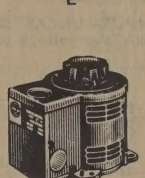
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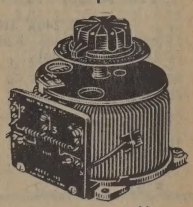
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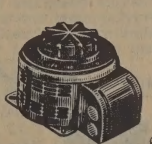
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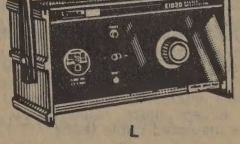
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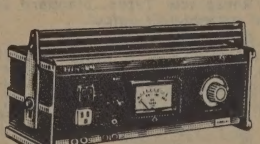
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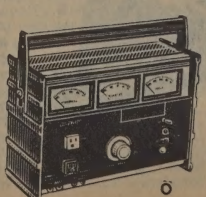
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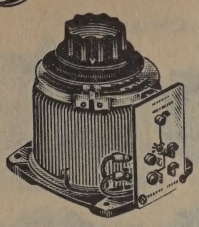
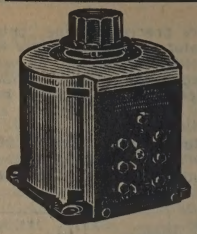
Voltage Regulation & Control Devices



G-E "VOLT-PAC" VARIABLE TRANSFORMER



Provides continuously adjustable output voltage. Handles short duration current surges up to 10 times rated current. Maximum output currents applicable up to 100% voltage. Core consists of high grade strip wound silicon steel, plus molded phenolic winding form to insulate coil from form. Types for 50-60 cycles; (*) for 60 cycles only. Cased units with enclosed terminal boards, plug-and cord-set units, motor-operated units, multiple-core units, three-phase units, and automatic control units are available through Newark.

120V INPUT—UNCASED, SINGLE CORE

All units provide 0-140V overvoltage output except * 0-132V, † no overvoltage, 0-120V only. "Max. amps": output into constant-Z load at or below 120V; at overvoltage "rated" current should not be exceeded. Uncased, with exposed terminals.

Stock No.	Type No.	Max. Amps.	Rated Amps.	Shpg. Wt.	1-9	10-24	25-99
5F1000	9T92A1*	3.2	2.5	2½	13.00	11.70	10.53
5F1002	9T92A5	5.8	4.5	4½	19.00	17.10	15.39
5F1003	9T92A7*	8.0	6.5	8	22.00	19.80	17.82
5F1005	9T92A9	11.5	10.0	9¾	25.00	22.50	20.25
5F1008	9T92A10†	14.5	11.5	9¾	27.00	24.30	21.87
5F1009	9T92Y27	19.0	15.0	17	45.00	40.50	36.45
5F1011	9T92Y28	21.7	18.0	17	56.00	50.40	45.36
5F1025	9T92Y37	34.0	30.0	30	111.00	99.90	89.91
5F1026	9T92Y38	37.0	37.0	30	130.00	117.00	105.30
5F1027	9T92Y49	55.0	50.0	60	162.00	145.80	131.22
5F1028	9T92Y50	60.0	60.0	60	245.00	220.50	198.45

120/240V INPUT—UNCASED SINGLE CORE

Similar to above. 0-280V overvoltage output. except * 240V input, 0-240V output only.

5F1015	9T92A13	5.0	4.0	9¾	30.00	27.00	24.30
5F1018	9T92A14*	6.8	5.0	9¾	32.00	28.80	25.92
5F1019	9T92Y29	10.1	7.0	17	45.00	40.50	36.45
5F1021	9T92Y30	11.0	8.5	17	56.00	50.40	48.36
5F1029	9T92Y39	14.0	14.0	30	107.00	96.30	86.67
5F1030	9T92Y40	16.0	16.0	30	122.00	109.80	98.82
5F1031	9T92Y51	33.0	30.0	60	164.00	147.60	132.84
5F1032	9T92Y52	35.0	35.0	60	245.00	220.50	198.45

120V INPUT—CASED, SINGLE CORE

Identical to units at left, except enclosed (terminals exposed).

Stock No.	Type No.	Max. Amps.	Rated Amps.	Shpg. Wt.	1-9	10-24	25-99
5F1004	9T92A7G2	8.0	6.5	8	28.00	25.20	22.68
5F1006	9T92A9G2	11.5	10.0	10½	31.00	27.90	25.11
5F1010	9T92Y27G2	19.0	15.0	18¾	51.00	45.90	41.31
5F1012	9T92Y28G2	21.7	18.0	18¾	62.00	55.80	50.22
5F1033	9T92Y37G2	34.0	30.0	30	118.00	106.20	95.58

240V INPUT—UNCASED, TRIPLE CORE

Similar to units at left, but triple core for tandem or 3-phase operation. 0-280V output; uncased, exposed terminals.

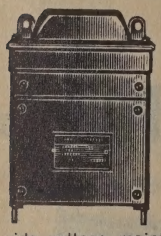
Stock No.	Type No.	Max. Amps.	Rated Amps.	Shpg. Wt.	1	2-9	10-49
5F1034	9T92A19	8.0	6.5	30	78.30	73.95	69.60
5F1074	9T92A22	14.5	12.0	35	89.10	84.15	79.20
5F1035	9T92Y33	19.0	15.0	51	144.00	136.00	128.00
5F1036	9T92Y34	21.7	18.0	51	175.50	165.75	156.00

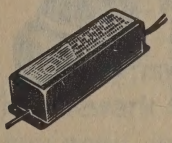
120V INPUT—SINGLE CORE PLUG-IN TYPE

Plug-in cord units for workbench applications. Cord has NEMA standard 3-blade plug.

Stock No.	Type No.	Max. Amps.	Rated Amp.s	Shpg. Wt.	1-9	10-24	25-99
5F1037	9T92A91	10.8	4.5	6	31.00	27.90	25.11
5F1038	9T92A86	10.8	6.5	9	35.00	31.50	28.35
5F1040	9T92A87	11.5	10.0	11	39.00	35.10	31.59
5F1075	9T92A88	19.0	15.0	17	64.00	57.60	51.84

AC VOLTAGE STABILIZERS





Static - magnetic transformer type units provide voltage maintained within ± 1% while input fluctuates ±15%. Unfiltered output waveform is relatively flat-topped, 15-20% harmonic content; filtered types provide near-sinusoidal output, maximum harmonic content 3%. All units are for single-phase, 60 cycle AC only; stabilized output 118V except as noted. Completely enclosed, with enclosed terminals, except units rated below 250 V-A have insulated cable leads.

Unfiltered Types. All have 118V output

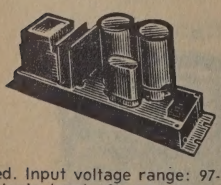
Stock No.	Type	Rated V-A	Input Volts	Wt., Lbs.	1-4	5-9	10-24	25-49	50-99
5F1041	9T91Y4070	15	95-130	5	17.97	15.91	14.90	14.04	13.35
5F1042	9T91Y4090	30	95-130	6	20.58	18.22	17.06	16.08	15.28
5F1043	9T91Y4110	60	95-130	7	27.16	24.05	22.51	21.22	20.17
5F1044	9T91Y4130	120	95-130	15	37.37	33.08	30.97	29.19	27.74
5F1045	9T91Y4140	250	95-130	24	62.37	55.22	51.70	48.73	46.31
5F1047	9T91Y4150	500	95-130	37	98.09	86.85	81.31	76.64	72.83
5F1050	9T91Y4170	1000	95-130	55	150.26	133.03	124.55	117.40	111.57
5F1053	9T91Y4184	2000	190-260/380-520	95	296.54	262.55	245.81	231.69	220.18
Harmonic Filtered Types. 118 V output									
5F1054	9T91Y7140	250	95-130	36	64.64	57.23	53.58	50.50	47.99
5F1055	9T91Y7150	250	95-130	43	100.93	89.36	83.66	78.85	74.94
5F1056	9T91Y7170	1000	95-130	80	154.79	137.05	128.31	120.94	114.93
80W017	9T91Y7173	1000	9-130/175-235/ 190-260	80	174.07	154.11	144.29	136.00	. . .
80W018	9T91Y7183	2000	9-130/175-235/ 190-260	150	315.82	279.61	261.79	246.75	. . .
80W019	9T91Y7193	3000	9-130/175-235/ 190-260	330	425.25	376.50	352.50	332.25	. . .
80W020	9T91Y7203	5000	9-130/175-235/ 190-260	510	656.02	580.81	543.79	512.55	. . .

Cord/Receptacle Types. Standard 2-blade plug and cord input, socket output. 118V output.

Stock No.	Type	Rated V-A	Volts Input	Wt. Lbs.	1-4	5-9	10-24	25-49
5F1058	9T91Y4090G19	30	95-130	7	23.19	20.53	19.22	18.12
5F1059	9T91Y4110G19	60	95-130	7	29.65	26.25	24.58	23.17

Write Newark for information on the complete Line of GE Voltage Regulation & Control Devices

REGULATED DC POWER SUPPLIES



Furnish fixed DC output voltage within ± 1% tolerance while input AC voltage varies ± 15%. All units feature rugged magnetic and semiconductor circuitry and are designed for chassis or standard 19" rock mounting. Short-circuit current is limited to approximately twice the rated value. Can be installed with either polarity grounded. Input voltage range: 97-130VAC, 60 cps, 40°C ambient. Output ripple level 1% rms max. Efficiency 70-85% for normal output levels; efficiency may decrease for unusually low output levels.

Stock No.	Type	Output V	Output A	Wt. lbs.	1-4	5-9	10-24
5F1063	9T66Y51	12	5.0	16	147.00	131.60	117.60
5F1064	9T66Y53	12	15.0	25	178.50	159.80	142.80
5F1076	9T66Y978	12	20	35	194.25	173.90	155.40
5F1065	9T66Y987	24	2.5	16	127.05	113.74	101.64
5F1066	9T66Y988	24	6.0	25	150.15	134.42	120.12
5F1067	9T66Y989	24	10.0	28	174.30	156.04	139.44
80W016	9T66Y990	24	20.0	45	227.85	203.98	182.28
80W021	9T66Y991	24	50.0	105	402.15	360.02	321.72
5F1069	9T66Y83	28	8.0	25	166.95	149.46	133.56
5F1070	9T66Y93	48	4.0	25	139.65	125.02	111.72

Controllers, Transformers and Powerdials

OHMITE

OHMITROL SOLID-STATE POWER AND MOTOR CONTROLLERS

Power controls are adaptable to a variety of applications because the built-in trimmer sets the starting point of the control voltage anywhere between 0 and 70 volts for 1 W models; 0-200 on 2 W models. Infinitely smooth control is obtained from start to full line voltage. Two-way terminals accept quick connectors or soldering.

Output is RFI filtered. Component models mount with 3/8"-32 bushing on aluminum panel for heat sink. Portable models are self-contained. Sizes: component models 1¾"sq. x 1" behind panel; portable models: 4¼" x 3¼" x 1 13/16". On-Off switch at end of control knob rotation.

COMPONENT MODEL

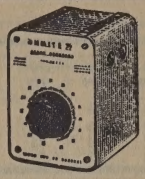
Stock No.	Type No.	Input 60Hz	Trimmer Range	Output	1-9	10-24	25-99
5F162	PCA-1000	120VAC	0 - 70 V.	0-120 VAC	20.75	18.68	16.60

PORTABLE MODEL

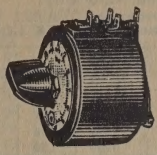
Stock No.	Type No.	Input 60Hz	Trimmer Range	Output	1-9	10-24	25-99
5F166	PCA-1001	120 VAC	0 - 70 V.	0-120 VAC	31.50	28.35	25.20

"V.T." VARIABLE TRANSFORMERS

All units single phase except Two-in-Tandem. All may be used to over 400 Hz. Screw terminals and solder lugs on all models except types VT1, VT02, and VT3 which have solder lugs and accept push on connectors have 3/8-32 threaded bushings for single mount. Shafts may be extended from the brush or base side. VT20 has a collet shaft lock for repositioning without scoring shaft. Dials on overvoltage models calibrated for overvoltage and normal line connection. Knob, dial mounting hardware supplied.



VT02E in Case



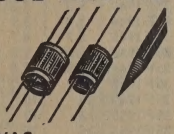
VT1,VT02,VT3

SINGLE TRANSFORMERS—UNCASED (* CASED)

Stk. No.	Type	Input Volts	Hz	Max.Out Amps	Max.Out Volts	Description	Size	Wt. Lbs.	1-9	10-24	25-99	100-249
5F562	VT1	120	60	1.0	0-120/132	Basic 1.0A model	2 7/8"D.x2 1 1/16"L.	1.5	12.50	11.25	10.31	9.38
5F563	VT1N	120	60	1.2	0-120	No overvoltage	2 7/8"D.x2 1 1/16"L.	1.5	12.50	11.25	10.31	9.38
5F650	VT02	120	60	1.75	0-120/132	Basic 1.75A model	2 7/8"D.x3 3/16"L.	2.25	12.00	10.80	9.90	9.00
5F570	VT02N	120	60	2.0	0-120	No overvoltage	2 7/8"D.x3 3/16"L.	2.25	12.00	10.80	9.90	9.00
5F571	VT2LN	40	60	5	0-40	Hi-amps, Low volts	2 13/16"D.x3"L.	2.4	14.00	12.60	11.55	10.50
5F586	VT3	120	60	2.6	o-120/132	Basic 2.6A model	2 7/8"D.x3 1 1/16"L.	3.0	13.00	11.70	10.73	9.75
5F587	VT3N	120	60	3.0	0-120	No overvoltage	2 7/8"D.x3 1 1/16"L.	3.0	13.00	11.70	10.73	9.75
5F651	VT4	120	50	3.5	0-120/140	Basic 3.5A model	3 9/16"D.x4 13/16"L.	5.25	17.50	15.75	14.44	13.13
5F577	VT4N	120	50	4.75	0-120	No overvoltage	3 9/16"D.x4 13/16"L.	5.25	17.50	15.75	14.44	13.13
5F652	VT8	120	50	7.5	0-120/140	Basic 7.5A model	4 7/8"D.x5 1 1/16".	10.25	23.00	20.70	18.98	17.25
5F576	VT8N	120	50	10	0-120	No overvoltage	4 7/8"D.x5 1 1/16".	10.25	23.00	20.70	18.98	17.25
5F574	VT20	120	50	20	0-120/140	Basic 20A model	7½"W.x8 1/16"D.x5 5/16"H.	22	63.00	56.70	51.98	47.25
5F654	VT02E*	120	60	1.4	0-132	*Fixed Mtg.	3 3/8"W.x2½"D.x4¼"H.	2.8	18.50	16.65	15.26	13.88
5F659	VT02F*	120	60	1.75	0-132	Portable	3 3/8"W.x2½"D.x4¼"H.	3.2	21.00	18.90	17.33	15.75
5F579	VT8FC*	120	50	7.5	0-140	3 wire type ASA cord	5 17/32"W.x5¼"D.x7 3/8"H.	13.8	35.75	32.18	29.49	26.81

SPRAGUE TRIGATE PULSE TRANSFORMERS

For SCR triggering applications where excellent low cost performance is required. Balanced pulse characteristics and energy transfer from primary to secondary and tertiary windings. Min. saturation effect.



Fast pulse rise time and increased current capability to prevent SCR di/dt failure. Transformer leads polyuretian insulated magnet wire. May be soldered directly to terminals or other circuit components without need for removal wire insulation. For operation over temp. range of —10°C to +70°C.

FLEXIBLE LEAD 240VAC

Stock No.	Type	Turns Ratio	Max LL (µH)	Max CC (Pf	1-14	15-49	50-99	100-249	250-499	500-999
60F288	11Z12	1:1	3	800	2.10	1.65	1.08	.78	.72	.66
60F289	11Z13	1:1:1	3	800	2.45	1.93	1.26	.910	.840	.770
18F2937	11Z14	2:1	10	1300	2.98	2.34	1.53	1.11	1.02	.935
18F2938	11Z15	2:1:1	15	1300	3.33	2.62	1.71	1.24	1.14	1.05
18F2939	11Z16	5:1	1500	400	3.15	2.48	1.62	1.17	1.08	.99

11Z HORIZONTAL PLUG-IN 240 VAC

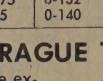
Stock No.	Type	Turns Ratio	Max LL (µH)	Max CC (Pf	1-14	15-49	50-99	100-249	250-499	500-999
18F2940	11Z2000	1:1	3	800	3.68	2.89	1.89	1.37	1.26	1.16
18F2941	11Z2001	1:1	12	2000	3.85	3.03	1.98	1.43	1.32	1.21
18F2942	11Z200	2:1	10	1300	4.73	3.72	2.43	1.76	1.62	1.49
18F2943	11Z2004	5:1	1500	400	4.20	3.30	2.16	1.56	1.44	1.32
18F2944	11Z2100	1:1:1	3	800	4.38	3.44	2.25	1.63	1.50	1.38
18F2945	11Z2101	1:1:1	12	1400	4.55	3.58	2.34	1.69	1.56	1.43
18F2946	11Z2103	2:1:1	15	1300	5.43	4.27	2.79	2.02	1.86	1.71
18F2947	11Z2104	5:1:1	1500	400	4.90	3.85	2.52	1.82	1.68	1.54

LUTRON POWERDIALS

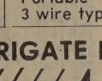
The POWERDAL is a solid state power control using Silicon Controlled Rectifiers. Only 1/10 the weight and ½ the size of autotransformers. More reliable and completely solid state. No brush wear or burn-out problem. Can give an AC or DC output by merely flicking a switch.

PDU POWERDIAL SERIES—PANEL MOUNT

Aluminum mounting bracket and phenolic case provide a small easily mountable control. Distance between centers of oval mounting holes is 3 3/32". 5A, 7.5A and 10A units may be mounted in these boxes. Unit must be fused against overloads. POWER-DIALS designed to operate at 120 or 240 volts, 50 to 60 cycles input. PDU Series: 120 volt service; 0-120 volts RMS AC output, 0-85 volts RMS DC output. 2PDU Series: 240 volt service; 0-170 volts RMS AC output, 0-85 volts RMS DC output.



PDU-50
2PD-50

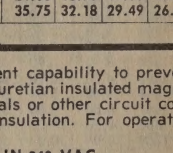


PDU-100
2PDU-100

Stock No.	Type	Max. AC Watts	RMS Amps AC	RMS Amps DC Out	Size	Weight lb.	Each
47F050	PDU-50	600	0-5	0-5	2x4"	.25	15.75
47F051	PDU-100	1200	0-10	0-7.5	4x4"	.53	30.00
47F052	2PDU-50	1200	0-5	0-5	2x4"	.25	30.00
47F053	2PDU-100	2400	0-10	0-7.5	4x4"	.53	39.00

PD POWERDIAL—BENCH MODEL

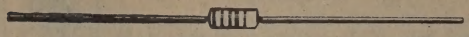
Rugged solid state circuitry—1/10 the weight, ½ the size of variable autotransformer controls. No brush burnout or wear. Aluminum casting provides a light but rugged case. 3-prong plug and receptacle affords safety in electrical connection. Unit is fused against overloads. Powerdials are available with 120 volt and 240 volt inputs @ 50 to 60 cycles. PD Series: 120 volt service; 0-120 volts RMS AC output, 0-85 volts RMS DC output. 2PD Series: 240 volt service; 0-240 volts RMS AC output, 0-170 volts RMS DC output.



Stock No.	Type	Max. AC Watts	RMS Amps AC Out	RMS Amps DC Out	Size	Weight lb.	Each
47F054	PD-50	600	0-5	0-5	4½x4½"	2.0	24.00
47F055	PD-100	1200	0-10	0-7.5	4½x4½"	2.3	30.00
47F056	PD-150	1800	0-15	0-10	4½x4½"	2.6	60.00
47F057	2PD-150	3600	0-15	0-10	4½x4½"	2.6	81.00

NYTRONICS Fixed and Variable Inductors

DECI-DUCTOR



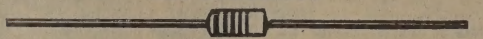
Subminiature inductor. Designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B. Inductance tolerance: ±10% over entire range. Dielectric strength: 700 volts RMS at sea level. Operating temp.: —55°C to +125°C. 10 Hz to 2000 hz @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes Shock: 50G, 11 MS. Density characteristics: volume 0.002 cubic inches. Weight 0.35 grams. Dimensions: 0.100" diameter by 0.250" length. Inductance range: 0.10μH to 1000μH. One hundred fit in one-square inch space. Epoxy-molded for reliability and uniformity.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.10-15	.83	.66	.58	.53	.48	.45
1.2-27	.91	.72	.63	.58	.53	.49
33-100	.95	.76	.67	.61	.56	.53
120-1000	1.00	.80	.69	.63	.59	.55

Stk. No.	Type DD-	μH	Q Min MC		Stk No.	Type DD-	μH	Q Min MC	
35F1845	0.10	.10	40	25	35F1870	12.0	12.0	45	2.5
35F1846	0.12	.12	40	25	35F1871	15.0	15.0	47	2.5
35F1847	0.15	.15	38	25	35F1872	18.0	18.0	50	2.5
35F1848	0.18	.18	38	25	35F1873	22.0	22.0	50	2.5
35F1849	0.22	.22	35	25	35F1874	27.0	27.0	50	2.5
35F1850	0.27	.27	35	25	35F1875	33.0	33.0	50	2.5
35F1851	0.33	.33	32	25	35F1876	39.0	39.0	50	2.5
35F1852	0.39	.39	32	25	35F1877	47.0	47.0	50	2.5
35F1853	0.47	.47	32	25	35F1878	56.0	56.0	50	2.5
35F1854	0.56	.56	32	25	35F1879	68.0	68.0	52	2.5
35F1855	0.68	.68	33	25	35F1880	82.0	82.0	52	2.5
35F1856	0.82	.82	30	25	35F1881	100	100	50	2.5
35F1857	1.00	1.00	30	25	35F1882	120	120	28	0.79
35F1858	1.20	1.20	30	7.9	35F1883	150	150	28	0.79
35F1859	1.50	1.50	32	7.9	35F1884	180	180	28	0.79
35F1860	1.80	1.80	35	7.9	35F1885	220	220	26	0.79
35F1861	2.20	2.20	35	7.9	35F1886	270	270	26	0.79
35F1862	2.70	2.70	37	7.9	35F1887	330	330	26	0.79
35F1863	3.30	3.30	45	7.9	35F1888	390	390	25	0.79
35F1864	3.90	3.90	45	7.9	35F1889	470	470	27	0.79
35F1865	4.70	4.70	45	7.9	35F1890	560	560	27	0.79
35F1866	5.60	5.60	52	7.9	35F1891	680	680	28	0.79
35F1867	6.80	6.80	52	7.9	35F1892	820	820	28	0.79
35F1868	8.20	8.20	60	7.9	35F1893	1000	1000	28	0.79
35F1869	10.0	10.0	60	7.9					

WEE WEE-DUCTOR



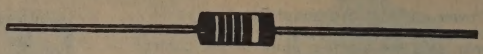
This shielded inductor has great inductance-to-size ratio and meets the stringent requirements of MIL-C-15305C, Grade 1, Class B. The smallest shielded inductor for high density circuits. μH range: 0.10 to 10.000. Unique T lead construction used on all values from 1200μH to 10,000μH provides excellent reliability in ranges where fine wire sizes are used. Dimensions: 0.133" diameter x 0.335" length. Operating temperature: —55°C to +125°C. Dielectric strength: 700 volts RMS at sea level. Inductance tolerance: ±10%. Density characteristics: volume, 0.0041 cubic inches: weight 0.50 grams max. To solve special problems in density circuit application.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.1-.82	1.55	1.24	1.13	1.03	.93	.82
1.0-12	1.65	1.34	1.24	1.13	1.03	.93
15-1000	1.91	1.56	1.39	1.29	1.13	1.03

Stk.No.	Type WEE-WEE	μH	Q MIN MC		Stk.No.	Type WEE-WEE	μH	Q MIN MC	
35F1894	0.10	.10	42	25	35F1910	47	47	42	2.5
35F1895	0.15	.15	42	25	35F1911	68	68	46	2.5
35F1896	0.22	.22	42	25	35F1912	100	100	43	2.5
35F1897	0.33	.33	42	25	35F1913	150	150	49	0.79
35F1898	0.47	.47	41	25	35F1914	220	220	53	0.79
35F1899	0.68	.68	36	25	35F1915	330	330	57	0.79
35F1900	1.0	1.0	42	25	35F1916	470	470	50	0.79
35F1901	1.5	1.5	38	7.9	35F1917	680	680	56	0.79
35F1902	2.2	2.2	36	7.9	35F1918	1000	1000	49	0.79
35F1903	3.3	3.3	38	7.9	35F1919	1500	1500	55	0.25
35F1904	4.7	4.7	42	7.9	35F1920	2200	2200	55	0.25
35F1905	6.8	6.8	45	7.9	35F1921	3300	3300	55	0.25
35F1906	10	10	51	7.9	35F1922	4700	4700	55	0.25
35F1907	15	15	45	2.5	35F1923	6800	6800	50	0.25
35F1908	22	22	42	2.5	35F1924	10000	10000	50	0.25
35F1909	33	33	46	2.5					

SUPER WEE-DUCTOR



Ultra reliable molded shielded miniature inductor. Unique T design eliminates fine wire considerations. An R.F. inductor Specially designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. Inductance range: 0.1μH to 100,000μH. Inductance tolerance: ±10% over the entire inductance range. Dielectric strength: 700 volts at sea level. Operating temperature: —55°C to +125°C. Density characteristics: volume, 0.0076 cubic inches; weight, 0.75 grams maximum; Shielding: at 1000 Hz two units assembled side by side exhibit less than 3% coupling. Maximum current: based on temperature rise not to exceed 35°C at 90°C ambient.

SWD—INDUSTRIAL TYPES

PRICE LOCATOR

μRange	1-24	25-49	50-99	100-249	250-499	500-999
.1-15	1.24	.93	.82	.72	.67	.62
18-8200	1.44	1.03	.93	.82	.77	.72
10000-100000	1.55	1.34	1.24	1.18	1.08	1.03

Stk.No.	Type SWD-	μH	Q Min MC		Stk.No.	Type SWD	μH	Q Min MC	
35F1925	0.10	.10	50	25	35F1961	100	100	52	2.5
35F1926	0.12	.12	51	25	35F1962	120	120	57	.79
35F1927	0.15	.15	51	25	35F1963	150	150	56	.79
35F1928	0.18	.18	50	25	35F1964	180	180	60	.79
35F1929	0.22	.22	49	25	35F1965	220	220	58	.79
35F1930	0.27	.27	47	25	35F1966	270	270	60	.79
35F1931	0.33	.33	46	25	35F1967	330	330	54	.79
35F1932	0.39	.39	44	25	35F1968	390	390	67	.79
35F1933	0.47	.47	44	25	33F1969	470	470	60	.79
35F1934	0.56	.56	43	25	35F1970	560	560	60	.79
35F1935	0.68	.68	42	25	35F1971	680	680	60	.79
35F1936	0.82	.82	40	25	35F1972	820	820	57	.79
35F1937	1.0	1.0	47	25	35F1973	1000	1000	65	.79
35F1938	1.2	1.2	46	7.9	35F1974	1200	1200	45	.25
35F1939	1.5	1.5	45	7.9	35F1975	1500	1500	49	.25
35F1940	1.8	1.8	43	7.9	35F1976	1800	1800	47	.25
35F1941	2.2	2.2	45	7.9	35F1977	2200	2200	50	.25
35F1942	2.7	2.7	46	7.9	35F1978	2700	2700	47	.25
35F1943	3.3	3.3	44	7.9	35F1979	3300	3300	43	.25
35F1944	3.9	3.9	44	7.9	35F1980	3900	3900	43	.25
35F1945	4.7	4.7	44	7.9	35F1981	4700	4700	44	.25
35F1946	5.6	5.6	47	7.9	35F1982	5600	5600	45	.25
35F1947	6.8	6.8	50	7.9	35F1983	6800	6800	43	.25
35F1948	8.2	8.2	50	7.9	35F1984	8200	8200	42	.25
35F1949	10	10	49	7.9	35F1985	10000	10000	39	.25
35F1950	12	12	55	2.5	35F1986	12000	12000	31	.079
35F1951	15	15	44	2.5	35F1987	15000	15000	31	.079
35F1952	18	18	45	2.5	35F1988	18000	18000	31	.079
35F1953	22	22	46	2.5	35F1989	22000	22000	27	.079
35F1954	27	27	49	2.5	35F1990	27000	27000	27	.079
35F1955	33	33	45	2.5	35F1991	33000	33000	27	.079
35F1956	39	39	53	2.5	35F1992	39000	39000	27	.079
35F1957	47	47	52	2.5	35F1993	47000	47000	23	.079
35F1958	56	56	49	2.5	35F1994	56000	56000	23	.079
35F1959	68	68	51	2.5	35F1995	68000	68000	23	.079
35F1960	82	82	45	2.5	35F1996	82000	82000	21	.079
					35F1997	100000	100000	18	.079

*MS90537—MILITARY TYPES

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.10-15	1.23	.99	.86	.78	.72	.68
18-8200	1.46	1.17	1.02	.92	.85	.80
10000-100000	2.24	1.80	1.56	1.42	1.31	1.23

Stk. No.	Type 90537-	pH	Q Min MC		Stk. No.	Type 90537-	pH	Q Min MC	
35F1998	1	0.10	50	25	35F2016	37	100	52	2.5
35F1999	3	0.15	51	25	35F2017	39	150	56	.79
35F2000	5	0.22	49	25	35F2018	41	220	58	.79
35F2001	7	0.33	46	25	35F2019	43	330	54	.79
35F2002	9	0.47	44	25	35F2020	45	470	60	.79
35F2003	11	0.68	42	25	35F2021	47	680	60	.79
35F2004	13	1.0	47	25	35F2022	49	1000	65	.79
35F2005	15	1.5	45	7.9	35F2023	51	1500	49	.25
35F2006	17	2.2	45	7.9	35F2024	53	2200	50	.25
35F2007	19	3.3	44	7.9	35F2025	55	3300	43	.25
35F2008	21	4.7	44	7.9	35F2026	57	4700	44	.25
35F2009	23	6.8	50	7.9	35F2027	59	6800	43	.25
35F2010	25	10	49	7.9	35F2028	61	10000	39	.25
35F2011	27	15	44	2.5	35F2029	63	15000	31	.079
35F2012	29	22	46	2.5	35F2030	65	22000	27	.079
35F2013	31	33	45	2.5	35F2031	67	33000	27	.079
35F2014	33	47	52	2.5	35F2032	69	47000	23	.079
35F2015	35	68	51	2.5	35F2033	71	68000	23	.079
					35F2034	73	100000	18	.079

Note—Unlisted military values listed in the SWD industrial types above are available on special order.

Fixed and Variable Inductors

NYTRONICS

WEE V-L SUBMINIATURE VARIABLE SHIELDED INDUCTORS

Designed to accommodate close inductance adjustments in high density circuits that demand exceptional stability and high Q in the smallest size available. Magnetically shielded adjustable range: 0.1 to 100,000μH. Designed to MIL-C-15305C, Grade 1, Class B. Epoxy molded 0.300" dia. x 0.400" length. Oper. temp. —55°C to +125°C. Printed board mtg. is facilitated by 0.200 grid spacing.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
0.10-1.0	5.87	4.70	4.08	3.71	3.43	3.19
1.2-10,000	4.89	3.91	3.40	3.09	2.85	2.66
12,000-100,000	6.98	5.59	4.85	4.42	4.08	3.80

Stk. No.	WEE V-L	μH	MC	Q Nom	Stk. No.	WEE V-L	μH	MC	Q Nom.
35F2064	0.10	.10	25	70	35F2099	68	68	2.5	105
35F2066	0.15	.15	25	70	35F2100	100	100	2.5	95
35F2070	0.33	.33	25	80	35F2101	120	120	0.790	95
35F2071	0.39	.39	25	80	35F2102	150	150	0.790	90
35F2072	0.47	.47	25	80	35F2104	220	220	0.790	95
35F2074	0.68	.68	25	80	35F2106	330	330	0.790	100
35F2075	0.82	.82	25	85	35F2107	390	390	0.790	100
35F2076	1.00	1.00	25	85	35F2108	470	470	0.790	100
35F2077	1.2	1.2	7.9	90	35F2110	680	680	0.790	100
35F2078	1.5	1.5	7.9	100	35F2111	820	820	0.790	90
35F2079	1.8	1.8	7.9	115	35F2112	1000	1000	0.790	90
35F2080	2.2	2.2	7.9	110	35F2114	1500	1500	0.250	90
35F2081	2.7	2.7	7.9	110	35F2115	1800	1800	0.250	100
35F2082	3.3	3.3	7.9	90	35F2116	2200	2200	0.250	100
35F2083	3.9	3.9	7.9	90	35F2117	2700	2700	0.250	95
35F2084	4.7	4.7	7.9	95	35F2120	4700	4700	0.250	85
35F2085	5.6	5.6	7.9	95	35F2121	5600	5600	0.250	85
35F2586	6.8	6.8	7.9	85	35F2122	6800	6800	0.250	75
35F2087	8.2	8.2	7.9	95	35F2123	8200	8200	0.250	80
35F2088	10	10	7.9	90	35F2124	10000	10000	0.250	70
35F2089	12	12	2.5	120	35F2125	12000	12000	0.079	70
35F2090	15	15	2.5	120	35F2128	22000	22000	0.079	70
35F2092	22	22	2.5	125	35F2129	27000	27000	0.079	70
35F2093	27	27	2.5	115	35F2130	33000	33000	0.079	70
35F2094	33	33	2.5	120	35F2132	47000	47000	0.079	70
35F2095	39	39	2.5	120	35F2133	56000	56000	0.079	70
35F2096	47	47	2.5	110	35F2136	100000	100000	0.079	60
35F2097	56	56	2.5	115					

Type B-469. Alignment tool for above WEE V-L. 35F2214. NET ..... **.50**

WEE-DUCTOR

Subminiature shielded inductor with high inductance-to-size ratio. The WEE-DUCTOR is designed to meet the enviornmental requirements of MIL-C-15305C, Grade 1, Class B. Inductance tolerance: 0.1 to 22μH, ±10%; 27μH to 1000, ±5%; 1200μH to 56,000μH, ±10%; 68,000μH to 180,000μH, ±20%. Dielectric strength: 700 volts RMS. Operating temperature: —55°C to +125°C. This encapsulated non-flammable shielded unit in a 0.164" diameter by 0.450" long envelope offers the design engineer extremely high inductance for density packaging. Density characteristics: volume, 0.0087 cubic inches; weight 0.75 gram maximum. Shielding: less than 3% coupling with 2 units measured at 1000 cycles.

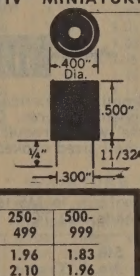
PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.10-0.82	.79	.64	.56	.50	.46	.43
1.0-15	.87	.70	.61	.55	.50	.47
18-1000	1.06	.84	.73	.67	.62	.58
1200-4700	1.19	.96	.82	.75	.70	.65
5600-56,000	1.42	1.13	.99	.90	.83	.77
68,000-180,000	2.17	1.74	1.51	1.38	1.27	1.18

Stk. No.	Type WEE-	μH	Q min	MC	Stk. No.	Type WEE-	μH	Q min	MC
35F2175	0.10	0.10	63	25	35F2192	68	68	40	2.5
35F2176	0.15	0.15	59	25	35F2193	100	100	63	.79
35F2177	0.22	0.22	56	25	35F2194	150	150	63	.79
35F2178	0.33	0.33	48	25	35F2195	220	220	57	.79
35F2179	0.47	0.47	48	25	35F2196	330	330	50	.79
35F2180	0.68	0.68	45	25	35F2197	470	470	66	.79
35F2181	1.0	1.0	42	7.9	35F2198	680	680	71	.79
35F2182	1.5	1.5	41	7.9	35F2199	1000	1000	62	.79
35F2183	2.2	2.2	42	7.9	35F2200	1500	1500	51	.250
35F2184	3.3	3.3	40	7.9	35F2201	2200	2200	50	.250
35F2185	4.7	4.7	40	7.9	35F2203	4700	4700	48	.250
35F2186	6.8	6.8	40	7.9	35F2205	10000	10000	36	.079
35F2187	10	10	46	2.5	35F2207	22000	22000	32	.079
35F2188	15	15	47	2.5	35F2209	47000	47000	25	.079
35F2189	22	22	47	2.5	35F2211	100000	100000	20	.079
35F2190	33	33	43	2.5	35F2212	150000	150000	20	.060
35F2191	47	47	46	2.5					

"VIV" MINIATURE VARIABLE INDUCTORS

This variable inductor offers reliability and stability over extreme temperature variations. Vertical to facilitate mounting on printed circuit boards 0.40" dia. x 0.50" length. Range of 0.10 to 4700μH. Encapsulated in epoxy resin for reliability. Operating temperature: —55°C to +125°C. Turnable range: 0.33 to 4700μH, ±20%; 0.15 to 0.22μH, ±15%. 0.1 ±10%. The unit is designed to meet requirements of MIL-C-15305A.



PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.1-15	3.35	2.68	2.33	2.12	1.96	1.83
22-4700	3.58	2.86	2.49	2.27	2.10	1.96

Stk. No.	VIV.	μH	Q @mhz		Stk. No.	VIV.	μH	Q @	mhz
35F2035	0.10	.10	85	25	35F2048	15.0	15.0	65	2.5
35F2036	0.15	.15	100	25	35F2049	22.0	22.0	55	2.5
35F2037	0.22	.22	100	25	35F2050	33.0	33.0	54	2.5
35F2038	0.33	.33	100	25	35F2051	47.0	47.0	51	2.5
35F2039	0.47	.47	100	25	35F2052	68.0	68.0	55	2.5
35F2040	0.68	.68	100	25	35F2053	100	100	50	2.5
35F2041	1.00	1.00	90	25	35F2057	470	470	45	.79
35F2042	1.50	1.50	70	7.9	35F2058	680	680	42	.79
35F2043	2.20	2.20	73	7.9	35F2059	1000	1000	40	.79
35F2044	3.30	3.30	80	7.9	35F2061	2200	2200	44	.25
35F2045	4.70	4.70	75	7.9	35F2062	3300	3300	46	.25
35F2046	6.80	6.80	80	7.9	35F2063	4700	4700	48	.25
35F2047	10.0	10.0	82	7.9					

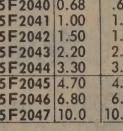
Type B-305. Aligning tool for VIV variable inductors. 35F2213. NET ..... **.50**

B & W "MINIDUCTORS"

MINIDUCTORS

Efficient, miniature coils offering extremely low losses and excellent space-saving economy. Ideal for compact circuits and miniaturized assemblies. Available in sizes from ½" to 1¾" dia., in 2", 3", and 4" length.

STANDARD COIL



10" lengths easily cut to size for buffer and final tank coils, antenna loading coils, and line noise filter coils. All are easily cut to desired length. Shpg. wt. 5 oz.

LENGTH, 2 INCHES

Stock No.	Mfrs. Type	Dia.	Turns Per In.	NET EACH
40F930	3001	½"	4	1.16
40F931	3002	½"	8	1.22
40F932	3003	½"	16	1.33
40F933	3004	½"	32	1.38
40F934	3005	⅝"	4	1.16
40F935	3006	⅝"	8	1.22
40F936	3007	⅝"	16	1.33
40F937	3008	⅝"	32	1.38

LENGTH, 3 INCHES

Stock No.	Mfrs. Type	Dia.	Turns Per In.	NET EACH
40F938	3009	¾"	4	1.26
40F939	3010	¾"	8	1.45
40F940	3011	¾"	16	1.51
40F941	3012	¾"	32	1.70
40F942	3013	1"	4	1.29
40F943	3014	1"	8	1.41
40F944	3015	1"	16	1.54
40F845	3016	1"	32	1.65

LENGTH, 4 INCHES

Stock No.	Mfrs. Type	Dia.	Turns Per In.	NET EACH
40F860	3017	1¼"	4	1.33
40F861	3018	1¼"	8	1.58
40F862	3019	1½"	16	1.89
40F863	3020	1¼"	32	2.00
40F864	3021	1¾"	4	1.58
40F865	3022	1¾"	8	1.64
40F866	3023	1¾"	16	1.93
40F867	3024	1¾"	32	2.06

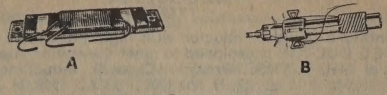
Standard inductors 10" long.

Stock No.	Mfrs. Type	Dia.	Turns Per In.	Wire Size	NET EACH
40F949	3026	2"	8	14	3.31
40F946	3029	2½"	6	12	3.92
40F947	3030	2½"	8	14	3.73
40F948	3027	2"	10	16	3.26

Phone, Write, Wire for Price Quotations, and Delivery of Non-Catalog Items

J. W. Miller Antennas - Coils - Chokes

FERRITE ROD LOOP ANTENNAS



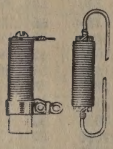
A B

C

Receives standard broadcast band (540-1850Khz). Figures A & C are supplied with mounting board. Type 705-A has adjustable inductance to permit peaking antenna stage by sliding coil along ferrite rod. 2000 series have a secondary which is over-coupled for maximum gain stability with a variation of output and are designed to match an input impedance of approximately 600 ohms. Type 6300 antenna coil replaces a loop antenna and is supplied with 18" of antenna wire. Screw adjustable. Ave. Shpg. wt.: 3 oz.

Stock No.	Type	Fig.	Size	Induct-ance	Max. Tun.Cap.	NET
40F194	705A	C	3¼x9½"	Adj.	400mmf	2.70
40F159	2002	B	½x2½"	40-300uh	450mmf	1.80
40F156	2004	A	¼x¾x3¾"	240uh	365mmf	2.55
40F157	2005	A	¼x¾x3¾"	700uh	130mmf	2.55
40F128	6300	B	⅜x2¼"	Adj.	500mmf	1.44

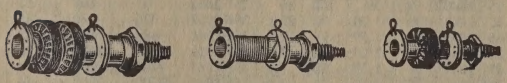
FREQUENCY SELECTIVE R.F. CHOKES



Designed for maximum efficiency and highest impedance at specific operating frequencies. Eliminates attempting to choose the best coil for a particular application from miscellaneous and often insufficient design data. Designed to cover the major amateur, industrial and citizens bands and will also operate efficiently at frequencies approximating the recommended frequencies.

Stk. No.	Type	uh	Freq. Mhz.	1-99	Bulk Packed 100-249	250-499	500-Up
59F255	RFC-14	84	7-20	1.41	.94	.71	.59
59F256	RFC-21	38.5	15-30	1.14	.76	.57	.48
59F258	RFC-50	8.2	30-90	1.08	.72	.54	.45
59F259	RFC-144	1.72	75-180	.75	.50	.38	.31

INDUSTRIAL TYPE ADJUSTABLE R.F. COILS



Wound on ceramic forms. Feature terminal rings machined from the ceramic form material. They have high Q and good stability. The adjusting core is held rigidly at any setting through the use of a tension device on the bushing.

SUB-MINIATURE COILS 7/32" dia. x 19/32" L.

Stock No.	Type	uh max.	uh min.	1-99	Bulk Packed 100-249	250-499	500-Up
59F132	40A157CBI	.188	.124	2.52	1.68	1.26	1.05
59F135	40A477CBI	.587	.327				
59F136	40A687CBI	.850	.482				
59F139	40A156CBI	1.88	1.06	2.46	1.76	1.32	1.10
59F140	40A226CBI	2.75	1.50				
59F141	40A336CBI	4.13	2.15	2.91	1.94	1.46	1.21
59F142	40A476CBI	5.87	3.00	2.76	1.84	1.38	1.15
59F143	40A686CBI	8.50	4.40	2.76	1.84	1.38	1.15
59F144	40A826CBI	10.2	5.25	2.76	1.84	1.38	1.15
59F145	40A105CBI	12.5	8.06	2.88	1.92	1.44	1.20

STANDARD COILS ⅜" dia. x 1" L.

Stock No.	Type	uh max.	uh min.	1-99	Bulk Packed 100-249	250-499	500-Up
59F181	42A106CBI	1.25	.68	2.85	1.90	1.43	1.19
59F191	42A335CBI	41.0	18.8	2.88	1.92	1.44	1.20
59F192	42A475CBI	58.0	27.5	3.00	2.00	1.50	1.25
59F194	42A825CBI	100	45.0	3.27	2.18	1.64	1.36

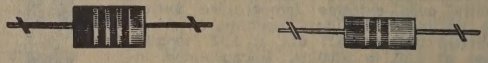
SUB-MINIATURE RF CHOKES

Iron core R.F. chokes designed to meet demand for high reliability, ultra-miniature components. Ideally suited to network and filter design, delay lines, and computer applications. Coils are impregnated with a moisture resistant lacquer; can be fungus-proofed per JAN-T-152 using varnish per MIL-V-173A. Can be encapsulated in epoxy resin to conform to Grade 1, Class B of MIL-C-15305. Rated: 50 mA. Shpg. wt.: 2 oz.

Stock No.	Type	Induct. *	Min. Q @ F	1-99	100-249	250-499	500 Up
59F212	70F106A1	1.0 uH	41 @ 25 MHz	.72	.48	.36	.30
59F213	70F126A1	1.2 uH	44 @ 7.9 MHz				
59F214	70F156A1	1.5 uH	42 @ 7.9 MHz				
59F217	70F276A1	2.7 uH	34 @ 7.9 MHz				
59F218	70F336A1	3.3 uH	40 @ 7.9 MHz				
59F219	70F396A1	3.9 uH	35 @ 7.9 MHz				
59F220	70F476A1	4.7 uH	43 @ 7.9 MHz				
59F221	70F566A1	5.6 uH	41 @ 7.9 MHz				
59F222	70F686A1	6.8 uH	40 @ 7.9 MHz				
59F224	70F105A1	10 uH	36 @ 7.9 MHz	.84	.56	.42	.35
59F226	70F155A1	15 uH	52 @ 2.5 MHz				
59F228	70F225A1	22 uH	51 @ 2.5 MHz				
59F230	70F335A1	33 uH	50 @ 2.5 MHz				
59F231	70F395A1	39 uH	48 @ 2.5 MHz				
59F232	70F475A1	47 uH	44 @ 2.5 MHz				
59F233	70F565A1	56 uH	45 @ 2.5 MHz				
59F234	70F685A1	68 uH	41 @ 2.5 MHz				
59F235	70F825A1	82 uH	42 @ 2.5 MHz				
59F236	70F104A1	100 uH	25 @ 2.5 MHz	.84	.56	.42	.35
59F237	70F154A1	150 uH	44 @ 790 KHz				
59F238	70F224A1	220 uH	45 @ 790 KHz				
59F239	70F334A1	330 uH	41 @ 790 KHz				
59F240	70F474A1	470 uH	35 @ 790 KHz				
59F241	70F684A1	680 uH	37 @ 790 KHz				
59F242	70F824A1	820 uH	33 @ 790 KHz	.90	.60	.45	.38
59F243	70F103A1	1.0 mh	30 @ 790 KHz				
59F244	70F153A1	1.5 mh	39 @ 250 KHz				
59F245	70F223A1	2.2 mh	40 @ 250 KHZ	.96	.64	.48	.40
59F246	70F333A1	3.3 mh	52 @ 250 KHz	.99	.66	.50	.41
59F247	70F473A1	4.7 mh	49 @ 250 KHz	.99	.66	.50	.41
59F248	70F683A1	6.8 mh	51 @ 250 KHz	.99	.66	.50	.41
59F249	70F823A1	8.2 mh	48 @ 250 KHz	1.20	.80	.60	.50
59F250	70F102A1	10.0 mh	41 @ 250 KHz	1.20	.80	.60	.50
59F058	70F252AF	25 mh	59 @ 79 KHz	1.29	.86	.65	.54
59F060	70F332AF	33 mh	61 @ 79 KHz	1.32	.88	.66	.55

*0.1 to 1.0 uH ±20%, 1.1 to 10μH ±10% over 10μH ±5%

MIL-SPEC MOLDED R.F. CHOKES



Small, hermetically sealed, R.F. chokes wound on ‡iron or ‡phenolic cores. Conform to MIL-C-15305 Class 7. Designed for use which require high quality, dependable performance and small sized chokes. Avg. shpg. wt.: 2 oz.

Series 9310

Conform to MS-16225 & MS-18130. Size: .155" dia. x .375" long. Leads: #22 TCW; 1.437" long. Power rating: ¼ watt at 90°C.

Stk. No.	Type	uh	% Tol.	mA	1-99	100-249	Bulk Packed 250-499	500-Up
59F103	9310-44†	22.0	10	265	.66	.44	.33	.28
59F104	9310-46†	24.0	10	265	.75	.50	.38	.31

Series 9320

Conform to MS-16224 & MS-75008. Size: .185" dia. x .437" long. Leads #22 TCW; 1.437" long. Power rating: ⅓ watt max. at 90°C.

59F106	9320-12‡	1.5	10	700	.60	.40	.30	.25
59F107	9320-16‡	2.7	10	460	.60	.40	.30	.25
59F108	9320-18†	3.3	10	1350	.66	.44	.33	.28

Series 9330

Series conforms to MS-16222. Size: .215" dia. x .560" long. Leads #22 TCW; 1.437 long. Power rating: ½ watt max. at 90°C.

Stk. No.	Type	μH	% Tol.	mA	1-99	100-249	250-499	500-Up
59F112	9330-18†	5.6	10	1340	.75	.50	.38	.31
59F115	9330-24†	10.0	10	950	.75	.50	.38	.31

Series 9350

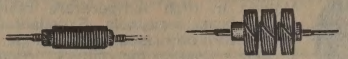
Conform to MS-16223 & MS-75052. Size: .250" dia. x 560" long. Leads #22 TCW; 1.437 long. Power rating: ¾ watt at 90°C.

59F124	9350-00‡	47	10	195	1.02	.68	.51	.43
59F125	9350-02‡	56	10	185	1.02	.68	.51	.43
59F126	9350-04†	68	10	255	1.08	.72	.54	.45
59F127	9350-06†	82	10	245	1.08	.72	.54	.45
59F128	9350-08†	100	10	235	1.08	.72	.54	.45

J. W. Miller-Coils-Chokes

RF CHOKES WITH AXIAL LEADS

Solenoid or 3-pi universal windings. Impregnated with a moisture and fungus-resistant varnish. Allows operation up to UHF region. Tol. ±5%. Dimensions: Phenolic form—3/16" dia, 3/4" L. Iron core from 7/32" dia., 7/8" long; Ferrite core chockes 1/4" dia. 7/8" long, 1/2" long. Average Shipping weight 2 oz.



Phenolic Form—Single Layer Solenoid

Stock No.	Type	Induct. uH	Ohms Max.	mA	Bulk Packed 1-99	100-249	250-499	500-Up
59F264	4580	0.1	.017	3000				
59F266	4584	0.22	.020	2800				
59F267	4586	0.33	.024	2600				
59F268	4588	0.47	.034	2500				
59F269	4590	0.68	.036	2400	.66	.44	.33	.28
59F272	4602	1.0	.050	2000				
59F273	4604	1.5	.093	1800				
59F274	4606	2.4	.190	1500				
59F275	4608	3.9	.450	1000				
59F276	4609	5.5	.670	850				
59F277	4610	6.2	.830	700				
59F278	4611	8.2	1.20	600	.69	.46	.35	.29
59F279	4612	10.0	1.50	500				

Ferrite Core RF Chokes-3 Section PI Windings

59F312	6302	2.5mH	9.0	160	1.17	.78	.59	.49
59F313	6304	5.0mH	14	160	1.35	.90	.68	.56
59F314	6306	10.0mH	31	100	1.50	1.00	.75	.63
59F315	6308	25.0mH	82	65	1.50	1.00	.75	.63
59F316	6310	50.0mH	127	65	1.80	1.20	.90	.75

Iron Core Form - Single Layer Solenoid

Stock No.	Type	Induct.	Ohms Max.	mA	1-99	100-249	250-499	500-Up
59F282	4622	10uH	.11	1500	.75	.50	.38	.31
59F283	4624	15uH	.17	1000	.75	.50	.38	.31
59F284	4626	24uH	.34	800	.78	.52	.39	.33
59F285	4628	39uH	.65	600	.78	.56	.42	.35
59F286	4629	55uH	1.0	500				
59F287	4630	62uH	1.2	475	.84	.56	.42	.35
59F288	4631	82uH	1.9	450				
59F289	4632	100uH	3.0	400				

Phenolic Form—3 Section Pi Winding

59F292	4642	.10mH	5.4	160				
59F293	4644	0.15mH	6.5	160	.84	.56	.42	.35
59F294	4646	0.24mH	8.5	160				
59F296	4649	0.55mH	13.0	160				
59F298	4651	0.75mH	16.0	160	.90	.60	.45	.38
59F299	4652	1.0mH	19.0	160				

Iron Core Form—3 Section Pi Windings

59F302	4662	1.0	8.6	160	.93	.62	.47	.39
59F303	4664	1.5	11	160	.96	.64	.48	.40
59F304	4666	2.4	15	160	1.05	.70	.53	.44
59F305	4668	3.9	20	160	1.20	.80	.60	.50
59F309	4672	10.0	50	100	1.62	1.08	.81	.68

ADJUSTABLE CERAMIC FORMS AND RF COILS

Permeability tuned coils wound on silicone impregnated ceramic forms. Forms alone supplied with cores suitable for freq. range of 1-30 Mhz for other ranges add suffix to type number (Y) 50-1000 Khz (W) 30-3000 Mhz.

Standard RF Coils and Forms (3/8" Dia., 1-q;ah" Long)

Stk. No.	Type	Ind. µH	1-99	100-249	Bulk Packed 250-499	500-Up
59F337	4400-2	Form only	1.65	1.10	.83	.69
59F338	4403	.990- 1.50	2.19	1.46	1.10	.91
59F339	4404	1.60 - 3.10	2.22	1.48	1.11	.93
59F340	4405	3.30 - 6.50	2.25	1.50	1.13	.94
59F341	4406	7.30 - 14.0	2.31	1.54	1.16	.96
59F342	4407	16.0 - 29.0	2.37	1.58	1.19	.99
59F343	4408	33.0 - 66.0	2.52	1.68	1.26	1.05
59F344	4409	74.0 - 124.0	2.58	1.72	1.29	1.08
59F345	4410	138 - 238.0	2.61	1.74	1.31	1.09
59F346	4411	270 - 451.0	2.64	1.76	1.32	1.10
59F347	4412	495 - 760.0	2.67	1.78	1.34	1.11
59F348	4413	825 - 1300.0	2.70	1.80	1.35	1.13
59F349	4414	1400 - 2000.0	2.70	1.80	1.35	1.13

Miniature Adjustable RF Coils (1/4" Dia., 7/8" Long)

Stk. No.	Type	Ind. µH	1-99	100-249	Bulk Packed 250-499	500-Up
59F352	4500-2	Form only	1.44	.96	.72	.60
59F358	4506	9.90-15.0	2.16	1.44	1.08	.90
59F360	4508	26.0- 33.0	2.25	1.50	1.13	.94
59F362	4511	66.0-114.0	2.31	1.54	1.16	.96
59F363	4512	120. -190	2.34	1.56	1.17	.98
59F364	4513	209 -314	2.37	1.58	1.19	.99
59F365	4514	350 -475	2.40	1.60	1.20	1.00

Subminiature Adjustable RF Coils (3/16" Dia., 5/8" Long)

59F319	4300-2	Form only	1.35	.90	.68	.56
59F322	4303	.440- .620	1.95	1.30	.98	.81
59F325	4306	1.60 -2.40	2.10	1.40	1.05	.88
59F326	4307	2.70 -4.20	2.22	1.50	1.13	.93
59F327	4308	4.70 -6.80	2.25	1.50	1.13	.94
59F328	4309	7.80-11.0	2.28	1.52	1.14	.95

MINIATURE TRANSISTOR I.F. TRANSFORMERS—Freq. 455 Khz

Miniature I.F. xformer having tuned primary and untuned secondary windings. Proper impedance match between primary and secondary insures optimum performance. Wt. 2 oz.

Stk. No.	Type	Imp.—Ohms	Use	NET
40F138	2031	10K600	Input	
40F139	2032	10K1000	Output	3.18
40F141	2042	25K1000	Output	
40F142	2051	100K-1000	Input	

MICRO MINIATURE—Freq. 455 Khz.

Dimensions: 9/32" sq.x1 5/32" high. Wt. 2 oz.

59F378	2061	50k-800	Input	2.64
59F379	2062	30k-500	Instage	2.64

UNIVERSAL ADJUSTABLE OSCILLATOR COIL

taps, allow 6 feed back comb. Mtg. Clip fits 5/16" hole. Wt. 4 oz.
40F127. Type 71-OSC. NET **2.10**

MINIATURE TRANSFORMERS

Shell core permeability tuned molded plastic frames, built-in silver mica condensers. Tunes from top and bottom, snap ring mtg. clip and adapter plate for standard tube socket. 3/4" square x 2" high. *Diode filter condensers. Wt. 4 oz.

455 Khz 1F TRANSFORMERS

40F022. 12-C1/Output. NET 2.10
40F023. 12-C2/Input. NET 2.10

IRON CORE CHOKE

Core 3/8" dia. x 1/2". Single hole mounting. All 125 mA except *100 mA. 1 1/8" dia. x 5/8". Wt. 4 oz.

Stk. No.	Type	Mh	Ohms	NET
40F035	956	10.0	56.4	1.50
40F037	958*	50.0	156	1.86
40F039	960*	100.0	240	2.31
40F040	961*	150.0	312	2.43

VARIABLE CAPACITORS

High freq. trimmers on short side. Mounting by tapped holes in frame. Shaft dia. 1/4", Range: 10-365 mmf. except *1461BS, 6.6-23, used for FM or band spread.

No.	Type	Sec.	Oz.	Size—Inches	NET
41F000	1461*	3	5	3 3/16 x 1 13/16 x 1 5/8"	9.72
40F190	2111	1	3	1 3/16 x 1 3/8 x 1 5/16"	3.78
40F191	2112	2	6	2 3/16 x 1 13/16 x 1 5/8"	5.04
40F192	2113	3	9	3 3/16 x 1 13/16 x 1 5/8"	6.93

FM STEREO MULTIPLEX INDUCTORS

Stk. No.	Type	Description	NET
59F388	1352	Band Pass Filter Series	2.28
59F390	1354	Locked Oscillator 19KHz	3.24
59F391	1355	Output Zformer 38KHz	3.00

SUB-MIN 3-GANG VARIABLE CAPACITOR

Type 1460. Range: 5.7—20.7 pf trimmer: 2-12 pf shaft. .250" dia. x 1 5/16" L. Size: 1-1/16 x 1-3/16 x 2".
59F394. NET **8.03**

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Collins Toroidal Coils

MOLDED PLASTIC TYPE MPF

Molded in high temperature resin. All have tinned brass terminals. Excellent Q characteristics. Normally used in the range of 1 Khz to 5 Mhz. Useful for filters, oscillators, and turned transformers. Mounts with 3-48 screw. Tapped hole. Ambient temperature range: —55°C to +105°C. Size: 0.738"H. x 0.688"L. x 0.375"W.

TYPE MPF-050 TOROIDS—FOR FREQUENCIES UP TO 30 KHZ (SUBMINIATURE)

VALUES OF INDUCTANCE IN 20% INCREMENTS ARE AVAILABLE FROM 5mH TO 500 mH.

Stock No.	Type MPF-050	Inductive Value @ KHz	Q Min @ KHz	RDC ±20%	FSR (KHZ)	1 REF (Ma)	Price Code
39F2500	1B	5 mH±1.5% @ 7	67 @ 10	2.3	360	79.7	C
39F2504	5B	10 mH±1 % @5	67 @ 10	4.9	242	50.1	C
39F2508	9B	20 mH±1 % @4	67 @ 10	11.2	165	31.5	C
39F2510	11B	30 mH±1 % @3	67 @ 10	14.3	133	31.5	C
39F2513	14B	50 mH±1 % @2	67 @ 10	25.0	100	25.0	C
39F2517	18B	100 mH±1 % @2	67 @ 10	49.0	69	15.7	F
39F2526	27B	500 mH±1 % @1	55 @ 7	290	29	6 2	F

MOLDED PLASTIC MP-206 TOROIDS—FOR FREQUENCIES UP TO 20 KHZ

Commonly called the Wedding Ring. Excellent Q characteristics compatible with size and weight requirements of portable and airborne equipment. Molded in hi-temp resin. Terminals are tinned brass. Mounts with 6-32 screw. Tapped hole. Ambient temp. range. —55°C. to 105°C. Normally used in the range of 1 kHz to 20 kHz. Dia.: 1 1/16" ±1/64. Thickness: 1/2" ±1/64".

VALUES OF INDUCTANCE IN 20% INCREMENTS ARE AVAILABLE FROM 5mH TO 3H.

Stock No.	Type MP-206	Inductive Value @ KHz	Q Min. @KHz	RDC ±20%	FSR KHz	1 REF (Ma)	Price Code
39F2658	1B	5 mH±1.5% @ 5	130 @10	0.92	320	254	D
39F2662	5B	10 mH±1.5% @ 5	130 @10	2.1	221	160	D
39F2664	7B	15.0mH±1 % @ 3	130 @10	3.3	176	127	D
39F2666	9B	20 mH±1 % @ 3	130 @10	3.7	151	127	D
39F2667	10B	24 mH±1 % @ 3	130 @10	5.2	136	100	D
39F2668	11B	30 mH±1 % @ 3	130 @10	5.8	120	100	D
39F2671	14B	50 mH±1 % @ 2	130 @10	9.4	91	80	D
39F2672	15B	60 mH±1 % @ 2	110 @ 6	13.0	83	63	D
39F2674	17B	86 mH±1 % @ 2	110 @ 6	19.5	68	50	D
39F2675	18B	100 mH±1 % @ 2	110 @ 6	21	64	50	D
39F2677	20B	150 mH±1 % @ 1	110 @ 6	33	51	40	D
39F2679	22B	200 mH±1 % @ 1	110 @ 6	46	44	40	E
39F2680	23B	240 mH±1 % @ 1	110 @ 6	51	41	32	E
39F2681	24B	300 mH±1 % @ 1	110 @ 6	57	35	32	E
39F2684	27B	500 mH±1 % @ 1	85 @ 4	90	27	25	E

TYPE M1H MICRO INDUCTORS

These inductors may be used in most applications requiring a high Q and miniature size. Hermetically sealed tall TO-5 type transistor case. Standard inductance values are available in 20% increments from 1μH to 1mH for frequencies to 10mHz.

Stk. No.	Type	Induct. @ KHz	Q MIN @KHz	Price Code
39F2875	M1H-1	1.0 μH±20%@2500	80@7900	A
39F2876	M1H-7	10.0 μH±10%@1000	80@2500	A
39F2877	M1H-13	33.0 μH±10%@1000	80@2500	A
39F2878	M1H-15	47.0 μH±5%@500	75@2500	A
39F2879	M1H-19	.10μH±5%@500	75@1500	A
39F2880	M1H-26	.20mH±3%@500		A
39F2881	M1H-30	.30mH±3%@250	75@790	A
39F2882	M1H-36	.51mH±3%@250	75@790	A
39F2883	M1H-40	.75mH±3%@250	65@790	A
39F2884	M1H-43	1.00mH±3%@250	60@790	A

PRICE CHART

Price Code	1-9	10-24	25-49	50-99	100-249
A	6.47	5.18	4.40	3.88	3.11
B	6.49	5.19	4.41	3.89	3.11
C	6.55	5.24	4.46	3.93	3.14
D	6.80	5.43	4.62	4.08	3.26
E	7.54	6.03	5.13	4.52	3.62
F	7.95	6.36	5.40	4.77	3.82
G	10.29	8.24	6.99	6.17	4.94
H	12.38	9.90	8.42	7.43	5.94
J	13.29	10.63	9.03	7.98	6.38
K	14.61	11.68	9.93	8.77	7.01

TYPE MIC TOROIDS

Meets MIL-T-27B Grade 4, Class S. For almost any application requiring a high Q microminiature inductor. Essentially no external magnetic field and no capacitive coupling to nearby circuitry. Automatic machine insertion. Insulation resistance is 10,000 megohms minimum at 100 v DC. 100 v RMS dielectric strength. Ambient temperature range is —55°C to +130°C. Inductance change, with temperature is ±2% over-range of —20°C to ±85°C. AC and DC saturation—Ultra linear to high excitation levels.

Stk. No.	Type	Induct. KHZ	Q MIN @ KHz	Price Code
39F2817	MIC-1	1 mH@10	120@ 200	A
28F2819	MIC-3	1.5 mH@10	120@ 200	A
39F2820	MIC-4	1.75mH@10	120@ 200	A
39F2821	MIC-5	2.0 mH@10	120@ 200	A
39F2822	MIC-6	2.4 mH@10	120@ 200	A
39F2823	MIC-7	3.0 mH@10	120@ 150	A
39F2824	MIC-8	3.6 mH@10	120@ 150	A
39F2825	MIC-9	4.3 mH@10	120@ 150	A
39F2826	MIC-10	5.0 mH@10	120@ 150	A
39F2827	MIC-11	6.0 mH@10	120@ 150	A
39F2828	MIC-12	7.2 mH@10	100@ 100	A
39F2829	MIC-13	8.6 mH@10	100@ 100	A
39F2830	MIC-14	10 mH@10	100@ 100	A
39F2831	MIC-15	12 mH@10	100@ 100	A
39F2832	MIC-16	15 mH@10	100@ 100	A
39F2833	MIC-17	17.5 mH@10	85@ 70	A
39F2834	MIC-18	20 mH@10	85@ 70	A
39F2835	MIC-19	24mH@10	85@ 70	A
39F2836	MIC-20	30mH@10	85@ 70	A
39F2837	MIC-21	36mH@10	85@ 70	A
39F2838	MIC-22	43mH@10	85@ 70	A
39F2839	MIC-23	50mH@10	85@ 70	A
39F2840	MIC-24	60mH@10	75@ 50	A
39F2841	MIC-25	72mH@10	75@ 50	A
39F2842	MIC-26	86mH@110	75@ 50	A
39F2843	MIC-27	100mH@10	75@ 50	A
39F2844	MIC-28	120mH@ 5	75@ 50	A
39F2845	MIC-29	150mH@ 5	50@ 40	A
39F2846	MIC-30	175mH@ 5	50@ 40	A
39F2847	MIC-31	200mH@ 5	50@ 40	A
39F2848	MIC-32	240mH@ 5	50@ 40	A
39F2849	MIC-33	300mH@ 5	50@ 40	A
39F2852	MIC-36	500mH@ 5	30@ 20	A

MOLDED PLASTIC TYPE MP-254 TOROIDS—FOR FREQUENCIES UP TO 10KHZ

Molded Plastic Type MP-254. Features exceptional Q below 5KHz. Molded in hi-temp resin. Tinned brass terminals. Mounts with 8-32 screw. Tapped hole. 2" dia., 1" thk. Values of inductance in 20% increments are available from 5mh to 17.5 Hy.

Stock No.	Type MP-254	Inductive Value @ KHz	Q Min. @ KHz	FSR (KHz)	1 Ref (Ma)	Price Code
39F2695	1B	20 mH±2.5%@2	155 @ 3.5	100	642	H
39F2697	3B	30 mH±1.5%@2	155 @ 3.5	81	510	H
39F2700	6B	50 mH±1.5%@2	155 @ 3.5	62	404	H
39F2701	7B	60 mH±1.5%@2	155 @ 3.5	56	320	H
39F2704	10B	100 mH±1.5%@1	147 @ 3	43	254	H
39F2708	14B	200 mH±1 %@1	147 @ 3	30	201	J
39F2710	16B	300 mH±1 %@1	125 @ 2	24	160	J
39F2713	19B	500 mH±1 %@400	125 @ 2	18	127	J
39F2717	23B	1 Hy±1 %@400	105 @ 1.5	13	80	J
39F2723	29B	3 Hy±1 %@100	79 @ 1	7.0	50	K
39F2726	32B	5 Hy±1 %@100	66 @ 800	5.5	40	K

MOLDED PLASTIC TYPE MP-830 TOROID FOR FREQUENCIES UP TO 10 KHZ

Higher Q, power level with slight increase in weight and volume. Use in frequency range of 500 hertz to 15 kHz. Molded in hi-temp resin. Tinned brass terminals. Amb. temp. range: —55°C. to +105°C. Mounts with 6-32 screw. Tapped hole. 1 5/16"D.x 7/32" Thk. Values of induct in 20% increments available from 5mh to 17.5h.

Stock No.	Type MP-930	Inductive Value @ KHz	Q Min. @ KHz	RDC ±20%	FSR (KHz)	1 REF (Ma)	Price Code
39F2770	1B	5 mH±2.5%@ 5	115 @ 7	0.6	255	402	B
39F2774	5B	10 mH±1.5%@ 5	115 @ 5	1.07	172	320	B
39F2776	7B	15 mH±1.5%@ 2	115 @ 5	1.65	139	254	B
39F2778	9B	20 mH±1.5%@2	115 @ 5	1.89	127	254	B
39F2784	15B	60 mH±1 %@2	115 @ 5	6.61	65	127	B
39F2787	18B	100 mH±1 %@1	105 @ 4	10.6	50	100	B
39F2789	20B	150 mH±1 %@1	105 @ 4	16.5	40	80	B
39F2791	22B	200 mH±1 %@1	105 @ 4	23.9	34	63	B
39F2793	24B	300 mH±1 %@1	93 @ 3	37	28	50	B
39F2795	26B	430 mH±1 %@1	93 @ 3	44.2	23	50	B
39F2796	27B	500 mH±1 %@400	93 @ 3	60.2	21	40	B
39F2800	31B	1 Hy±1 %@400	73 @ 2	107	15	31.5	F
39F2804	35B	2 Hy±1 %@400	58 @ 1.5	240	10	20	F
39F2806	37B	3 Hy±1 %@100	58 @ 1.5	372	8	16	F
39F2809	40B	5 Hy±1 %@100	42 @ 1	605	6.0	12.5	G

INDEX OF SERIES NUMBERS IN NUMERICAL ORDER

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1, 2 or 3 digits	–	4 digits	–	4 digits	–	3 digits
Series Block	—	Base Block	—	Lens Cap Block	—	Miscellaneous Block

95-0408-0931-341

All complete indicator lights, consisting of a base assembly and lens cap have the above configuration:

A. First or Series Block identifies a specific series. In our example, 95 designates one of our miniature indicator light lens caps.

B. Second or Base Block identifies the lamp base, terminal style and specific lamp accommodation. Lamp socket: 04—(miniature bayonet base, solder terminals) and the specific lamp type:—8 BIA (NE-51).

C. Third or Lens Cap Block 0931, identifies the shape and material of the lens, 09— (stovepipe, plastic) the lens finish,—3— (transparent), and the color, —1 (red).

D. Fourth or Miscellaneous Block 341, identifies the metal finish, 3— (polished chrome), the built in resistor value,—4— (56 ohms), and the mounting hardware, —1 (brass).

Because there is a great commonality of base assemblies and lens caps which combined have different indicator light part numbers, you will frequently need to recognize a base assembly part number and a lens cap part number. The Dialight Master Index lists, numerically, the part numbers of complete indicator lights, and their component base assembly numbers and lens cap numbers.

Using our original example, the complete indicator part number, 95-0408-0931-341 is made up from the 95-0408-09-341 base assembly and the 95-0931 lens cap.

Another complete indicator light. 135-0408-1431-341, uses the same base, 95-0408-09-341, but with a different lens cap, 135-1431.

A typical base assembly number has this configuration: 95-0408-09-341. Note, in this case, that the number is the same as a complete indicator number except that the third or Lens Cap Block is incomplete. There is no lens finish or color to be described in a base assembly. We must, however, know what shape lens the base was designed to accommodate and therefore we need the 09 in the base assembly number.

A typical lens cap number has this configuration: 95-0931. This number describes the series in the first block and the second block describe the lens shape, material, lens finish and color.

There is another variation to lens cap numbers and that is when the Miscellaneous Block is added to the lens cap number. The Miscellaneous Block is added when the lens cap is not all plastic and includes a metal lens holder. 51-0113-300 describes a lens cap in another series with a metal finish, designated by 3—(polished chrome).

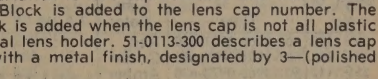
The Miscellaneous Block is also added when hardware is included with the lens cap. 95-0931-003 is a lens cap with water-tight hardware designated by the —3 in the Miscellaneous Block.

•NEW 710 SERIES NUMERIC READOUT

Smaller size 710 series lighted modules for readout of 10 numbers and letters in bold one inch characters. Readouts assembled are most legible displays possible in presentations of one inch characters. Provide error free readout at over 30 feet. When viewed through proper contrast filter, lighted segments have high contrast to background and those not lighted merge into background. Designed for permanent mounting of either front or rear parts on a common support. Accept only T-1¾ bulbs with midget flanged base. Incandescent lamp No. 344 @ 14-16 volts is used mostly, assuring long life. Two useful options are available: a similar Module to basic 710 with integral point in lower position, after digit, for display as decimal; or an inverted form where point is in upper position ahead of digit for use as colon. It is, of course, necessary to use a pair of these for the full colon. Decimal point and colon are presented in a normal relation to digits.

Stock No.	Type No.	Description	1-9	10-24	25-99	100-249
45F717	710-0300-005	Basic Module	6.79	6.28	5.80	5.33
45F718	710-0301-005	Basic w/decimal	7.79	7.22	6.66	6.12
45F719	710-0302-005	Basic w/colon	7.79	7.22	6.66	6.12
45F720	710-0305-005	Plus-Minus Module	7.97	7.39	6.82	6.26
45F721	710-0304-005	Plus-Minus w/Decimal	9.12	8.45	7.80	7.16

•NEW 534 SERIES PUSHBUTTON CAPS



Complete flexibility is afforded the user of this series cap. Enables him to make his own custom legends as needed. Removable snap-off frame permits user to prepare, insert or replace legends quickly, easily, without tools. Any transparent or translucent material suitable for use with legends may be used. ¾" x 1" rectangular cap has black or grey frame colors to choose from. Choice of three underlying colored filters is also available. Cap can be used with momentary or alternate action switches and matching indicators. 534 caps can also be used with 513 series switch bases having rectangular bases. (Those having block C ending in —09 or —10. As 513-0110-01.)

Stock No.	Black Frame Type	Cap Color	Stock No	Gray Frame Type
45F701	534-0701-131	Red	45F709	534-0702-131
45F702	534-0701-132	Green	45F710	534-0702-132
45F703	534-0701-133	Amber	45F711	534-0702-133
45F704	534-0701-134	Blue	45F712	534-0702-134
45F705	534-0701-135	White	45F713	534-0702-135
45F706	534-0701-136	Lt. Yellow	45F714	534-0702-136
45F707	534-0701-137	Clear	45F715	534-0702-137
45F708	534-0701-139	Gray	45F716	534-0702-139

Set of four filters (red, green, amber, blue) included with one cap color in each package.

Type	1-9	10-24	25-99	100-249	250-409	500-999
534-0701	1.13	1.02	.92	.77	.70	.64
534-0702	1.13	1.02	.92	.77	.70	.64

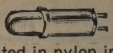
DIALCO® Datalites

ULTRA-MINIATURE INDICATOR LIGHTS

A

B

C


D

Ideal for data-processing equipment, computers and automation applications. All units fully insulated. Conforms to applicable military specifications. Lamp Cartridges consist of unbased A1B Neon Lamps or T-1¾ wire-lead Incandescent Lamps, mounted in aluminum sleeves and caped with plastic lenses. Connections are brought out as stainless steel pins mounted in nylon insulation and offset to provide polarization. Datalites with permanent NE-2 Series Neon Glow Lamps are designed for use where lamp replacement is not necessary. Legends can be hot-stamped on the flat front surfaces of the cylindrical lenses.

See following page for listing of Dialco Holders

(FIGS. A-B) NEON GLOW

The A1B Neon Glow Lamp has formed tip and double length electrodes; 1/25 watt; starting voltage of 65 AC and 90 DC. Use 100K ohm resistor for 105 to 125 volts. Overall size of lamp cartridge. 1 19/64" x 21/64". Ave. Shpg. Wt., 1 oz.

FIG A STOVEPIPE TRANSPARENT NEON CARTRIDGE

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1100	507-3835-0931-600	Red	1.01	.89	.81	.69	.63	.55
25F1101	507-3835-0933-600	Amber						
25F1102	507-3835-0935-600	White						
25F1103	507-3835-0936-600	Lt. Yel.						
25F1104	507-3835-0937-600	Clear						
As above, but with AIC High Brightness Lamp.								
25F1229	507-3836-0931-600	Red	1.01	.89	.81	.69	.63	.55
25F1230	507-3836-0933-600	Amber						
25F1231	507-3836-0935-600	White						
25F1232	507-3836-0936-600	Lt. Yel.						
25F1233	507-3836-0937-600	Clear						

FIG. B. LONG CYLINDRICAL NEON GLOW LAMP CARTRIDGES

25F1105	507-3835-1531-600	Red	1.01	.89	.81	.69	.63	.55
25F1106	507-3835-1533-600	Amber						
25F1107	507-3835-1535-600	White						
25F1108	507-3835-1536-600	Lt. Yel.						
25F1109	507-3835-1537-600	Clear						
As above, but with AIC High Brightness Lamp.								
25F1234	507-3836-1531-600	Red	1.01	.89	.81	.69	.63	.55
25F1235	507-3836-1533-600	Amber						
25F1236	507-3836-1535-600	White						
25F1237	507-3836-1536-600	Lt. Yel.						
25F1238	507-3836-1537-600	Clear						

FIG. D STOVEPIPE INCANDESCENT LAMP CARTRIDGES (TRANSLUCENT)

(6-Volt, 0.2 Amp.)

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1110	507-3906-0971-600	Red	1.32	1.17	1.07	.95	.87	.77
25F1111	507-3906-0972-600	Green						
25F1112	507-3906-0973-600	Amber						
25F1113	507-3906-0974-600	Blue						
25F1114	507-3906-0975-600	White						
25F1115	507-3906-0976-600	Lt. Yel.						

(6.3-Volt, 0.2-Amp) (LONG LIFE)

25F1239	507-3909-0971-600	Red	1.39	1.23	1.12	.99	.92	.81
25F1240	507-3909-0972-600	Green						
25F1241	507-3909-0973-600	Amber						
25F1242	507-3909-0974-600	Blue						
25F1243	507-3909-0975-600	White						
25F1244	507-3909-0976-600	Lt. Yel.						

(14-Volts, 0.08-Amp.)

25F1116	507-3913-0971-600	Red	1.38	1.22	1.11	.99	.91	.80
25F1117	507-3913-0972-600	Green						
25F1118	507-3913-0973-600	Amber						
25F1119	507-3913-0974-600	Blue						
25F1120	507-3913-0975-600	White						
25F1121	507-3913-0976-600	Lt. Yel.						
As above, but with Long Life Bulb of approximately 50,000 hours.								
25F1245	507-3914-0971-600	Red	1.47	1.30	1.19	1.06	.97	.85
25F1246	507-3914-0972-600	Green						
25F1247	507-3914-0973-600	Amber						
25F1248	507-3914-0974-600	Blue						
25F1249	507-3914-0975-600	White						
25F1250	507-3914-0976-600	Lt. Yel.						

(28-Volt, 0.04-Amp.)

25F1122	507-3917-0971-600	Red	1.27	1.12	1.02	.91	.82	.71
25F1123	507-3917-0972-600	Green						
25F1124	507-3917-0973-600	Amber						
25F1125	507-3917-0974-600	Blue						
25F1126	507-3917-0975-600	White						
25F1127	507-3917-0976-600	Lt. Yel.						

(A—C) LAMP CARTRIDGES

For Twin Lamp & Single Lamp Holder

A1B Neon Lamps or T-1¾ wire-lead incandescent Lamps, in alum. sleeves with plastic lenses. Connections—stainless steel pins in nylon insul. and offset to provide polarization.

FIG. C. SHORT CYLINDRICAL INCANDESCENT LAMP CARTRIDGES

(6-Volt, 0.2-Amp.) — TRANSLUCENT

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1128	507-3906-1471-600	Red	1.32	1.17	1.07	.95	.87	.77
25F1129	507-3906-1472-600	Green						
25F1130	507-3906-1473-600	Amber						
25F1131	507-3906-1474-600	Blue						
25F1132	507-3906-1475-600	White						
25F1133	507-3906-1476-600	Lt. Yel.						

(10-Volt .014 Ma) — TRANSPARENT

45F500	507-3910-1431-600	Red	1.89	1.66	1.53	1.36	1.24	1.09
45F501	507-3910-1432-600	Green						
45F502	507-3910-1433-600	Amber						
45F503	507-3910-1436-600	Lt. Yel.						

(14-Volt, 0.08-Amp.) — TRANSLUCENT

25F1134	507-3913-1471-600	Red	1.38	1.22	1.11	.99	.91	.80
25F1135	507-3913-1472-600	Green						
25F1136	507-3913-1473-600	Amber						
25F1137	507-3913-1474-600	Blue						
25F1138	507-3913-1475-600	White						
25F1139	507-3913-1476-600	Lt. Yel.						

(28-Volt, 0.04-Amp.) —TRANSLUCENT

25F1140	507-3917-1471-600	Red	1.27	1.12	1.02	.91	.82	.71
25F1141	507-3917-1472-600	Green						
25F1142	507-3917-1473-600	Amber						
25F1143	507-3917-1474-600	Blue						
25F1144	507-3917-1475-600	White						
25F1145	507-3917-1476-600	Lt. Yel.						

NEON CARTRIDGES

Has BUILT-IN RESISTOR (1/10) watt). For the 507-4537, the resistance value is 56,000 ohms for use on 105-125 volts AC or DC. For the 507-4538 (High Brightness), the resistance value is 22,000 ohms for use on 110-125 volts AC.

Type 507-4537. With built-in 56K resistor for 105-125 ohms volts, AC or DC. *Colorless.

0931-937 Stovepipe-Fig. A		#1531-1537 Long Cyl.- Fig. B		
Stock No.	Type 507-4537	Stock No.	Type 507-4537	Lens Color
25F1180	-0931-640	25F1185	-1531-640	Red
25F1181	-0933-640	25F1186	-1533-640	Amber
25F1182	-0935-640	25F1187	-1535-640	White
25F1183	-0936-640	25F1188	-1536-640	Lt. Yel.
25F1184	-0937-640	25F1189	-1537-640	Clear*

Type 507-4538. With built-in 22K resistor for 110-125 volts AC.

0931-0937 Stovepipe-Fig. A		#1531-1537 Long Cyl.- Fig. B		
Stock No.	Type 507-4538	Stock No.	Type 507-4538	Lens Color
25F1190	-0931-610	25F1195	-1531-610	Red
25F1191	-0933-610	25F1196	-1533-640	Amber
25F1192	-0935-610	25F1197	-1535-610	White
25F1193	-0936-610	25F1198	-1536-610	Lt. Yel.
25F1194	-0937-610	25F1199	-1537-610	Clear*

1-9	10-24	25-99	100-249	250-499	500-999
1.36	1.20	1.11	.99	.90	.79

FLAT INCANDESCENT DATALAMP CARTRIDGES

Not for use with Datalamp or Data Twin assembly. Use only with separate 515-0050 or 515-0012 Datalamp Cartridge Connector and 515-0051 Speed Clip.

(28-Volt, .04-Amp.)

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1093	507-3917-0371-600	Red	1.27	1.12	1.02	.91	.82	.71
25F1094	507-3917-0372-600	Green						
25F1095	507-3917-0373-600	Amber						
25F1096	507-3917-0375-600	White						

Sub-Miniature Lights DIALCO

DATALITES WITH PERMANENT NEON LAMPS

Lamps are built-in—not replaceable. Units mount in 3/8" clearance hole.

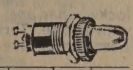
Built-in: a rugged, long-life NE-2E Neon Glow Lamp with formed tip and double length electrodes—1/25 watt, starting voltage of 65 AC and 90 DC. (*) With built in resistor of 100,000 ohms for 105-125 V. service. Resistors to Mil-R-11 spec.

Lightweight construction of aluminum, black anodized finish. Plastic lense give wide angle visibility. 2 insulated terminals of low carbon steel, solder plating. With mounting hardware.

Conform to military specifications (Mil-L-3661)

Stovepipe: Without Built-In Resistor

(1 25/64"x1/2" Overall: 1 1/2 Oz. Shpg. Wt.)



Stock No.	Type 249—	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1146	7840-0931-504	Red	1.39	1.30	1.22	1.03	.95	.87
25F1147	7840-0933-504	Amber						
25F1148	7840-0935-504	White						
25F1149	7840-0936-504	Lt. Yellow						
25F1150	7840-0937-504	Clear						

(*) With Built-In 100-K Resistor

(1 53/64"x1/2" Overall; 2 Oz. Shpg. Wt.)

25F1151	7841-0931-574	Red	1.71	1.60	1.50	1.40	1.29	1.19
25F1152	7841-0933-574	Amber						
25F1153	7841-0935-574	White						
25F1154	7841-0936-574	Lt. Yellow						
25F1155	7841-0937-574	Clear						

GREEN or BLUE LENSES are not recommended for use with Neon lamps.

Short Cylindrical; Without Built-In Resistor

(1 25/64"x1/2" Overall; 1 1/2 Oz. Shpg. Wt.)

Stock No.	Type 249—	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1156	7840-1431-504	Red	1.39	1.30	1.22	1.03	.95	.87
25F1157	7840-1433-504	Amber						
25F1158	7840-1435-504	White						
25F1159	7840-1436-504	Lt. Yellow						
25F1160	7840-1437-504	Clear						

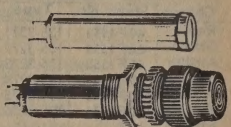
(*) With Built-In 100-K Resistor

1 53/64"x1/2" Overall; 2 oz. Shpg. Wt.

25F1161	7841-1431-574	Red	1.71	1.60	1.50	1.40	1.29	1.19
25F1162	7841-1433-574	Amber						
25F1163	7841-1435-574	White						
25F1164	7841-1436-574	Lt. Yellow						
25F1165	7841-1437-574	Clear						

SERIES 250 INCANDESCENT DATALITE ASSEMBLY

Complete indicator assembly. Takes the lamp cartridge illustrated, available in voltages from 6V to 120V Polycarbonate lens with matted back. Cartridge fits into assembly leaving slots to permit easy removal. Unit designed for insertion from the rear of the panel in a 3/8" clearance hole. Comes with screw-on "Data Cap" for high light transmission. Transparent lenses available in 6 colors. Terminals phosphor bronze, gold plated. Max. dim., 2.022"L. x .515" dia.



COMPLETE ASSEMBLIES

Stock No.	Solder Cup Terminals 250-7558	Cap Color	1-9	10-24	25-99	100-249	250-499	500-999
60F1216	3331-504	Red	1.93	1.70	1.57	1.41	1.28	1.15
60F1217	3332-504	Green						
60F1218	3333-504	Amber						
60F1219	3334-504	Blue						
60F1220	3335-504	White						
60F1221	3337-504	Clear						

Stock No.	Turret Terminals 250-8758-	Cap Color	1-9	10-24	25-99	100-249	250-499	500-999
60F1222	3331-504	Red	1.93	1.70	1.57	1.41	1.28	1.15
60F1223	3332-504	Green						
60F1224	3333-504	Amber						
60F1225	3334-504	Blue						
60F1226	3335-504	White						
60F1227	3337-504	Clear						

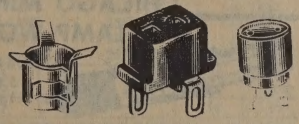
CLEAR LENS DATALAMP CARTRIDGE FOR ABOVE

Stk. No.	Type 507-	V	1-9	10-24	25-99	100-249	250-499	500-999
60F1228	5819-0747-600	6	1.58	1.40	1.29	1.17	1.07	.96
60F1229	5821-0747-600	12						
60F1230	5821-0747-600	28						

Stk. No.	Type 507	Volts	1-9	10-24	25-99	100-249	250-499	500-999
60F1231	5822-0747-600	48	1.58	1.40	1.29	1.17	1.07	.96
60F1232	5823-0747-600	60						
60F1233	5824-0747-600	120						

SPRING CLIP

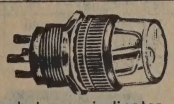
Effective when conventional mounting is not practical. For all Dialco Plug-in Neon and Incandescent Lamp Cartridges. Self-retaining. Of tubular heat treated spring steel. For use with above cartridges.



515-0051 515-0050 515-0012

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1253	515-0051	.11	.10	.09	.08	.07	.06

TWIN LAMP ASSEMBLY



No. 253-6939-1437-504. Compact dual unit housing 2 Dialco lamp cartridges. Mounts in 3/4" clearance hole. Conform to mil specs. Permits independent operation of each lamp—indicates 4 possible conditions, or lamps can be parallel wired. Cartridges replace from front. Clear plastic lens. Less cartridge. 1 53/64"x7/8". 3 ozs.

Stock No.	Type 253-6939	1-9	10-24	25-99	100-249	250-499	500-999
25F1166	1437-504	3.84	3.41	3.17	2.85	2.66	2.39

No. 253-6939-1435-504. Dual unit housing 2 Dialco Lamp Cartridges. Similar to 253-6939-1437, above. White lens. 1 53/64"x7/8".

Stock No.	Type 253-6939	1-9	10-24	25-99	100-249	250-499	500-999
25F1254	1435-504	3.84	3.41	3.17	2.85	2.66	2.39

CARTRIDGE CONNECTORS FOR ABOVE CARTRIDGES

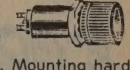
Type 515-0050. Molded phenolic; solder lug terminals are of beryllium copper, cadmium plated, with elongated slots.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1251	515-0050	.22	.20	.19	.18	.17	.16

Type 515-0012. Sleeve of aluminum with black anodized finish. Insulation of black molded phenolic. Solder cup terminals of phosphor bronze, gold plated.

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1252	515-0012	.70	.61	.53	.46	.40	.35

SINGLE LAMP HOLDER



Compact. Two terminals insulated, marked, and offset for correct polarity when replacing lamps in DC circuits. Shown, lamp holder less cartridge. 1 13/16x1/2" overall, less lamp. 1 5/8" long with lamp. Mounting hardware. 2 oz. *with turret terminals.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1167	508-7538-504	1.40	1.23	1.12	.99	.89	.80
25F1291	508-8738-504*						

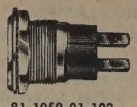
SINGLE LAMP HOLDER

Similar to 508-7538-504 but is 5/64" longer to accommodate the new Neon Cartridges 4537 & 4538. *with turret terminals.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1209	508-7545-504	1.40	1.23	1.12	.99	.89	.80
25F1292	508-8745-504*						

DIALCO® Indicator Lights

82-1059-0431-102
Complete Assembly



81-1059-01-102
Base Assembly

Type 81
Faceted

Type 135
Cylindrical
(Translucent)

Type 52
Stove Pipe
(Internally Fluted
Transparent)

Type 95
Stove Pipe
(Smooth Face
Transparent)

BASE ASSEMBLY

Accommodates T-2 incandescent bulb with telephone slide base (PSB Type) in a range of voltages from 6 to 120 volts. (See Chicago Miniature listing below). Uses any of the 4 styles of high temperature Lexan lens caps in different colors listed. Phenolic housing, white nickel finish. Rated 75 watts, 125 volts. Solder terminals. Electrical contact can be made with AMP connector 42198-2. Mounting is $1\frac{1}{16}$" clearance hole. $1\frac{27}{32}$" long.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
60F1550	81-1059-01-102	.82	.73	.69	.65	.60	.56

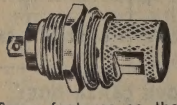
LENSES FOR HOUSING ABOVE

Color	Transluc. Cyl. Stock No.	Transluc. Cyl. Type	Transpar. Stock No.	Fluted Type	Transluc. Stock No.	Smooth Type
Red	60F1551	135-3271	60F1558	52-3191	60F1565	95-3171
Green	60F1552	135-3272	60F1559	52-3192	60F1566	95-3172
Amber	60F1553	135-3273	60F1560	52-3193	60F1567	95-3173
Blue	60F1554	135-3274	60F1561	52-3194	60F1568	95-3174
White	60F1555	135-3275	60F1562	52-3195	60F1569	95-3175
Yellow	60F1556	135-3276	60F1563	52-3196	60F1570	95-3176
Clear	.....	.....	60F1564	52-3197	.....	.....

PRICES	1-9	10-24	25-99	100-249	250-499	500-999
	.26	.23	.21	.20	.19	.18

SERIES 81—TRANSPARENT FACETED LENSES

Color	Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
Red	60F1572	81-0431-100						
Green	60F1573	81-0432-100						
Amber	60F1574	81-0433-100						
Blue	60F1575	81-0434-100	.33	.29	.28	.25	.23	.21
White	60F1576	81-0435-100						
Yellow	60F1577	81-0436-100						
Clear	60F1578	81-0437-100						

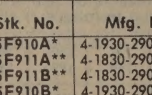


1 TERMINAL LIGHT SHIELD ASSEMBLY SUB-MINIATURE FOR DIALS INSTRUMENTS, CONTROL PANELS

Mtg. hole $\frac{15}{32}$" d. Opening is $\frac{1}{4}$"x$\frac{3}{16}$". Same features as the 2-terminal assemblies except for use on grounded circuits and with either soldering or binding screw terminal. Molded phenolic insulation material of military specification grade. Meets MIL-SPEC. MIL-L-7806A. Uses T-1¾ lamp. Black nickel finish. Overall size, approx. 1¼"x½", unscrews for bulb replacement. With lockwasher and nut, Less lamp. Shpg. wt., 1½ ozs. 201 suffix indicates black nickel. 301, chrome. *indicates solder terminal, **screw terminal.

Stk. No.	Mfg. No.	1-9	10-24	25-99	100-249	250-499	500-999
25F910A*	4-1930-2900-201	1.90	1.66	1.54	1.40	1.30	1.17
25F911A**	4-1830-2900-201	2.21	1.93	1.78	1.64	1.51	1.36
25F911B**	4-1830-2900-301	2.21	1.93	1.78	1.64	1.51	1.36
25F910B*	4-1930-2900-301	1.90	1.66	1.54	1.40	1.30	1.17

SERIES 270
For Plastic Plate Edge Lighting



For Mil-P-7788 plastic plate panels. Emits light through red filter into the plastic panel. Meets Mil-L-7806. Mounts in $\frac{15}{32}$" clearance hole. Complete unit, hardware, supplied. Less T-1¾ lamp. Available with light emitting top in various colors. ½" x $1\frac{7}{16}$". Shpg. wt. 1½ oz.

EDGE LIGHTING ASSEMBLIES SOLDER TERMINAL

Stk. No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F967	270-1930-0111-702	Red*	.90	.80	.72	.65	.60	.55
25F969	270-1930-0121-702	Green	1.07	.95	.85	.76	.70	.64
25F971	270-1930-0131-702	Amber	1.07	.95	.85	.76	.70	.64
25F973	270-1930-0171-702	Clear††	.90	.80	.72	.65	.60	.55

NE-2D NEON SUB-MINIATURES MS25257

Uses T-2 Neon Glow Lamp. 62K Resistor is built in for use on 105-125 volts AC or DC. Stovepipe lens is plastic with 180° lens spread. Shank of lens holder is crimped in 3 places to secure the lamp. Lens holder unscrews from front of panel for easy replacement of lamp. An anti-rotation notch on face of flange prevents rotation of unit while mounting nut is being tightened. Mounting bushing is aluminum with black anodize finish. Steel internal tooth lockwasher and hex mounting nut are cadmium plated and coated with iridite. Terminals are brass, hot-tinned, with elongated slots. Less lamp. Size $1\frac{1}{2}$x$\frac{5}{8}$". Shpg. wt. 2 oz.

Stock No.	Type No.	Mil. Std. Dwg. No.	Lens Color
25F1200	137-8836-0933-552	MS25257-2	Aviat. Yel.
25F1201	137-8836-0931-552	MS25257-4	Ident. Red
25F1202	137-8836-0937-552	MS25257-6	Clear

Prices	1-9	10-24	25-99	100-249	250-499	500-999
	2.33	2.03	1.84	1.66	1.53	1.40

Series 137-8864 Holders. For bright light when used with NE 2J (C9A) lamp, built-in 22K Res. on 110-125 VAC (*) 33K Res. for long life. Black anodize finish, aluminum bushing, steel hardware used for front mounting in $\frac{15}{32}$" clearance hole. Less lamp.

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F504	137-8864-09-512	2.04	1.78	1.62	1.46	1.35	1.24
45F505	137-8864-09-532*	2.04	1.78	1.62	1.46	1.35	1.24

Lenses to be used with Series 137-8864 Holders

Stk. No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F506	137-0931	Red						
45F507	137-0933	Amber	.29	.25	.22	.20	.18	.16
45F508	137-0935	White						
45F509	137-0937	Clear						

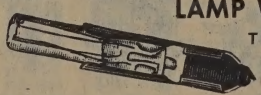
Series 181-8864, 181-8836 Holders. For use on 105-125VAC with built-in 62K Res., except (*) 110-125VAC with built-in 22K Res. Same as 137-8836 series except with retained 'O' ring seal, watertight construction. Less lamp.

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F510	181-8836-09-553	2.31	2.03	1.89	1.73	1.56	1.44
45F511	181-8864-09-513*	2.31	2.03	1.89	1.73	1.56	1.44

Lenses to be used with Series 181-8864, 181-8836 Holders

Stk. No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F512	181-0931-003	Red						
45F513	181-0933-003	Amber	.52	.45	.42	.39	.36	.34
45F514	181-0935-003	White						
45F515	181-0937-003	Clear						

CHICAGO MINIATURE LAMP WORKS



TELEPHONE SLIDE BASE LAMPS

- 5,000 Hour Life
- 1.688" Long—½" Diameter

Stock No.	Type	Volts	Amps	End. Foot Candles	10-99	100-499	500-999
27F084	24C	24	.06 -.085	875			
27F085	24E	24	.032-.038	600			
27F087	24X	24	.032-.038	600	.68	.45	.37
27F088	30B	30	.09 -.11	1050			
27F090	48D	48	.017-.025	100			
27F091	55C	55	.045-.06	1025	.73	.47	.40

Special Units for Use with DIALCO Housing 81-1059-01-102

- 5,000 Hour Life
- 1.075" Long—¼" Diameter

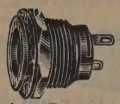
Stock No.	Type	Volts	Amps	End. Foot Candles	10-99	100-499	500-999
27F075	6PSB	6	.140	800			
27F076	12PSB	12	.170	2500			
27F077	24PSB	24	.073	2200			
27F078	28PSB	28	.040	2000	.48	.46	.41
27F079	48PSB	48	.053	1500			
27F080	60PSB	60	.050	2600			
27F081	120PSB	120	.025	1500			

Sub-Miniature & Indicator Lights

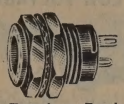
DIALCO®

INDICATOR LIGHTS—TWO TERMINAL—FULLY INSULATED

Stovepipe Lens



Front Mounting



Front or Back Mounting

Cylindrical Lens

Convex Lens

Meet MIL requirements. Phenolic insulated. Lens cap assembly unscrews from front of panel for easy replacement of lamp. Two terminals (soldering) provided for electrical connections. Anti-rotation (locked) construction provides secure locking of socket terminal assembly and center terminal. Stovepipe and cylindrical lenses molded of high heat plastic. Avg. size ½x1¼". Light source T-1¾ midget flange base lamp; voltage range: 1.35 to 28. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit. Less lamp.

HOLDERS

Front mounting in 17/32" Clearance Hole

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999	IM-2499
25F1615	101-5030-09-201	1.16	1.02	.92	.83	.77	.71	.65

Front or back mounting in 15/32" clearance hole.

Stk. No	Type	1-9	10-24	25-99	100-249	250-499	500-999	IM-2499
25F1228	101-3830-09-201	1.16	1.02	.92	.83	.77	.71	.65

STOVEPIPE LENS CAP

Color	TRANSLUCENT Stk. No.	TRANSLUCENT Mfg. No.	TRANSPARENT St. No.	TRANSPARENT Mfg. No.
Red	25F1269	101-0971	25F1588	101-0931
Green	25F1270	101-0972	25F1589	101-0932
Amber	25F1271	101-0973	25F1590	101-0933
Blue	25F1272	101-0974	25F1591	101-0934
White	25F1273	101-0975	25F1592	101-0935
Yellow	25F1274	101-0976	25F1593	101-0936
Clear	.....	.....	45F516	101-0937

Prices	1-9	10-24	25-99	100-249	250-499	500-999	IM-2999
	.29	.25	.22	.20	.18	.16	.15

FLAT CYLINDRICAL LENS CAP

Color	TRANSLUCENT Stk. No.	TRANSLUCENT Mfg. No.	TRANSPARENT Stk. No.	TRANSPARENT Mfg. No.
Red	25F1616	140-1471	25F1622	140-1431
Green	25F1617	140-1472	25F1623	140-1432
Amber	25F1618	140-1473	25F1624	140-1433
Blue	25F1619	140-1474	25F1625	140-1434
White	25F1620	140-1475	25F1626	140-1435
Yellow	25F1621	140-1476	25F1627	140-1436
Clear	.....	.....	25F1628	140-1437

Prices	1-9	10-24	35-99	100-249	250-499	500-999	IM-2999
	.29	.25	.22	.20	.18	.16	.15

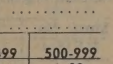
CONVEX LENS CAP DIMMING TYPES

Frosted back finish except (*) translucent unfrosted.

Color	Semi-blackout Stock No.	Semi-blackout Type No.	Complete Blackout Stock No.	Complete Blackout Type No.
Red	45F520	109-0111-200	45F525	108-0111-200
Green	45F521	109-0112-200	45F526	108-0112-200
Amber	45F522	109-0113-200	45F527	108-0113-200
Blue	45F523	109-0114-200	.....	.....
White*	45F524	109-0135-200	.....	.....

Prices	1-9	10-24	25-99	100-249	250-499	500-999
	1.38	1.22	1.14	1.05	.99	.89

INDANDESCENT SUB-MINIATURES MS 25226



Similar to MS25257 except it uses T-1¾ incandescent lamps of 1.35 to 28 v. Front panel mounting in 15/32" clearance hole. Overall unit size: 13/32x5/8". Shipping weight, 1½ oz. less lamp.

Lens Color	Stock No.	Type No.	Mil. Std. Dwg. No.
Aviat. Yel.	25F1203	162-8430-0933-502	MS25256-2
Aviat. Green	25F1204	162-8430-0932-502	MS25256-4
Ident. Red	25F1205	162-8430-0931-502	MS25256-6
Aviat. White	25F1206	162-8430-0937-502	MS25256-8
Transl. White	25F1207	162-8430-0975-502	MS25256-10
Aviation Blue	25F1208	162-8430-0934-502	MS25256-12

Prices	1-9	10-24	25-99	100-249	250-499	500-999
	1.39	1.22	1.11	1.00	.93	.86

SERIES 81-HOLDERS
11/16" MTG. CLEARANCE HOLE ENCLOSED INDICATOR

Takes T-3¼ incandescent lamp. Has no resistor, for use on 2-55 VAC or VDC. Meets Mil. specs., mounts in 11/16" clearance hole in panels up to 3/8" thick. Soldered or (*) screw terminals. 2½" long, except (**) low voltage enclosed 2½" long, black nickel finish. Less lamp. Order holder and lens separately to obtain complete unit.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F528	81-0410-01-201	1.01	.90	.85	.80	.73	.69
45F529	81-1310-01-201*	1.12	.99	.94	.87	.80	.76
45F530	81-9110-01-102**	.70	.67	.64	.55	.52	.49

SERIES 81-LENS ASSEMBLIES

Screw in lenses. Convex lenses back frosted except (*).

BLACK NICKEL FINISH

Lens Color	CONVEX LENS Stk. No.	CONVEX LENS Type No.	FACETED LENS Stk. No.	FACETED LENS Type No.
Red	25F1569	81-0111-200	45F531	81-0431-200
Green	25F1570	81-0112-200	45F532	81-0432-200
Amber	25F1571	81-0113-200	45F533	81-0433-200
Blue	25F1572	81-0114-200	45F534	81-0434-200
White*	25F1573	81-0135-200	45F535	81-0435-200
Lt. Yel.	25F1574	81-0116-200	45F536	81-0436-200
Clear	25F1575	81-0117-200	45F537	81-0437-200

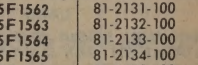
Prices	1-9	10-24	25-99	100-249	250-499	500-999
	.44	.38	.36	.33	.30	.20

WHITE NICKEL FINISH

Lens Color	CONVEX LENS Stk. No.	CONVEX LENS Type No.	FACETED LENS Stk. No.	FACETED LENS Type No.
Red	25F1555	81-0111-100	25F1562	81-2131-100
Green	25F1556	81-0112-100	25F1563	81-2132-100
Amber	25F1557	81-0113-100	25F1564	81-2133-100
Blue	25F1558	81-0114-100	25F1565	81-2134-100
White*	25F1559	81-0135-100	25F1566	81-2135-100
Lt. Yel.	25F1560	81-0116-100	25F1567	81-2136-100
Clear	25F1561	81-0117-100	25F1568	81-2137-100

	1-9	10-24	25-99	100-249	250-499	500-999
Convex	.33	.29	.28	.25	.23	.21
Faceted	.23	.21	.20	18	.17	.16

SUB-SUB MINIATURE INDICATOR LIGHTS



MS25446. High reliability T-1 filament lamp in high impact plastic cap. Molded to mounting bushing. Dustproof, moistureproof. Anti-rotation construction. Flexible 6" Type E wire leads. .193" panel mounting hole clearance. Lens cap dia.: 7/32" long. Lamp rating: 5.0 volt at .06 amps 60,000 hr. of life. 6.3 volts 07 amps, 6000 hrs. Sealed unit, non-replaceable lamp.

Lens Color	Stock No.	Type No.	Mil. Spec.
Red	25F1295	252-9951-0971	25446-4
Green	25F1294	253-9951-0972	25446-3
Amber	25F1297	253-9951-0973	25446-6
Blue	25F1293	253-9951-0974	25446-2
White	25F1296	253-9951-0975	25446-5
Clear	25F1298	253-9951-0937	25446-7

1-9	10-24	25-99	100-249	250-499	500-999
2.96	2.77	2.58	2.41	2.27	2.15

WATER-TIGHT 2-TERMINAL SUB-MINIATURE LIGHTS

(Also see other Dialco pages for large oil-tight indicator lights) With retained "O" ring seal. Front mounting in 15/32" clearance hole. Takes T-1¾ midget flange base incandescents (MS-25237). From 1.35 to 28 volts. Lugs of brass and hot-tinned. Lockwasher, hex-nut supplied. Overall size, 5/8"x113/16" long. Less lamp. Wt., 2 oz.

Holder

Lens Cap

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1637	177-8430-09-503	1.22	1.07	.99	.90	.84	.79

LENS CAPS FOR ABOVE HOLDERS

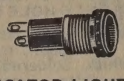
Lens Color	Stk. No.	Transparent	Stk. No.	Translucent
Red	25F1638	177-0931-003	45F694	177-0971-003
Green	25F1639	177-0932-003	45F695	177-0972-003
Amber	25F1640	177-0933-003	45F696	177-0973-003
Blue	25F1641	177-0934-003	45F697	177-0974-003
White	25F1642	177-0935-003	45F698	177-0975-003
Yellow	25F1643	177-0936-003	45F699	177-0976-003
Clear	25F1644	177-0937-003	.....	.....

1-9	10-24	25-99	100-249	250-499	500-999
.52	.45	.41	.38	.36	.34

DIALCO Indicator Lights & Pilot Assemblies

SERIES 95 HOLDERS 11/16" MTG. CLEARANCE HOLE

Screw Lug


Solder Lug

NEON INDICATOR LIGHTS

Meet Mil-L-3661, Solder lug, 22K built-in resistor for B2A(NE-51H) neon lamp. (*) screw terminals 56K 1/3 watt built-in resistor, takes B1A(NE-51) neon lamp, for use on 105-125 VDC, but both can be used on 105-125 VAC. 2 1/16" clearance hole. Black nickel finish, less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F548	95-0463-09-211	1.23	1.10	1.03	.95	.90	.84
45F547	95-1308-09-241*	1.32	1.18	1.09	1.00	.95	.90

Meet Mil-L-3661 Solder lug, 56K 1/3 watt built-in resistor. Takes NE-51 neon lamp for use on 105-125 VAC or VDC, (*) screw terminal, 22K built-in resistor for B2A (NE-51H) for use on 105-125 VAC only. 2 1/16" long, mounts in 11/16" clearance hole, black nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F549	95-0408-09-241	1.23	1.10	1.03	.95	.90	.84
45F550	95-1363-09-211*	1.32	1.18	1.09	1.00	.95	.90

Meet Mil-L-3661, solder lug (*) screw terminal, 68K built-in resistor. Takes NE-51H neon laml. Both used on 210-250 VAC. 2 1/16" long, mounts in 11/16" clearance hole. Black nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F551	95-9463-09-361	1.23	1.10	1.03	.95	.90	.84
45F552	95-9363-09-361*	1.32	1.18	1.09	1.00	.95	.90

LAMP INTEGRAL RESISTORS

Not Mil., Solder lug, 56K 1/3 watt built-in resistor. Takes B1A(NE-51) neon lamp to be used on 105-125 VAC or VDC (†) Solder lug 22K built-in resistor for B2A(NE-51H) neon lamp, for use on 105-125 VAC only. 2 1/16" long, mounts in 11/16" clearance hole, phenolic body and white nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F555	95-9108-09-142	.86	.83	.77	.67	.63	.60
45F556	95-9163-09-112†	.86	.83	.77	.67	.63	.60

11/16" MTG. CLEARANCE HOLE ENCLOSED INDICATOR

Meet Mil-L-3661, solder lug, (*) screw terminal, no resistor for use on 2-55 VAC. Takes T-3¼ incandescent lamp. 2 1/16" long, mounts in 11/16" clearance hole, black nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F553	95-0410-09-201	1.01	.90	.84	.77	.73	.69
45F554	95-1310-09-201*	1.12	.99	.92	.84	.80	.76

T-3 ¼ LAMPS

Not Mil., solder lug, no resistor. For use on 2-55 VAC. Takes T-3¼ incandescent lamp. 2 1/16" long, mounts in 11/16" clearance hole, with phenolic body and white nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F557	95-9110-09-102	.70	.67	.64	.55	.52	.49

LENS FOR ABOVE HOLDERS

Stove Pipe (Internally Fluted Translucent)

Stove Pipe (Smooth Face Translucent)

(*)Not Recommended for Use with Neon Lamps

Short Stovepipe Fluted		Lens	Short Stovepipe Plain	
Stock No.	Type No.	Color	Stock No.	Type No.
25F334	52-0991	Red	25F466	95-0931
25F335	52-0992	Green*	25F465	95-0932
25F336	52-0993	Amber	25F467	95-0933
25F337	52-0994	Blue*	25F474	95-0934
25F338	52-0997	Clear	25F468	95-0937
25F339	52-0995	White	25F469	95-0935

1-9	10-24	25-99	100-249	250-499	500-999
.22	.19	.18	.16	.15	.14

Long Stovepipe		Lens	Cylindrical	
Stock No.	Type No.	Color	Stock No.	Type No.
25F340	53-0991	Red	45F560	135-1431
25F341	53-0992	Green*	45F561	135-1432
25F342	53-0993	Amber	45F562	135-1433
25F343	53-0994	Blue*	45F563	135-1434
25F344	53-0997	Clear	45F564	135-1437
25F345	53-0995	White	45F565	135-1435

1-9	10-24	25-99	100-249	250-499	500-999
.22	.19	.18	.16	.15	.14

FOR LOW VOLTAGE T-3¼ MINIATURE BAYONET BASE LAMP

Base 125-0410 11-103

Plain

Fluted

OIL TIGHT PILOT LIGHT HOLDER-LESS LAMP FOR 11/16" MOUNTING HOLE

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F566	125-0410-11-103	1.35	1.23	1.18	1.10	1.06	.99

OIL-TIGHT PILOT LIGHT HOLDER FOR USE WITH B1A(NE-51) FOR 11/16" MOUNTING HOLE-LESS LAMP WITH 56-K RESISTOR BUILT IN

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F567	125-0408-11-143	1.54	1.41	1.34	1.26	1.21	1.12

STOVEPIPE LENS

	Internally Fluted		Frosted Back		Plain	
Color	Stk. No.	Type 125	Stk. No.	Type 125	Stk. No.	Type 125
Red	45F568	1191-403	45F575	1111-403	45F582	1131-403
Green	45F569	1192-403	45F576	1112-403	45F583	1132-403
Amber	45F570	1193-403	45F577	1113-403	45F584	1133-403
Blue	45F571	1194-403	45F578	1114-403	45F585	1134-403
White	45F572	1195-403	.....	.....	45F586	1135-403
Lt. Yellow	45F573	1196-403	45F580	1116-403	45F587	1136-403
Clear	45F574	1197-403	45F581	1117-403	45F588	1137-403

1-9	10-24	25-99	100-249	250-499	500-999
.78	.68	.65	.59	.55	.49

OIL-TIGHT ASSEMBLIES

Screw Terminal Base

Faceted Lens

Enclosed assemblies for heavy duty industrial applications. Gasketed lens. Glass lens gives 180° light spread. Takes 6S6 incandescent (screw or (*) bayonet mtg.) lamp. Supplied less lamp. 1 3/16 x 1 7/8". Mounting Wt. 3 oz.

656 BASES

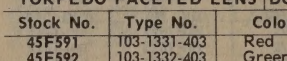
Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F589	103-3502-05-103*	2.42	2.28	2.13	1.82	1.70	1.58
45F590	103-3101-05-103	2.11	1.98	1.86	1.58	1.48	1.38

LENS FOR ABOVE BASES

*Unfrosted

TORPEDO FACETED LENS			DOME LENS (FROSTED BACK)	
Stock No.	Type No.	Color	Stock No.	Type No.
45F591	103-1331-403	Red	45F598	103-1211-403
45F592	103-1332-403	Green	45F599	103-1212-403
45F593	103-1333-403	Amber	45F600	103-1213-403
45F594	103-1334-403	Blue	45F601	103-1214-403
45F595	103-1335-403	White	45F602	103-1235-403*
45F596	103-1336-403	Yellow	45F603	103-1216-403
45F597	103-1337-403	Clear	45F604	103-1217-403

1-9	10-24	25-99	100-249	250-499	500-999
1.06	.94	.87	.79	.73	.66



PILOT BULB REMOVER

Type 506-0045. Molded of rubber. Has two hollow ends which stretch over and engage lamps tightly. One end for T-3¼ type bulbs; the other for T-4½ type bulbs. Core of solid rubber provides needed rigidity for sure grip. Wt., 4 oz.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1544	506-0045	.30	25	.22	.21	.19	.18

Type 506-0073. Molded rubber. One end for T-3¼ types. Other for S6 candelabra screw base bulbs.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F480	506-0073	.30	.25	.22	.21	.19	.18

ADAPTER SET

Type 515-1316. For mounting any 1" Dialco assembly in 1 3/16" clearance hole. Reducer (A) is equipped with gasket (B) to fit the 1 3/16" clearance hole, and a washer (C) for under panel mounting. Retained oil-resistant gasket on the reducer assures the same oil-water-and-dust tightness that is obtained on standard Dialco assemblies. Wt., 1 oz.

Stk. No.	Type No.	1-9	10-24	25-99	100-149	250-499	500-999
25F912	515-1316	.68	.62	.56	.51	.47	.43

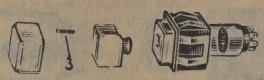
Switches & Indicator Lights

DIALCO

ILLUMINATED PUSHBUTTON SWITCHES

Series 913

Series 922



Series 513

Series 913. 0.1 amp —125V AC .0.1 amp. —30VDC (non-inductive). High brightness C2A (NE-2H) Neon Lamp, non-replaceable. Min. 20,000 hours. For use in 110-125VAC circuits. Integral 33K resistor, gold plated contact parts. Mts. from back of panel in 3/8" clearance hole for 1/8" panel thickness.

spst—N.O. SPST—N.C.

Lens Color	Type 913	Stk. No.	Type 913	Stk. No.
Red	1156-1631-525	60F1235	1430-1631-525	60F1239
Amber	1156-1633-525	60F1236	1430-1633-525	60F1240
White	1156-1635-525	60F1237	1430-1635-525	60F1241
Clear	1156-1637-525	60F1238		

1-9	10-24	25-99	100-249	250-499	500-999
2.97	2.79	2.61	2.43	2.24	2.06

SPDT—TWO CIRCUITS- N.O.—N.C.

Lens Color	Type 913	Stk. No.	1-9	10-24	25-99	100-249	250-499	500-999
Red	1436-1631-525	60F1243	3.20	3.00	2.80	2.61	2.41	2.22
Amber	1436-1633-525	60F1244						
White	1436-1635-525	60F1245						

NO-MAR MOUNTING WRENCHES

506-0375, for series 913, 922, and 915 mounting panel. 506-0500 for base assemblies 513 Series sub. — min. switches.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499
60F1046	506-0375	4.69	4.27	4.04	3.75	3.52
60F1215	506-0500	4.69	4.27	4.04	3.75	3.52

Series 922. SPST momentary cont. N.O.; 0.1 amp. 125 VAC: 0.1 amp, 30 VDC Non-inductive. Life of over 1,000,000 operations at rated values. Gold plated contact parts. Mts. from back of panel in 3/8" clear hole for 1/8" panel thickness. Soldering terminal. Long cylindrical lens cap. For dry circuits or with low currents at higher voltages. Ises replaceable T-1¾ incand. Lamp. Less lamp. To order a complete unit, order one holder and one cap.

BASES

Stock No.	Type	Contact	1-9	10-24	25-99	100-249	250-499	500-999
45F733	922-1524-525	N.O.	3.10	2.90	2.71	2.51	2.33	2.15
45F734	922-1525-525	N.C.	3.10	2.90	2.71	2.51	2.33	2.15
45F735	922-1526-525	Two Circuit	3.40	3.18	2.97	2.75	2.55	2.36

CAPS FOR ABOVE BASES

Lens Color	Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
Red	45F736	908-1631	.68	.59	.52	.46	.41	.37
Green	45F737	908-1632						
Amber	45F738	908-1633						
Blue	45F739	908-1634						
White	45F740	908-1635						
Clear	45F741	908-1637						

● NEW DIALIGHT KAP-KOVER

Series 513. ¾" Square bezel accommodates 5/8" square push button with Kap-Kover. Permits user to insert or replace legends simple, quickly. on location. ¾" square bezel, available in four colors, accommodates the 300 and 304 Series 3/8" square push button caps, when used with clear-colorless Kap-Kover. Bezel push button cap and Kap-Kover combination may be used for snap-in mounting switches and/or matching indicators; or push button cap and Kap-Kover only may be used for standard panel mounting switches and/or matching indicators. Use of Kap-Kover with push button caps permit quick insertion or replacement of legends and reduces time to a minimum.

Stock No.	Type	1-9	10-24	25-99	100-249
45F742	515-0300	.40	.37	.34	.31

SWITCH BASE

Stock No.	Type	1-9	10-24	25-99	100-249
45F722	513-0111-001	4.34	3.89	3.65	3.34
45F723	513-0211-001	4.34	3.89	3.65	3.34
45F724	513-0311-001	4.72	4.22	3.96	3.63
45F725	513-0411-001	4.72	4.22	3.96	3.63
45F726	513-0511-001	4.72	4.22	3.96	3.63
45F727	513-0611-001	5.08	4.57	4.28	3.92
45F728	513-1411-001	6.66	5.95	5.56	5.05
45F729	513-1511-001	6.66	5.95	5.56	5.05
45F730	513-1611-001	5.32	4.77	4.48	4.10
45F731	513-1711-001	5.32	4.77	4.48	4.10

LIGHT BASE ONLY

Stock No.	Type	1-9	10-24	25-99	100-249
45F732	533-1101	1.91	1.73	1.57	1.44

SERIES 513-SWITCH BASES

Momentary has contact rating of 3 amp at 125 VAC (resistive). Is 1.820" long. (#) alternate has contact rating of 5 amp at 125 VAC (resistive). Is 2.335" long. Both have aluminum, clear anodize finish mounting bushing with coin silver contacts. Have-a-.755" sq. mtg. hole .753 rd. mtg. hole, and a .870x1.110 rect. mtg. hole w/or w/o barrier. To get correct base and cap fit check last two digits of middle number to determine mtg. holes 3/8" sq. is. —06 to be used with 300 series caps, 5/8" —07 to be used with 300 series caps. ¾ x 1" rect. w/o barrier —09, and rect. with barrier —10 which are to be used with 303 series caps.

Stk. No.	Type No.	Contact	1-9	10-24	25-99	100-249	250-499	500-999
45F628	513-0106-001	N.O.	4.34	3.89	3.65	3.34	3.12	2.82
45F629	513-0107-001	N.O.						
45F630	513-0110-001	N.O.						
45F631	513-0109-001	N.O.	4.34	3.89	3.65	3.34	3.12	2.82
45F632	513-0206-001	N.C.						
45F633	513-0207-001	N.C.						
45F634	513-0209-001	N.C.						
45F635	513-0210-001	N.C.						
45F636	513-0306-001	Two Circ.	4.72	4.22	3.96	3.63	3.39	3.07
45F637	513-0307-001	Two Circ.						
45F638	513-0309-001	Two Circ.						
45F639	513-0310-001	Two Circ.						
45F640	513-1406-001*	S.P.D.T.	6.66	5.95	5.56	5.05	4.68	4.20
45F641	513-1409-001*	S.P.D.T.						
45F642	513-1407-001*	S.P.D.T.						
45F643	513-1410-001*	S.P.D.T.						
45F644	513-1506-001*	Two Circ.	6.66	5.95	5.56	5.05	4.68	4.20
45F645	513-1507-001*	Two Circ.						
45F646	513-1509-001*	Two Circ.						
45F647	513-1510-001*	Two Circ.						

PUSH BUTTON CAPS

Plastic, fitted with brass shank, white nickel plated finish. Light source is T-1 ¾ bulb with midget flanged base — incandescent — in a range of 6-28 VAC. For 513 series switch bases and matching indicator base assemblies. Series 300—5/8" sq. 301—3/8" rd. and 303—¾ x 1". rect.

Lens	Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
Red	45F652	300-1871	.91	.86	.80	.68	.63	.58
Green	45F653	300-1872						
Amber	45F654	300-1873						
Blue	45F655	300-1874						
White	45F656	300-1875						
Lt. Yellow	45F657	300-1876						
Red	45F658	301-1471	.91	.86	.80	.68	.63	.58
Green	45F659	301-1472						
Amber	45F660	301-1473						
Blue	45F661	301-1474						
White	45F662	301-1475						
Lt. Yellow	45F663	301-1476						
Red	45F664	303-3471	1.01	.95	.88	.74	.68	.63
Green	45F665	303-3472						
Amber	45F666	303-3473						
Blue	45F667	303-3474						
White	45F668	303-3475						
Lt. Yellow	45F669	303-3476						

MATCHING INDICATOR BASE ASSEMBLIES

Aluminum, clear anodize finish mtg. bushing, black bezel heat resistant plastic, with brass, hot-tinned, elongated terminals. 1.080" long. To determine the accommodating push button cap series check the first two digits of last number. —06 for 300 series 5/8" sq., —07 for 301 series 5/8" rd., —09 wvo barrier and 810 w barrier both for 303 ¾ x 1" rect.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F648	533-0601	1.91	1.73	1.57	1.44	1.33	1.19
45F649	533-0701						
45F650	533-0901						
45F651	533-1001						

DIALCO® Switches and Indicator Lights

SUB-MINIATURE PUSHBUTTON SWITCHES AND INDICATOR LIGHTS

Switch with Round Lens

Switch with Square Lens

Indicator light with fixed flange

Indicator light with Knurled Flange

Round and Square Lens Caps

Fits a ½" mounting hole in panels up to 3/16" thick. Lenses are interchangeable from switches to indicators of the same grouping. All are momentary contact. Aluminum base assembly. 1250 VAC breakdown. Contact parts silver on series 513-0101-604, 513-0201-604, 513-0301-604. Gold on 513-0401-604, 513-0501-604, 513-0601-604, 3 amps, 125 VAC. 3 amps 30 VDC (resistive) To relamp pushbutton, simply pull it out. Uses T 1¾ lamp.

SWITCH BASE ASSEMBLIES FOR DRY CIRCUITS

Stock No.	Type 513-	Description	1-9	10-24	25-99	100-249	250-499	500-999
60F1003	0401-604	1 Cir. N.O.	3.97	3.56	3.34	3.07	2.87	2.60
60F1004	0501-604	1 Cir. N.C.	3.97	3.56	3.34	3.07	2.87	2.60
50F1005	0601-604	2 Cirs. N.O.N.C.	4.34	3.91	3.66	3.36	3.14	2.85

PUSH BUTTON SWITCH BASE ASSEMBLIES

Stock No.	Type 513-	Description	1-9	10-24	25-49	100-249	250-449	500-999
60F1000	0101-604	1 Cir. N.O.	3.59	3.23	3.04	2.78	2.60	2.36
60F1001	0201-604	1 Cir. N.C.	3.59	3.23	3.04	2.78	2.60	2.36
60F1002	0301-604	2 Cirs. N.O.N.C.	3.97	3.56	3.34	3.07	2.87	2.60

MATCHING INDICATOR LIGHTS

Companion series designed to match pushbutton switches. Lens caps can be used as illuminated pushbutton on the switch or as a lens cap on the indicator light. Incorporates unique anti-rotation (locked) feature for secure locking of socket terminal assembly in the mounting bushing and of the center terminal to the insulating disc. Insulation 1250 VAC breakdown.

Base with fixed flange for front mounting in 15/32" clearance hole.

Stock No.	Type 83-	1-9	10-24	25-99	100-249	250-499	500-999
60F1006	9730-14-602	1.16	1.03	.96	.87	.81	.72

Base with movable knurled flange nut for front or rear mounting in ½" clearance hole.

60F1007	9830-14-604	1.16	1.03	.96	.87	.81	.72

½" AND ¾" LENS CAPS FOR ABOVE SWITCH AND INDICATOR LIGHT BASES

Seven colors of round or square caps; rotatable and non-rotatable units. High strength plastic. Brass shank, white nickle plated. Rotatable lens allow alignment after installation; non-rotatable lens position is determined by base mount.

½" LENS CAPS WITH SOLID COLOR TRANSLUCENT FACE AND SIDES

Color	Round Caps Stock No.	Rotatable	Stock No.	Non-Rotatable	Square Caps Stock No.	Rotatable	Stock No.	Non-Rotatable	1-9	10-24	25-99	100-249	250-499	500-999
Red	60F1047	183-1471	60F1054	186-1471	60F1061	185-1871	60F1068	184-1871						
Green	60F1048	183-1472	60F1055	186-1472	60F1062	185-1872	60F1069	184-1872						
Amber	60F1049	183-1473	60F1056	186-1473	60F1063	185-1873	60F1070	184-1873						
Blue	60F1050	183-1474	60F1057	186-1474	60F1064	185-1874	60F1071	184-1874	.65	.61	.56	.47	.43	.39
White	50F1051	183-1475	60F1058	186-1475	60F1065	185-1875	60F1072	184-1875						
Lt. Yellow	50F1052	183-1476	60F1059	186-1476	60F1066	185-1876	60F1073	184-1876						
Ivory	60F1053	183-1478	60F1060	186-1478	60F1067	185-1878	60F1074	184-1878						

½" LENS CAPS WITH TRANSLUCENT COLORED FACE, BLACK OPAQUE SIDES

Red	60F1075	183-5071	60F1082	186-5071	60F1089	185-5071	60F1096	184-5071	.65	.61	.56	.47	.43	.39
Green	60F1076	183-5072	60F1083	186-5072	60F1090	185-5072	60F1097	184-5072						
Amber	60F1077	183-5073	60F1084	186-5073	60F1091	185-5073	60F1098	184-5073						
Blue	60F1078	183-5074	60F1085	186-5074	60F1092	185-5074	60F1099	184-5074						
White	60F1079	183-5075	50F1086	186-5075	60F1093	185-5075	60F1100	184-5075						

NON-ROTATABLE ¾" LENS CAP WITH SOLID COLOR TRANSLUCENT FACE AND SIDES

Stock No.	Round Caps Type	Color	1-9	10-24	25-99	100-299	250-499	500-999
60F1138	188-1471	Red						
60F1139	188-1472	Green						
60F1140	188-1473	Amber						
60F1141	188-1474	Blue	.91	.86	.80	.68	.63	.58
60F1142	188-1475	White						
60F1143	188-1476	Lt. Yel.						
60F1144	188-1478	Ivory						

Stock No.	Square Caps Type	Color	1-9	10-24	25-99	100-249	250-499	500-999
60F1152	187-1871	Red						
60F1153	187-1872	Green						
60F1154	187-1873	Amber						
60F1155	187-1874	Blue	.91	.86	.80	.68	.63	.58
60F1156	187-1875	White						
50F1157	187-1876	Lt. Yel.						
60F1158	187-1878	Ivory						

SELF-FLASHING INDICATOR LIGHT ASSEMBLIES

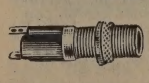
Series 928. Self-flash units with replaceable 521-8018 Neon lamp for 110-125 VAC. Mount from rear of panel in ½" MTG. Clearance hole up to 3/16" panel thickness. Solder eyelet terminals. Lens cap cylindrical with refractive inner surface. Units flash at approx. 120 cycles per min.

Stock No.	Color	Mfg. No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1595	Red	928-1422-1631-638	5.51	5.07	4.78	4.30	4.05	3.81
25F1596	Amber	928-1422-1633-638	5.51	5.07	4.78	4.30	4.05	3.81

Series 915. Neon Indicator Lights. Long cylindrical lens cap. All have internal Fresnel diffusing rings. Integral 56K resistor. Mounts from back of panel in 3/8" hole for 1/8" panel thickness. 3 terminals provided Insulation 1250 VAC breakdown. Non-replaceable NE-2E lamp-min. 5000 Hr. life on 110-125 VAC.

Color	Type 915-1120	Stock No.	1-9	10-24	25-49	100-249	250-499	500-999
Red	1631-523	60F1042						
Amber	1633-523	60F1043	1.79	1.69	1.58	1.48	1.39	1.29
White	1635-523	60F1044						

TELEPHONE SLIDE BASE INDICATOR LIGHTS



70-0428

37-0428

Mount from back of panel in 9/16" clearance hole. Accommodates T-2 incandescent bulb with telephone side base. Stovepipe lense with smooth face and back. Lamp protrudes into lens cavity for easy replacement from front of panel without tools. Furnished with knurled ring, internal-tooth lockwasher, and hex mounting nut. Soldering terminals. Size: 13/16"x2 13/16". Less lamps. Avg. shpg. wt., 3 oz.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F682	70-0428-11-306	1.32	1.24	1.18	1.02	.97	.92
45F683	33-0428-01-306	1.32	1.24	1.18	1.02	.97	.92

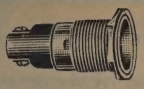
LENS CAPS FOR ABOVE HOLDERS

Stk. No.	Type	Color	Stk. No.	Type
45F684	70-1131-300	Red	45F689	37-0111-300
45F685	70-1132-300	Green	45F690	37-0112-300
45F686	70-1133-300	Amber	45F691	37-0113-300
45F687	70-1134-300	Blue	45F692	37-0114-300
45F688	70-1135-300	White	45F693	37-0115-300

1-9	10-24	25-99	100-249	250-499	500-999
.79	.70	.66	.60	.56	.52

Pilot Light Assemblies

DIALCO



31-0914 Base

Base 31-3101

Smooth Lens

32-0111

Faceted Lens

32.0431

U.L. APPROVED PILOT LIGHT ASSEMBLIES

Candelabra socket; lamp removable from front. Requires 1 clearance hole for mounting. Less lamp. Series 31-0914-01 for use with B7A (NE-45)) neon glow lamps in 115 volt circuit. 2⅝" long. 4 oz. Series 32-3101. Brass and phenolic. for use with S6 bulb on 115 volt circuit. 5 oz. Order holder and lens separately to obtain necessary parts for self-assembly or complete unit. Less lamp. For example: 32-0110-300 lens plus 31-0914-01-102 holder becomes a 32-0914-0111-302 assembly.

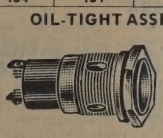
Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F605	31-0914-01-102	1.43	1.26	1.18	1.08	.99	.92
45F606	31-3101-01-102	1.18	1.00	.92	.82	.72	.66

LENS CAPS FOR ABOVE HOLDERS

Stk. No.	Type No.	Color	Stk. No.	Type No.
25F1576	32-0111-300	Red	25F1582	32-0431-300
25F1577	32-0112-300	Green	25F1583	32-0432-300
25F1578	32-0113-300	Amber	25F1584	32-0433-300
25F1579	32-0114-300	Blue	25F1585	32-0434-300
25F1580	32-0116-300	Lt. Yellow	25F1586	32-0436-300

1-9	10-24	25-99	100-249	250-999	500-999
.54	.51	.47	.44	.41	.37

OIL-TIGHT ASSEMBLIES FOR 1" MOUNTING HOLE



Holder

Smooth Lens

Uses Neon Glow Lamps

For use with the B7A (NE-45) candelabra screw base lamp. Resistor built-in the lamp base. Overall size approx. $1\frac{3}{16}$x$2\frac{7}{32}$"/. Comes with split lockwasher and hex nut. Less lamp. Shpg. wt., 3 ozs. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit. Less lamp.
Dome Style Unfrosted Lens except † Frosted back.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F607	103-3114-05-103	2.11	1.98	1.86	1.58	1.48	1.38

LENS CAPS FOR ABOVE HOLDER

Stock No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F608	103-1231-403	Red						
45F609	103-1233-403	Amber						
45F610	103-1236-403	Yellow	1.06	.94	.87	.79	.73	.66
49F611	103-1237-403	Clear						
45F612	103-1217-403	Clear†						

SERIES 159-5437 PILOT LIGHT ASSEMBLIES

Use RIA (NE-79) Neon lamps, which have long lives, low wattage, and excellent resistance to shock. 3000 ohm resistors are built in for bright light on 105-125 volts.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F613	159-5437-09-113	3.60	3.38	3.18	2.97	2.78	2.59

PLASTIC STOVEPIPE LENS CAPS FOR ABOVE HOLDERS

Stock No.	Type No.		1-9	10-24	25-99	100-249	250-499	500-999
45F614	159-0931-403	Red						
45F615	195-0933-403	Amber						
45F616	159-0935-403	White	1.49	1.40	1.31	1.10	1.02	.94
45F617	159-0937-403	Clear						

SERIES 125-0463

For use with B2A (NE-51H) Neon lamp. 22K resistor for bright light on 110-125 VAC.

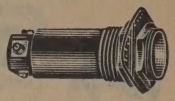
Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F618	125-0463-11-113	1.54	1.41	1.34	1.26	1.21	1.12

UNFROSTED STOVEPIPE LENS CAPS FOR ABOVE HOLDER

Stock No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F582	125-1131-403	Red						
45F584	125-1133-403	Amber	.78	.69	.65	.59	.55	.49
45F588	125-1137-403	Clear						

PRESS-TO-TEST SERIES 820-2701

Conforms to MIL Specs.



Mounts in 1" clearance hole. Overall size approx. 1¼x3¼". Three rugged binding screw terminals: 2 for "normal" circuit; 1 for "test" circuit. Uses S6 bulbs with candelabra screw base. Supplied less lamp. Shpg. wt. 3 oz. *Translucent unfrosted.

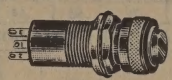
Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F620	820-2701-01-502	5.68	4.99	4.57	4.12	3.81	3.52

LENS CAPS FOR ABOVE HOLDERS

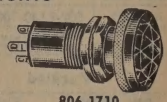
Stock No.	Type No.	Color	1-9	25-99	10-24	100-249	250-499	500-999
45F621	820-0111-500	Red						
45F622	820-0112-500	Green						
45F623	820-0113-500	Amber						
45F624	820-0114-500	Blue	1.39	1.30	1.22	1.03	.95	.87
45F625	820-0135-500	White						
45F626	820-0116-500	Yellow						
45F627	820-0117-500	Clear						

PRESS-TO-TEST INDICATOR LIGHTS

804-1710



803-1710



806-1710

Built-in bulb-testing device. Units light when pressed if lamp is satisfactory. 3 solder lugs. 180° visible light beam for daylight, indirect "halo" light for night. Less lamps.

FOR T-3¼ LAMPS

Take T-3¼ lamp. Size approx. ⅞"x2¼". Shpg. wt., 1½ oz.

WITH MECHANICAL SHUTTER DIMMER—⅝" LENS

Stk. No.	Type	Mil. Type No.	Lens Color
25F991	804-1710-0331-504	MS25331-2	Red
25F992	804-1710-0332-504	MS25331-3	Green
25F993	804-1710-0333-504	MS25331-4	Amber

WITHOUT DIMMER—½"LENS

25F994	803-1710-0337-504	MS25331-5	Clear
25F995	803-1710-0331-504	MS25331-6	Red
25F996	803-1710-0332-504	MS25331-7	Green
25F997	803-1710-0333-504	MS25331-8	Amber

WITHOUT DIMMER—1" LENS

25F1509	806-1710-0437-504	.....	Clear
25F1510	806-1710-0431-504	.....	Red
25F1511	806-1710-0432-504	.....	Green
25F1512	806-1710-0433-504	.....	Amber

	1-9	10-24	25-99	100-249	250-499	500-999
⅜" Lens	3.08	2.70	2.49	2.26	2.09	1.95
½" Lens	2.81	2.47	2.25	2.04	1.88	1.74
1" Lens	3.24	2.83	2.59	2.35	2.17	2.01

FOR T-1¾ LAMP

Lens Color	Dimming Stk. No.	Dimming MS No.	Type 801-1030	Non-Dimming Stk. No.	Non-Dimming MS No.	Type 800-1030
Clear	25F983	25041-1	0337-504	25F987	25041-5	0337-504
Red	25F984	25041-2	0331-504	25F988	25041-6	0331-504
Green	25F985	25041-3	0332-504	25F989	25041-7	0332-504
Amber	25F986	25041-4	0333-504	25F990	25041-8	0333-504
Blue	25F1514	25041-10	0334-504	25F1515	25041-11	0334-504

	1-9	10-24	25-99	100-249	250-499	500-999
Dimming	2.60	2.29	2.11	1.91	1.78	1.67
Non-Dimming	2.24	1.97	1.81	1.63	1.51	1.39

SERIES 812 AND 813

Body for 813 and 812 series lens caps. Listed below.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499	500-999
25F1600	812-1030-09-506	1.68	1.47	1.35	1.22	1.12	1.04

Non-dimmer transparent ½" cylindrical lens caps.

Stk. No.	Type	Lens Color	1-24	25-49	50-99	100-249	250-499	500-999
25F1602	813-1431	Red						
25F1603	813-1432	Green	.78	.68	.63	.57	.53	.48
25F1604	813-1433	Amber						

Non-dimmer translucent ½" cylindrical lens caps.

25F1605	813-1475	White						
25F1606	813-1471	Red						
25F1607	813-1472	Green	.78	.68	.63	.57	.53	.48
25F1608	813-1473	Amber						

Non-dimmer translucent ½" stovepipe lens caps.

25F1609	812-0975	White						
25F1610	812-0971	Red						
25F1611	812-0972	Green	.78	.68	.63	.57	.53	.48
25F1612	812-0973	Amber						

Indicator Lights, Sockets & Signal Devices

DIALCO

HALF-INCH MINIATURE OPEN TYPE

Miniature screw and (*) bayonet socket assemblies with faceted jewels. Mounts in 11/16" hole. Bulb removable from front. With tinned solder lugs. Uses T-3¼ Bulb. Less bulbs. Wt. 3 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F670	502-8136-102*	.48	.45	.42	.40	.37	.35
45F671	502-8137-102	.48	.45	.42	.40	.37	.35

HALF-INCH OPEN BAYONET TYPE

Open type pilot light assembly. Has min. bay. socket. Half-inch jewel. 2" long. Requires 11/16" mtg. hole. Designed for mounting on panels up to ¼" thick. With mtg. washers. Uses T-3¼ lamp. Less lamp. Tinned lugs. 4 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F672	502-8140-100	.72	.68	.64	.59	.56	.52

LENS CAPS FOR ABOVE HOLDERS

Faceted		Lens Color	Convex-frosted Except* Back	
Stk No.	Type		Stk. No.	Type
25F1562	81-2131-100	Red	25F1555	81-0111-100
25F1563	81-2132-100	Green	25F1556	81-0112-100
25F1564	81-2133-100	Amber	25F1557	81-0113-100
25F1565	81-2134-100	Blue	25F1558	81-0114-100
25F1566	81-2135-100	White	25F1559	81-0135-100*
25F1567	81-2136-100	Yellow	25F1560	81-0116-100
25F1568	81-2137-100	Clear	25F1561	81-0117-100

Prices		1-9	10-24	25-99	100-249	250-499	500-999
	Faceted	.23	.21	.20	.18	.17	.16
	Convex	.33	.29	.28	.25	.23	.21

¾-INCH CANDELABRA SOCKET

115 volt pilot light assemblies with faceted jewels, chrome-plated brass holder. Candelabra socket for S6 Lamp requires 11/16" hole for mounting. Less lamp. 4 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F673	502-2511	.28	.26	.25	.23	.22	.20

LENS CAPS FOR ABOVE HOLDER

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F430	514-2512-0431-302	Red	.72	.68	.64	.59	.56	.52
25F431	514-2512-0432-302	Green						
25F432	514-2512-0433-302	Amber						
25F433	514-2512-0434-302	Blue						
25F434	514-2512-0435-302	White						

HALF-INCH OPEN TYPE

Complete with (*) candelabra, (†) bayonet or (#) min. screw base sockets for standard pilot bulbs. Faceted jewels in nickel plated brassholders. Lug terminals. Requires 7/16" hole for mtg. Uses T-3¼ Bulb. Less bulbs. Wt., 2 oz.

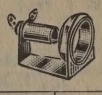
HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F674	502-1010*	.28	.26	.25	.23	.22	.20
45F675	502-10240†	.24	.23	.21	.20	.19	.17
45F676	502-1015#	.24	.23	.21	.20	.19	.17

FACETED LENS FOR ABOVE HOLDERS

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F435	514-1012-2131-102	Red	.27	.25	.24	.22	.20	.19
25F436	514-1012-2132-102	Green						
25F347	514-1012-2133-102	Amber						
25F438	514-1012-2134-102	Blue						
25F439	514-1012-2135-102	White						

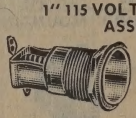
1-INCH OPEN PLATED TYPE ASSEMBLY



Polished chrome-plated brass jewel holders. *Uses T-3¼" bay, base. †Uses T-3¼" min. screw. #Uses S6 cand. screw. 1½" L. Reg. 1" mtg. holes. Less lamps. 3 oz.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F677	502-3241-102*	.64	.60	.56	.53	.49	.46
45F678	502-3242-102+	.64	.60	.56	.53	.49	.46
45F679	502-3214-102#	.72	.68	.64	.59	.56	.52

1" 115 VOLT CANDELABRA ASSEMBLIES



115 volt pilot light assemblies with faceted jewels in holder. Candelabra socket for S6 lamp. Require 1" hole. Less Lamp. Wt. 5 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F700	502-3228-102	.84	.79	.74	.69	.65	.60

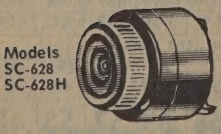
LENS CAPS FOR HOLDER LISTED ABOVE

Stk. No.	Type	Lens Color	Stk. No.	Type
25F1576	32-0111-300	Red	25F1582	32-0431-300
25F1577	32-0112-300	Green	25F1583	32-0432-300
25F1578	32-0113-300	Amber	25F1584	32-0433-300
25F1579	32-0114-300	Blue	25F1585	32-0434-300
45F681	32-0135-300*	White	45F680	32-0435-300
25F1580	32-0116-300	Lt. Yellow	25F1586	32-0436-300
25F1581	32-0117-300	Clear	25F1587	32-0437-300

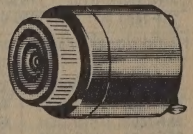
1-9	10-24	25-99	100-249	250-499	500-999
.54	.51	.47	.44	.41	.37

MALLORY "SOLID STATE" AUDIBLE SIGNAL DEVICE

Model SC-628. Occupies less than 2.9 cubic inches. 6 to 28 VDC. 2900HZ.



Models SC-628 SC-628H



Model SCA-628A SCA-628P and SC-110

Respond to 3 milliamps of current with a sound output of 70 decibles. Ideal replacement for conventional high-power signaling devices—suitable for replacement of light indicator. Mounts in seconds! Has no mechanical linkage or contacts, is free from arching, creates no RF fields and provides reliable remote communications. Eliminates need for supervision of light indicators. Low power drain assures extended battery life. Mounts in 19/64" holes in panels up thickness of ¼".

SPECIFICATIONS

Type	Freq.	Volts	mA	dB	Temp. C°
SC628	2.9kHz	6-28DC	3-14	68-80	—40.+85°
SC628P	2.9kHz	6-28DC	3-14	68-80	—40. 85°
SC628H	4.5kHz	6-28DC	3-14	68-80	—40.+85°
SC628A	2.9kHz	6-28-AC/DC	3-14	68-80	—40.+85°
SC110	2.9kHz	86/DC-110/AC	14	80	—40.+85°
SC648	2.9kHz	6-48DC	3-14	68-80	—40.+85°
SC250	2.9kHz	250AC	14	68-80	—40.+85°

ORDERING INFORMATION

Stock No.	Type	1-24	25-49	50-99	100-249	250-499	500-999
64F300	SC628	5.50	5.40	5.15	4.65	4.15	3.85
64F304	SC628P	9.95	9.75	9.30	8.40	7.45	6.85
64F301	SC628H	6.35	6.25	5.95	5.40	4.80	4.40
64F302	SC628A	8.75	8.60	8.20	7.40	6.60	6.10
64F303	SC110	8.75	8.60	8.20	7.40	6.60	6.10
64F306	SC648	6.95	6.75	6.45	5.85	5.20	4.80
64F307	SC250	9.45	9.20	8.75	8.00	7.10	6.60

Chicago Miniature Lamp Indicators

CM26 T-1 "PEANUT-LITE" ULTRAMINIATURE INDICATOR LIGHTS

Contains a subminiature lamp sealed in a high temperature polycarbonate housing. Wide range of voltages. Low-cost commercial substitutes for MS 25446 and MS90308 indicators. Terminals: CM26-1, #30 AWG tinned solid wire with PVC insulations, CM26-2, .020" nickel pins. CM26-3 #26 AWG stranded wire with PVC insulation. Max. panel thickness, 1/8" Mtg. hole, .185x.190" dia. Final numbers in type no. indicate lamp voltage (see lamp table). With mounting clip.

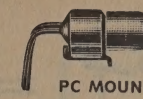
Stk. No.	Type CM26—	Each 1-9	10-24	25-99	100-249	250-Up
25F1795	1-00-02	2.16	1.80	1.49	1.29	1.11
25F1796	1-00-05	2.16	1.80	1.49	1.29	1.11
25F1797	1-00-14	2.16	1.80	1.49	1.29	1.11
25F1798	1-00-15	2.16	1.80	1.49	1.29	1.11
25F1799	1-00-16	2.16	1.80	1.49	1.29	1.11
25F1800	1-00-17	2.16	1.80	1.49	1.29	1.11
25F1801	1-00-18	2.16	1.80	1.49	1.29	1.11
25F1802	1-00-19	1.01	.85	.70	.60	.52
25F1803	1-00-20	1.01	.85	.70	.60	.52
25F1804	1-00-21	1.01	.85	.70	.60	.52
25F1805	1-00-22	2.16	1.80	1.49	1.29	1.11
25F1806	2-00-02	2.35	1.96	1.62	1.40	1.21
25F1897	2-00-05	2.35	1.96	1.62	1.40	1.21
25F1808	2-00-14	2.35	1.96	1.62	1.40	1.21
25F1809	2-00-15	2.35	1.96	1.62	1.40	1.21
25F1810	2-00-16	2.35	1.96	1.62	1.40	1.21
25F1811	2-00-17	2.35	1.96	1.62	1.40	1.21

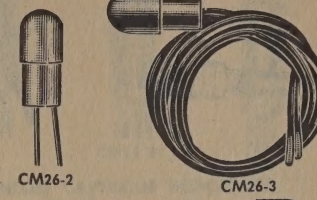
WHEN ORDERING SPECIFY COLOR BY ADDING COLOR NUMBER TO STOCK NUMBER. EXAMPLE: 25F1795-05 WHITE 25F1795-07 RED COLORS: 05-WHITE; 07-RED; 09-AMBER; 10-GREEN; 11-BLUE.

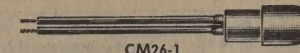
LAMP TABLE

Lamp No.	Design Volts	Amps	Lamp No.	Design Volts	Amps
02	3.0	.0125	16	14.0	.065
05	5.0	.03	17	18.0	.026
19	5.0	.06	21	28.0	.02
20	5.0	.11	18	28.0	.024
14	10.0	.027	22	28.0	.04
15	12.0	.06			

Stk. No.	Type CM26—	Each 1-9	10-24	25-99	100-249	250-Up
25F1812	2-00-18	2.35	1.96	1.62	1.40	1.21
25F1813	2-00-19	1.22	1.03	.84	.72	.63
25F1814	2-00-20	1.22	1.03	.84	.72	.63
25F1815	2-00-21	1.22	1.03	.84	.72	.63
25F1816	2-00-22	2.35	1.96	1.62	1.40	1.21
25F1817	3-00-02	2.35	1.96	1.62	1.40	1.21
25F1818	3-00-05	2.35	1.96	1.62	1.40	1.21
25F1819	3-00-14	2.35	1.96	1.62	1.40	1.21
25F1820	3-00-15	2.35	1.96	1.62	1.40	1.21
25F1821	3-00-16	2.35	1.96	1.62	1.40	1.21
25F1822	3-00-17	2.35	1.96	1.62	1.40	1.21
25F1823	3-00-18	2.35	1.96	1.62	1.40	1.21
25F1824	3-00-19	1.22	1.03	.84	.72	.63
25F1825	3-00-20	1.22	1.03	.84	.72	.63
25F1826	3-00-21	1.22	1.03	.84	.72	.63
25F1827	3-00-22	2.35	1.96	1.62	1.40	1.21


PC MOUNT


CM26-2 CM26-3


CM26-1

CML SERIES "HIDE-A-LITE" INDICATOR LIGHTS

Indicators appear white in the off position and take on color when activated. Clear anodized aluminum housing. Nylon insulation. Translucent polycarbonate caps. For 6-volt T-1¾ incandescent lamp. Meet MIL-L-3661 specification. Stainless steel terminals, located off-center to provide polarization in cartridge holders. (*) Long cylindrical; (†)macrodome; (:)short cylindrical; (‡) short cyl., blk. body; (**) flush. (††)Activated color. Wt., ½ oz.

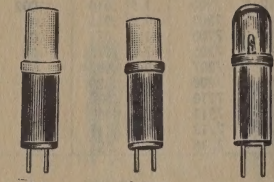
LAMP TABLE

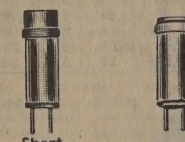
Lamp	Volts	Amps	M.S.C.P.	Life Hrs
06	6	.20	.63	1000
28	14	.30	.30	50000
11	28	.04	.34	7000

LAMP NUMBER—06

Stk. No.	CML-	††	Stk. No.	CML-	††
25F1828	70406*	Red	25F1843	60406:	Blue
25F1829	70406*	Grn	25F1844	60406:	Amb
25F1830	70406*	Blue	25F1845	60406††	Red
25F1831	70406*	Amb	25F1846	60406††	Grn
25F1832	80406†	Red	25F1847	60406††	Blue
25F1833	80406†	Grn	25F1848	60406††	Amb
25F1834	80406†	Blue	25F1849	50406**	Red
25F1840	80406†	Amb	25F1850	50406**	Grn
25F1841	60406:	Red	25F1851	50406**	Blue
25F1842	60406:	Grn	25F1852	50406**	Amb

LAMP NO. 28			LAMP NO. 11		
Stk. No.	Type CML	††	Stk. No.	Type CML	††
25F1853	70428*	Red	25F1880	70411*	Red
25F1854	70428G*	Grn	25F1881	70411*	Grn
25F1855	70428B*	Blue	25F1882	70411*	Blue
25F1856	70428A*	Amb	25F1883	70411*	Amb
25F1860	80428R†	Red	25F1884	80411†	Red
25F1861	80428G†	Grn	25F1885	80411†	Grn
25F1862	80428B†	Blue	25F1886	80411†	Blue
25F2863	80428†	Amb	25F1887	80411:	Amb
25F1864	60428:	Red	25F1888	60411:	Red
25F1865	60428:	Grn	25F1889	60411:	Grn
25F1866	60428:	Blue	25F1890	60411:	Blue
25F1867	60428:	Amb	25F1891	60411:	Amb
25F1868	60428††	Red	25F1892	60411††	Red
25F1869	60428††	Grn	25F1893	60411††	Grn
25F1870	60428††	Blue	25F1894	60411††	Blue
25F1871	60428††	Amb	25F1895	60411††	Amb
25F1872	50428**	Red	25F1896	50411**	Red
25F1873	50428**	Grn	25F1897	50411**	Grn
25F1874	50428**	Blue	25F1898	50411**	Blue
25F1875	50428**	Amb	25F1899	50411**	Amb


T-2 Incandescent Long Cylindrical Macrodome


Short Cylindrical Flush

PRICES

Lamp No.	1-9	10-24	25-99	100-249	250-499
06	1.72	1.43	1.10	1.02	.88
28	1.84	1.53	1.27	1.09	.94
11	1.62	1.35	1.12	.97	.83

CM20 SERIES SUBMINIATURE LENS END-LITES

Ideally suited for close proximity use with photosensors where an intense spot of luminous and infrared energy is required. CM20-1 and -2 (right angle lens) are mounted in Bi-Pin cartridges. Clear anodized aluminum body; stainless steel terminals; nylon insulation. CM20-3 thru -7 are packaged in gold anodized aluminum sleeves with #24 AWG stranded wire leads. Type B insulation per MIL-W-16878. Semi-resilient thermosetting resin encapsulation. CM20-5 thrugh -7 can be mounted on .250" centers for card reader uses. Wt., ½ oz.

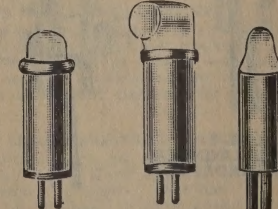
SPOT SPECIFICATIONS

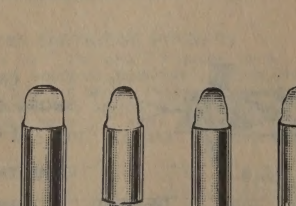
Spot covers 1/8" dia. target when projected 3/8" from end of bulb at min. intensity of 750 foot-candles. (†)When projected 1" from end of bulb, spot covers 1" dia. at 350 foot-candles. (:)3/8" from bulb, spot covers 1/16" diam. at 750 foot-candles. Spot is narrow elliptical (‡) Same as CM20-3 except spot covers 1/8" dia. target. Spot is round elliptical. (**) None, however, lamp is axially aligned.

SPECIFICATIONS

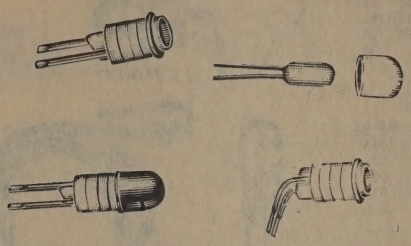
Type	Lamp Type	Volts	Amps ±10%	Life (Hours)
CM20-1*	TL-1¾	2.5	.350	10,000
CM20-2†	TL-1¾	2.5	.325	10,000
CM20-3:	TL-1¾	2.5	.350	10,000
CM20-4‡	TL-1¾	2.5	.350	10,000
CM20-5**	TL-1¼	2.5	.200	1,000
.....	.....	2.1	.180	10,000
CM20-6**	TL-1¼	6.0	.200	1,000
.....	.....	5.1	.180	10,000
CM20-7**	TL-1¼	28.0	.040	1,000
.....	.....	24.00	.036	10,000

Stock No.	Type	Each 1-9	10-99	100-499	500
25F1720	CM20-1	2.65	2.21	1.83	1.58
25F1721	CM20-2	4.31	3.59	2.97	2.56
25F1722	CM20-3	3.28	2.73	2.26	1.95
25F1723	CM20-4	3.23	2.70	2.23	1.93
25F1724	CM20-5	2.56	2.14	1.77	1.53
25F1725	CM20-6	2.63	2.19	1.81	1.56
25F1726	CM20-7	2.67	2.22	1.84	1.59


CM20-1 CM20-2 CM20-3


CM20-4 CM20-5 CM20-7 CM20-6

Lamp Indicators Chicago Miniature



CM-25. SERIES T-1 SUBMINIATURE INDICATOR LITES

Pat. pend. Dimpled terminals for positive contact; internally flared lead guides for easy lamp insertion. Meet MS-90308. Gold plated beryllium copper term; polycarbonate base, cap. Press fits in .190" hole. Entire unit consists of base, cap and lamp (order separately). (*) When ordering specify color by adding color number to stock number. Example 25F1732-02 red. 25F1732-04 yellow. Colors: 02-red, 04-yellow, 05-green, 06-blue, 09-clear.

Stk. No.	Type CM25-	Description	1-9	10-Ea.	100-Ea.	500-Ea.
25F1730	1005	Panel Mount Base	.76	63	.53	.46
25F1731	1006	PC Mount Base	.76	.63	.53	.46
25F1732	1007*	Round Cap	.23	.18	.17	.15
25F1733	1008*	Lens Cap	.23	.18	.17	.15
25F1734	009*	Square Cap	.23	.18	.17	.15

TIBRITE LITE LAMPS

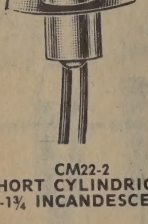
Stk. No.	Bulb Type	Design V	Design Amps	M.S.C.P. Approx.	Aver. Life Hrs.	10-90	100-400	500-Up
26F521	680	5.0	.060	.03	100,000	1.31	1.07	.91
26F525	683	5.0	.060	.05	100.000	1.31	1.07	.91
25F1737	713	5.0	.075	.09	25,000	1.31	1.07	.91
25F185	2128	3.0	.0125	.001	16,000	3.08	2.50	2.14
25F1740	6150	5.0	.060	.15	5,000	1.62	1.31	1.12
25F1741	6838	28.0	.024	.15	16,000	1.87	1.52	1.30
25F1742	7200	1.5	.010	.002	10,000	2.07	1.68	1.44
25F1743	7201	1.5	.015	.01	5,000	2.07	1.68	1.44
25F1744	7203	1.5	.075	.03	16,000	2.07	1.68	1.44
25F1745	7205	3.0	.015	.02	5,000	2.18	1.77	1.51
25F1746	7207	3.0	.060	.03	100,000	1.97	1.60	1.37
25F1747	7208	3.0	.120	.15	16,000	2.04	1.66	1.42
25F1748	7210	5.0	.030	.03	75,000	2.04	1.66	1.42
25F1770	7211	5.0	.080	.16	3,000	1.97	1.60	1.37
25F1771	7213	5.0	.115	.20	5,000	1.97	1.60	1.37
25F1772	7216	5.0	.125	.22	5,000	2.04	1.66	1.42
25F1773	7218	10.0	.027	.10	100 00	2.02	1.64	1.40
25F1774	7219	12.0	.060	.15	160 00	2.02	1.64	1.40
25F1775	7220	18.0	.026	.15	160 00	2.02	1.64	1.40
25F1776	8096	5.0	.145	.16	100 00	1.97	1.60	1.37
25F1777	8111	14.0	.065	.15	160 00	2.02	1.64	1.40
25F1778	8601	2.5	.015	.001	100 00	2.18	1.77	1.51
25F1779	8602	5.0	.017	.005	100 00	2.18	1.77	1.51
25F1780	8711	2.5	.320	.21	5000	2.18	1.77	1.51
25F1781	8729	5.0	.045	.04	100 00	2.04	1.66	1.42
25F1782	8732	2.5	.100	.10	100 00	2.18	1.77	1.51
25F1783	8798	1.25	.012	.004	1000	2.14	1.96	1.68
25F1784	8846	3.0	.008	.001	160 00	1.84	1.49	1.27
25F1785	8910	1.35	.220	.02	25 000	2.41	1.96	1.68
25F1786	(CM)8-880	5.0	.06	.02-.05	500 00	.44	.35	.30
25F1787	(CM)8-883	5.0	.060	.02-.05	500 00	.44	.35	.30
25F1788	(CM)8-885	5.0	.11	.05-.15	250 00	.44	.35	.30
25F1789	(CM)8-885	5.0	.11	.15-.25	150 00	.44	.35	.30
25F1790	(CM)8 889	5.0	.11	.05-.09	50000	.44	.35	.30

CM22 T-1-¾ Incandescant Peanut Lites

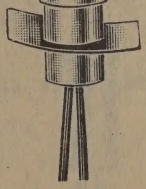
LAMP TABLE (*) indicates long-life lamps

Lamp No.	Design Volts	Design Amps	Lamp No.	Design Volts	Design Amps	Lamp No.	Design Volts	Design Amps	Lamp No.	Design Volts	Design Amps	Lamp No.	Design Volts	Design Amps
15	1.35	.06	50	3.0	.03	27	6.3	.04	08	10.0	.04	54	22.0	.04
17	2.5	.20	56	5.0	.18	19	6.3	.075	28	14.0	.08*	40	28.0	.04*
51	2.5	.350	12	6.0	.04	13	6.3	.20*	09	14.0	.08	11	28.0	.04
18	2.7	.06	06	6.0	.20	20	6.3	.20	53	14.0	.088	45	28.0	.06
43	3.0	.015	52	6.3	.20	07	10.0	.014	10	18.0	.04	55	28.0	.06

Feature high-temperature polycarbonate shells with standard T-1-¾ lamps. Permanently potted AWG # 24 6" insulated wire leads. Mounting hole, .309 diameter, nominal. Spring steel spring mounting clip for positive connections. Final digits in Type No. indicate lamp type (from Lamp Table). When ordering specify color by adding color number to stock number. Example: 35F3575-02 red, 35F3575-03 amber. Colors: 01-clear, 02-red, 03-amber, 05-white translucent. Av. wt. ¼ oz.



CM22-2
SHORT CYLINDRICAL
T-1¾ INCANDESCENT



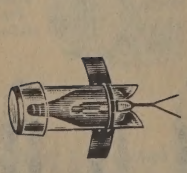
CM22-1
MACRODOME
T-1¾ INCANDESCENT

CM22-2 SHORT CYLINDRICAL CAP

Stk.No.	Type CM22	1-9 Ea.	10 Ea.	100 Ea.	500 Ea.
35F3575	CM22-2-00-06	.76	.63	.52	.45
35F3576	CM22-2-00-07	1.18	.98	.81	.70
35F3577	CM22-2-00-09	1.11	.93	.77	.66
35F3578	CM22-2-00-09	.80	.67	.55	.48
35F3579	CM22-2-00-10	.86	.72	.59	.51
35F3580	CM22-2-00-11	.76	.63	.52	.45
35F3581	CM22-2-00-12	.92	.77	.64	.55
35F3582	CM22-2-00-13	.80	.67	.55	.48
35F3583	CM22-2-00-15	.76	.63	.52	.45
35F3584	CM22-2-00-17	.80	.67	.55	.48
35F3585	CM22-2-00-18	.76	.63	.52	.45
35F3586	CM22-2-00-19	.74	.61	.51	.44
35F3587	CM22-2-00-20	.76	.63	.52	.45
35F3588	CM22-2-00-27	.97	.81	.67	.58
35F3589	CM22-2-00-28	.84	.70	.58	.50
35F3590	CM22-2-00-40	.97	.81	.67	.58
35F3591	CM22-2-00-43	1.34	1.12	.93	.80
35F3592	CM22-2-00-45	1.09	.91	.75	.65
35F3593	CM22-2-00-50	.97	.81	.67	.58
35F3594	CM22-2-00-51	1.01	.84	.70	.60
35F3595	CM22-2-00-52	1.97	1.65	1.36	1.18
35F3596	CM22-2-00-53	.80	.67	.55	.48
35F3597	CM22-2-00-54	1.11	.93	.77	.66
35F3598	CM22-2-00-55	.99	.82	.68	.59
35F3599	CM22-2-00-56	1.76	1.47	1.22	1.05

CM22-1 WITH MACRODOME CAP

Stk.No.	Type CM22-	1-9Ea	10Ea	100 Ea.	500 Ea.
35F3550	CM22-1-00-06	.76	.63	.52	.45
35F3551	CM22-1-00-07	1.18	.98	.81	.70
35F3552	CM22-1-00-08	1.11	.93	.77	.66
35F3553	CM22-1-00-09	.80	.67	.55	.48
35F3554	CM22-1-00-10	.86	.72	.59	.51
35F3555	CM22-1-00-11	.76	.63	.52	.45
35F3556	CM22-1-00-12	.92	.77	.64	.55
35F3557	CM22-1-00-13	.80	.67	.55	.48
35F3558	CM22-1-00-15	.76	.63	.52	.45'
35F3559	CM22-1-00-17	.80	.67	.55	.48
35F3560	CM22-1-00-18	.76	.63	.52	.45
35F3561	CM22-1-00-19	.74	.61	.51	.44
35F3562	CM22-1-00-20	.76	.63	.52	.45
35F3563	CM22-1-00-27	.97	.81	.67	.58
35F3564	CM22-1-00-28	.84	.70	.58	.50
35F3565	CM22-1-00-40	.97	.81	.67	.58
35F3566	CM22-1-00-43	1.34	1.12	.93	.80
35F3567	CM22-1-00-45	1.09	.91	.75	.65
35F3568	CM22-1-00-50	.97	.81	.67	.58
35F3569	CM22-1-00-51	1.01	.84	.70	.60
35F3570	CM22-1-00-52	1.97	1.65	1.36	1.18
35F3571	CM22-1-00-53	.80	.67	.55	.48
35F3572	CM22-1-00-54	1.11	.93	.77	.66
35F3573	CM22-1-00-55	.99	.82	.68	.59
35F3574	CM22-1-00-56	1.76	1.47	1.22	1.05



CM22-1000
SHORT CYLINDRICAL
T-2 NEON

CM-22T-2 NEON PEANUT LITES

Low cost indicator assembly with T-2 neon lamp that snaps into butyrate shell. Dumet wire leads can be soldered to lamp terminals before or after installation. Mtg. hole, .310" nominal. Unassembled. With mtg. clip. Choice of three lamp types (also accepts other T-2 lamps). When ordering specify color by adding color number to stock number. Example: 35F3575-02red, 35F3575-03 amber. Colors: 01-clear, 02-red, 03-amber, 05-white translucent. ¼ oz.

LAMP TABLE

Lamp Number	Circuit Volts	Nominal Current (MA)	Nominal Watts	Max. Starting Voltage AC	Max. Starting Voltage DC	X-Series Resistance (Ohms)	Average Life (Hours)	Stock No.	Type CM22-	Lamp Type	Volts	Nominal MA	Nominal Watts	Series Ohms Required
A1A(NE-2)	105-125	.3	1/25	65	90	200,000	25,000	35F3600	1000-00-A1A	NE-2	105-125	0.3	1/25	200,000
A9A(NE-2E)	105-125	1.0	1/10	65	90	62,000	5,000	35F3601	1000-00-A9A	NE-2E	105-125	1.0	1/10	62,000
C2A(NE-2H)	105-125	2.0	¼	95	135	22,000	5,000	35F3602	100-00C2A	NE-24	105-125	2.0	¼	22,000

Chicago Miniature Lamp Indicators

CML SERIES TRI-A-LIGHT INDICATOR LAMPS

Three colors (red, green yellow) in a single indicator. Appears white in off position, colored when on. Mounts in 19/64" hole, with a single mounting clip included. 5 volts, .11 amps per lamp. Color coded leads. Anodized aluminum housing with polycarbonate cap. CML9501-RGY flush; CML9601-RGY short cylinder; CML9701-RGY macrodome; CML9801-RGY long cylinder.

Stock No.	Type CML	Each 1-9	10-24	25-99	100-249	250-Up
35F3658	9501-RGY					
35F3659	9601-RGY					
35F3660	9701-RGY	7.22	6.02	4.99	4.30	3.72
35F3661	9801-RGY					

FLUSH CAP, PIN TERMINAL

Stock No.	Type* CML	Nominal Current mA	Built-In Resistor	1-9	10-99	100-499	500-999	1000-Up
35F3662	53001X	0.3	None	.98	.82	.68	.58	.494
35F3663	53004X	0.8	None	.98	.82	.68	.58	.494
35F3664	53014X	1.7	33k	1.94	1.61	1.32	1.13	.962
35F3665	53016X	2.0	22k	1.94	1.61	1.32	1.13	.962
35F3666	53022X	1.9	None	.87	.72	.59	.50	.431
35F3667	53023X	1.0	56k	1.94	1.61	1.32	1.13	.962
35F3668	53024X	0.7	1000k	1.94	1.61	1.32	1.13	.962
35F3669	53025X	0.7	None	.87	.72	.59	.50	.431
35F3670	53030X	0.9	47k	2.06	1.70	1.40	1.19	1.02
35F3671	53031X	0.35	150k	2.06	1.70	1.40	1.19	1.02
35F3672	53032X	0.3	220k	2.06	1.70	1.40	1.19	1.02
35F3673	53036X	0.7	None	.93	.77	.63	.54	.462
35F3674	53037X	0.8	56k	2.00	1.66	1.36	1.16	.992
35F3675	53038X	0.7	100k	2.00	1.66	1.36	1.16	.992
35F3676	53039X	1.5	33k	2.00	1.66	1.36	1.16	.992
35F3677	53042X	1.0	56k	1.94	1.61	1.32	1.13	.962

SHORT CYLINDRICAL, PIN TERMINAL

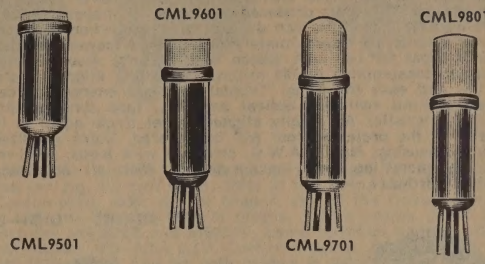
Stock No.	Type* CML	Nominal Current mA	Built-In Resistor	1-9	10-99	100-499	500-999	1000-up
35F3678	63001X	0.3	None	.98	.82	.68	.58	.494
35F3679	63002X	0.5	56k	2.06	1.70	1.40	1.19	1.02
35F3680	63003X	0.4	100k	2.06	1.70	1.40	1.19	1.02
35F3681	63004X	0.8	None	.98	.82	.68	.58	.494
35F3682	63005X	1.2	22k	2.06	1.70	1.40	1.19	1.02
35F3683	63030X	0.9	47k	2.06	1.70	1.40	1.19	1.02
35F3684	63031X	0.35	150k	2.06	1.70	1.40	1.19	1.02
35F3685	63032X	0.3	220k	2.06	1.70	1.40	1.19	1.02

MACRODOME, PIN TERMINAL

Stock No.	Type* CML	Nominal Current mA	Built-In Resistor	1-9	10-99	100-499	500-999	1000-up
35F3686	73001X	0.3	None	.98	.82	.68	.58	.494
35F3687	73002X	0.5	56k	2.06	1.70	1.40	1.19	1.02
35F3688	73003X	0.4	100k	2.06	1.70	1.40	1.19	1.02
35F3689	73004X	0.8	None	.98	.82	.68	.58	.494
35F3690	73005X	1.2	22k	2.06	1.70	1.40	1.19	1.02
35F3691	73014X	1.7	33k	1.94	1.61	1.32	1.13	.962
35F3692	73016X	2.0	22k	1.94	1.61	1.32	1.13	.962
35F3693	73022X	1.9	None	.87	.72	.59	.50	.431
35F3694	73023X	1.0	56k	1.94	1.61	1.32	1.13	.962
35F3695	73024X	0.7	100k	1.94	1.61	1.32	1.13	.962
35F3696	73025X	0.7	None	.87	.72	.59	.50	.431
35F3697	73030X	0.9	47k	2.06	1.70	1.40	1.19	1.02
35F3698	73031X	0.35	150k	2.06	1.70	1.40	1.19	1.02
35F3699	73032X	0.3	220k	2.06	1.70	1.40	1.19	1.02
36F0000	73036X	0.7	None	.93	.77	.63	.54	.462
36F0001	73037X	0.8	56k	2.00	1.66	1.36	1.16	.992
36F0002	73038X	0.7	100k	2.00	1.66	1.36	1.16	.992
36F0003	73039X	1.5	33k	2.00	1.66	1.36	1.16	.992
36F0004	73042X	1.0	56k	1.94	1.61	1.32	1.13	.962

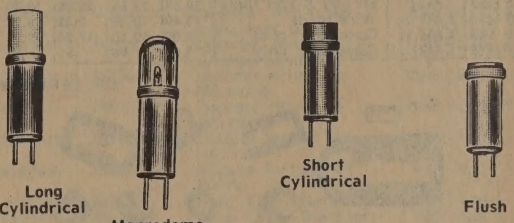
LONG CYLINDRICAL, PIN TERMINAL

Stock No.	Type* CML	Nominal Current mA	Built-In Resistor	1-9	10-99	100-499	500-999	1000-up
36F0005	83001X	0.3	None	.98	.82	.68	.58	.494
36F0006	83002X	0.5	56k	2.06	1.70	1.40	1.19	1.02
36F0007	83003X	0.4	100k	2.06	1.70	1.40	1.19	1.02
36F0008	83004X	0.8	None	.98	.82	.68	.58	.494
36F0009	83005X	1.2	22k	2.06	1.70	1.40	1.19	1.02
36F0010	83014X	1.7	33k	1.94	1.61	1.32	1.13	.962
36F0011	83016X	2.0	22k	1.94	1.61	1.32	1.13	.962
36F0012	83022X	1.9	None	.87	.72	.59	.50	.431
36F0013	83023X	1.0	56k	1.94	1.61	1.32	1.13	.962
36F0014	83024X	0.7	100k	1.94	1.61	1.32	1.13	.962
36F0015	83025X	0.7	None	.87	.72	.59	.50	.431
35F3650	83030X	0.9	47k	2.06	1.70	1.40	1.19	1.02
35F3651	83031X	0.35	150k	2.06	1.70	1.40	1.19	1.02
35F3652	83032X	0.3	220k	2.06	1.70	1.40	1.19	1.02
35F3653	83036X	0.7	None	.93	.77	.63	.54	.462
35F3654	83037X	0.8	56k	2.00	1.66	1.36	1.16	.992
35F3655	83038X	0.7	100k	2.00	1.66	1.36	1.16	.992
35F3656	83039X	1.5	33k	2.00	1.66	1.36	1.16	.992
35F3657	83042X	1.0	56k	1.94	1.61	1.32	1.13	.962



CML SERIES NEON CARTRIDGE INDICATORS

Cartridge housings with neon lamps. Four cap styles: Flush with panel, minimum protusion, ideal for front viewing. Short and Long Cylindrical extend approximately .26" and .50" above panel respectively enabling 180° visibility. Macrodome extends .46" above panel and affords 180° visibility for side viewing. Cap material of polycarbonate to resist color fading and high temperatures from continuous illumination. Five cap colors—see To Order below. Housing of clear anodized aluminum with nylon insulator. Stainless steel pin terminals are mounted off center to



insure polarization and one-way insertion when legends are inscribed on caps. Neon lamps have built-in resistors (see table, left). Meet MIL-L-3661 specs. Cartridge bodies extend approximately .634" deep measured from front of panel and have a diameter of .284".

***To Order Cap Color:** In place of 'X' in type column be sure to substitute cap color numeral denoting the cap color desired. 1—Red. 3—Amber. 5—White. 6—Yellow. 7—Clear. Cap colors Green and Blue (2 and 4 respectively) are not recommended for use with neon lamps.

CM21-3 SERIES CARTRIDGE INDICATOR CONNECTOR

Indicator pin terminals plug directly into CM21-3 providing rapid installation. Phenolic body, cadmium-plated brass contacts.

36F0016 Each **40c**

CM21-5 SERIES RIGHT ANGLE SOCKET

For CML Series cartridge indicators. Mount at right angle directly into printed circuit boards with four electro-tin plated brass terminals. Rear terminals provide contact and front terminals provide anchoring support. Phenolic housing is raised off board by 3/64" to allow gas venting and clearance for eyelets.

36F0017 Each **1.03**

CM21-14 SERIES SWAGE MOUNTED SOCKET

Accept CML cartridge indicators and are designed for swage-in mounting from rear of a 1/16" panel. Clear anodized aluminum is used for housing with phenolic insulator. Terminals are phosphor bronze with a fused tin finish. Flush panel appearance and 7/16" center mounting makes possible a high density.

36F0018 Each **59c**

CML SERIES CARTRIDGE HOLDERS

Panel mounting holders for T-1¾ and T-2 lamps. Body, collar and facing nut are black anodized aluminum. Molded phenolic insulation. Turret terminals are spring brass, gold over nickel plate. Solder cup terminals are spring brass, tintillate plate. Types 10202-1 and 10203-1 have 1/2" thick knurled collar nut. Mount in round or "D" hole, .375" diameter. Terminal pins are polarized.

Stock No.	Type CML-	Mounting	Terminals	Each 1-9	10-99	100-499	500-999
36F0019	10202-0	Front/Rear	Turret	1.15	.96	.80	.60
36F0020	10202-1	Front	Turret	1.25	1.04	.86	.74
36F0021	10203-0	Front/Rear	Solder	1.15	.96	.80	.60
36F0022	10203-1	Front	Solder	1.25	1.04	.86	.74

Chicago Miniature Beam Emitters, Readouts & Filters

CM20 SERIES BEAM EMITTERS

Compact assemblies specially designed to project narrow cones of infrared and luminous energies over distances of three to twenty inches. The spots produced are round in shape and vary in size from ⅜ inch to ¼ inch depending on projection distance. Infrared outputs are approximately 75% of input powers making the units ideal for use with silicon type sensors. Also provides low power consumption of 782 milliwatts, axially aligned spots, long life and easy mounting. Typical uses are energy sources for optical limit switches, optical encoders, tape sensors, etc. Spot characteristic: An axially aligned target circle equal to ½ diameter of the projected spot will be covered. Black anodized aluminum housing, No. 24 A.W.G. stranded wire leads, semi-resiliant thermosetting resin encapsulation. With all necessary mounting hardware.

SPECIFICATIONS AND DIMENSIONS

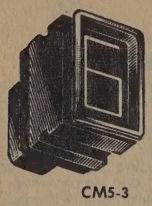
Part Number	Design Volts	Design Current	Aver. Life	Focal* Distance	Projected Spot Diam.
CM20-8-01	2.3	.340	10,000	7"- 9"	1¼"-1¾"
CM20-9-01	2.3	.340	10,000	14"-16"	1"-1⅛"

*Indicates recommended range

Materials
Housing: Aluminum, black anodized
Hex Nuts: Brass, cadmium plate
Lock Washer: Steel, cadmium plate
Wire Leads: #24 S.W.G. stranded-
Type B per Mil-W-16878
Encapsulation: Semi-resilient Thermosetting Resin

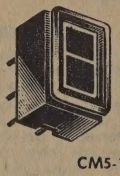
Stk. No.	Type	1-9	10-99	100-499	500-999	1000-Up
25F1650	CM20-8-01	22.09	18.41	15.25	13.15	11.36
25F1651	CM20-9-01	25.49	21.25	17.60	15.18	13.11

CM5 SERIES "DIGI—LITE" DISPLAY READOUTS



CM5-3

CM5-5



CM5-11

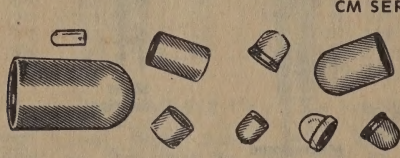
Stk.No.	Type	Description	1-24	25-49	50-99	100-249
25F1652	CM5-3	Shroud & con. pins	30.65	27.85	25.00	22.30
25F1653	CM5-5	Wire leads	11.40	10.35	9.32	8.28
27F1068	CM5-11	Connector pins	21.00	19.10	17.20	15.28
27F1069	CM21-11	Connector only	1.00	.96	.91	.85

Direct-view subminiature seven-segment filament display devices offer optimum character height/volume ratio. Low power consumption per segment-only 66 mW— eliminates the need for high—powered lamp drivers and allows P.E. direct driving-from integrated circuits. Only $\frac{5}{16}$x$\frac{15}{32}$" panel space per digit and mounting depth of ⅜". Features shroud and connector pins, mates with Cannon MDB-1-9P connector. Has Type SDG dialiyl phthalate housing with epoxy encapsulation for long life. Size .466x.306x.530". Type CM 5-5. Has wire leads, Kovar housing, no encapsulation. Size .466x.306x.128", less leads. CM5-11 same as CM5-3, minus shroud. Mates with CM21-11 thermosetting plastic connector with wire-wrap. or gold-plated terms. Size, .466x.306x.290".

SPECIFICATIONS

Recommended voltages: 4 V in sunlight; 3.5 V in artificial light; 2.0 V in dark. Current at 4 V, 16.5 mA per filament. Clear glass face plate. Brightness: 8000 foot-lamberts. Response time, 20 ms. Ambient temperature range, -55° to +85°C. Life, 20,000 hours.

CM SERIES 39 LAMP FILTERS



Slip-On Filters are translucent precision molded silicone rubber for subminiature and miniature lamps. Impervious to color shift. For consistent filter color control, every production lot is tested and color verified by Spectrophotometric Analysis. Readings are charted to C.I.E. standards and recorded. This control permits precise duplication of color for standard production filters, or filters developed for special applications. CM39 Series Lamp Filters can be developed to meet any C.I.E. color level. For special requirements, contact Newark.

SPECIFICATIONS AND DIMENSIONS

- **Colors:** Filter color emission rates conform to: Red:- MIL-L-25467A & MIL-P-7788, Blue/white - MIL-L-27160B, Green - MIL-C-25050, Blue - Aviation, Desaturated for optimum transmission, Yellow - Aviation and identification MIL-C-25050.
- **Environmental:** Filters are resistant to ambient atmosphere, sunlight, salt spray, ozone and most acids.
- **Material:** Silicone rubber filters meet MIL-R-5847, Class 111.
- **Temperature:** -62° to +225°C.

Lamp Size	Part No.	Dim.	Lamp Size	Part No.	Dim.
T-¾	-02	.090x.230	T-1¾	-08	.325x.279
T-1	-03	.096x.3125	T-2	-09	.250x.522
T-1	-04	.096x.219	T-2	-10	.250x.272
T-1¼	-05	.175x.265	T-3¼	-11	.370x.672
T-1¾	-06	.214x.375	S-6	-12	.584x1.120
T-1¾	-07	.218x.3125			

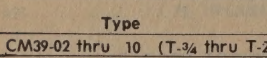
	Size -02		Size-03		Size -04		Size -05		Size -06	
Color	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type
Red	25F1654	CM39-02-1	25F1661	CM39-03-1	25F1668	CM39-04-1	25F1675	CM39-05-1	25F1682	CM39-06-1
Blue/White	25F1655	CM39-02-2	25F1662	CM39-03-2	25F1669	CM39-04-2	25F1676	CM39-05-2	25F1683	CM39-06-2
Clear	25F1656	CM39-02-3	25F1663	CM39-03-3	25F1670	CM39-04-3	25F1677	CM39-05-3	25F1684	CM39-06-3
Amber	25F1657	CM39-02-4	25F1664	CM39-03-4	25F1671	CM39-05-4	25F1678	CM39-05-4	25F1685	CM39-06-4
Green	25F1658	CM39-02-5	25F1665	CM39-03-5	25F1672	CM39-06-5	25F1679	CM39-05-5	25F1686	CM39-06-5
Blue	25F1659	CM39-02-6	25F1666	CM39-03-6	25F1673	CM39-07-6	25F1680	CM39-05-6	25F1687	CM39-06-6
Yellow	25F1660	CM39-02-7	25F1667	CM39-03-7	25F1674	CM39-07-7	25F1681	CM39-06-7	25F1688	CM39-06-7

	Size -07		Size -08		Size -09		Size -10		Size -11		Size -12	
Color	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type
Red	25F1689	CM39-07-1	25F1696	CM39-08-1	25F1703	CM39-09-1	25F1710	CM39-10-1	25F1750	CM39-11-1	25F1757	CM39-12-1
Blue/White	25F1690	CM39-07-2	25F1697	CM39-08-2	25F1704	CM39-09-2	25F1711	CM39-10-2	25F1751	CM39-11-2	25F1758	CM39-12-2
Clear	25F1691	CM39-07-3	25F1698	CM39-08-3	25F1705	CM39-09-3	25F1712	CM39-10-3	25F1752	CM39-11-3	25F1759	CM39-12-3
Amber	25F1692	CM39-07-4	25F1699	CM39-08-4	25F1706	CM39-09-4	25F1713	CM39-10-4	25F1753	CM39-11-4	25F1760	CM39-12-4
Green	25F1693	CM39-07-5	25F1700	CM39-08-5	25F1707	CM39-09-5	25F1714	CM39-10-5	25F1754	CM39-11-5	25F1761	CM39-12-5
Blue	25F1694	CM39-07-6	25F1701	CM39-08-6	25F1708	CM39-09-6	25F1715	CM39-10-6	25F1755	CM39-11-6	25F1762	CM39-12-6
Yellow	25F1695	CM39-07-7	25F1702	CM39-08-7	25F1709	CM39-09-7	25F1716	CM39-10-7	25F1756	CM39-11-7	25F1763	CM39-12-7

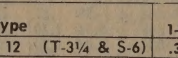
Type	1-9	10-99	100-499	500-999	1000-Up
CM39-02 thru 10 (T-¾ thru T-2)	.26	.22	.18	.16	.14

Type	1-9	10-99	100-499	500-999	1000-Up
CM39-11 or 12 (T-3¼ & S-6)	.34	.29	.24	.21	.18

TELEPHONE SLIDE BASE LAMPS



- 5,000 Hour Life
- 1,688" Long—½" Diameter

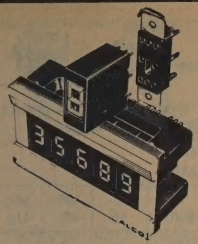
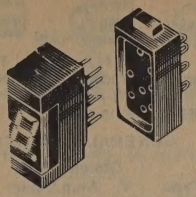
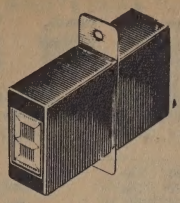
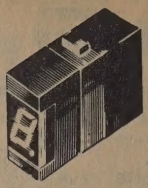
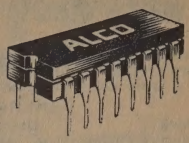


Special Units for Use with DIALCO Housing 81-1059-01-102
- 5,000 Hour Life
- 1.075" Long—¼" Diameter

(Sold in packages of 10 only)

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-490	500-990
27F082	12B	12	.032-.038		.44	.36	.31
27F084	24C	24	.06 -.085	875	.44	.36	.31
27F085	24E	24	.032-.038	600	.44	.36	.31
27F087	24X	24	.032-.038	600	.44	.36	.31
27F088	30B	30	.09 -.11	1050	.44	.36	.31
27F090	48D	48	.017-.025	100	.48	.39	.33
27F091	55C	55	.045-.06	1025	.48	.39	.33

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-490	500-999
27F075	6PSB	6	.140	800	.49	.40	.34
27F076	12PSB	12	.170	2500	.49	.40	.34
27F077	24PSB	24	.073	2200	.49	.40	.34
27F078	28PSB	28	.040	2000	.49	.40	.34
27F079	48PSB	48	.053	1500	.49	.40	.34
27F080	60PSB	60	.050	2600	.49	.40	.34
27F081	20PSB	120	.025	1500	.49	.40	.34

MS-4000B 7-seg, incandescent readout has display that is clearly read under all ambient lighting cond. Flat, single-plane display allows wide-angle viewing without distortion. Large character size (.325" x .600") relative to case size (.552" x 1.18"). Makes use of high temp. material housed in a 1 piece black matte metal case. Terminal pine are nickel-plated brass. Lamps are closely fitted into a compartment block with short leads virtually eliminating vibration problems. Vibration test: 2000c/s. Lamps separately lit to form any numeral as desired by use of an external decoder/driver. High reliability, long life.

MS-4100- as above, but with decimal and a slightly smaller figure. Ext. dimens. same as above. (C) MS-250A- smaller version of 7-seg. display 0-to 9 characters. Snapmnt socket. Plastic housing. MSDD Series 7-segment Decoder-Drivers are monolithic MSI intefrated circuits which decode BCD (8-4-2-1 code) inputs to 7-line outputs representing a decimal number from 0-9 an 7-seg. incandescent display devices. 30MA per line devices are: MSDD 700 with dec. pt. and MSDD701 with ripple blanking, both are for use with Alco MS-250 series. 80MA per line devices are: MSDD-702 with dec. pt. and MSDD-703 with ripple blanking; both are for use with Alco MS-4000, MS-6

MS-6 and MSM-5 series. Devices supplied in 16-dual inline plastic pkgs. which can be used over the oper. temp. range of 0-C. to +75-C.

MTX series Decimal-to-Seven Segment Decoders, designed to drive Alco MS-4000B and MS-250A readout indicators. MTX Decoder consists of integrated circuit using a diode matrix which allows you to easily display o to 9 (MS-4000B), and 0-9 numerals & decimal point (MS-250A). Alco readouts plug in directly to the logic module that has connections made thru a 9-conductor flat cable. The MTX-4000 Decoder and MS-4000B readout indicator can be installed in the MS-4FB bezel, and mnt. assembly provides up to 5 modular digits.

MS-4FB Bezel has a top and bottom aluminum extrusion. Assembly provides a max. of 5 mod. digits. Rear blocks accept skts. generally supplied with readouts. Comes complete with red filter; less skts. and 1" mntg. screws. Use with clear readouts.

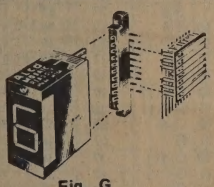


Fig. G

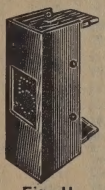


Fig. H

MOSAIC SERIES—FIGURE G

Numerals 0-9 and some alphabet displayed by simple operation of diode-matrix or encording switch (not supplied). Wide viewing angle. Figure size $2\frac{3}{32}$" high. Bulb life is 20,000 hours. Body size .827 x 1.73" x 1.69". MSM-5AL with wire leads. A-Numeric, S-± Symbols

INDICATORS

Stk.No.	Type	Desc.	1-24	25- 99	100- 499
61F962	MS-6A	6.3 Volts	8.25	7.01	6.19
61F963	MS-14A	14.0 Volts	8.25	7.01	6.19
61F1154	MSM-5A	5.0 Volts	8.25	7.01	6.19
61F1155	MSM-5S	5.0 Volts	8.25	7.01	6.19
61F1617	MSM-5AL	5.0 Volts	9.95	8.46	7.46

RKP SERIES—FIGURE H

Designed for ease of use and interchangeability. .55" high numerals or in symbol form. Unique in-line design provides clear display without focusing problems. Long-life bulbs give 20,000-50,000 hours. 78" wide x 2.56" high x .83" deep body size.

Stk.No.	Type	Volts	Desc.	1-24	25-99	100-499
61F976	RKP-6	6.3	Numeric	8.25	7.01	6.19
61F977	RKP-14	14.0	Numeric	8.25	7.01	6.19
61F978	RKP-24	24.0	Numeric	8.25	7.01	6.19
61F1160	RKP-14S-	14.0	Symbol	8.25	7.01	6.19

SOCKETS AND FILTERS (FORMS & MSM)

61F964	MS-SKT	Socket	1.15	.98	.92
61F965	MS-FLV	Violet Filter	.40	.34	.30
61F966	MS-FLR	Red Filter	.40	.34	.30
61F967	MS-FLG	Green Filter	.40	.34	.30
61F1156	MS-MTX	Diode Matrix	12.45	10.58	9.34
61F1167	MS-SK-R	Socket	1.55	1.32	1.16
61F1158	MSM-SK	Socket	.85	.73	.64

4000 series. Lamps: 3-5 40-60 ma. per segment. 250 series 2.5V 20 ma per seg. Current drain. 4000: 80 ma (min) 250, 40 ma (min). Consumption. 4000: 420 Ma (max.), 250 160 ma (max). Size: .522 x 1.18 x 1.18)). Wt. 4000-15 grams, 250-5.6 grams. MTX series includes MS-4000B and MS250A. Lamp terminal voltage 5.0V for MS—4000B, MS—250A 2.5V. Current (Max.): MS-4000B, 420 mA., MS-250A 160mA Life for both models is 300,000 hrs.

Stk. No.	Model	Description	1-24	25- 99	100- 499
61F1600	MS-4100BC	Numeric Readout Clear	7.45	6.33	5.59
61F1601	MS-4000BC	Numeric Readout Clear	6.45	5.48	4.84
61F1166	MS-4000BR	Numeric Readout Red	6.45	5.48	4.84
61F1603	MS-4100BR	Numeric Readout Red	7.45	6.33	5.59
61F1604	MS-250AR	Numeric Readout Red	8.25	7.01	6.19
61F1605	MS-250AC	Numeric Readout Clear	8.25	7.01	6.19
61F1606	MSDD-700	Decoder 30mA/Seg., w/decimal point	10.99	9.50	8.09
61F1607	MSDD-701	Decoder 30mA/Seg., w/ripple blanking	10.99	9.50	8.09
61F1608	MSDD-702	Decoder 80mA/Seg., w/decimal point	11.49	10.50	9.59
61F1609	MSDD-703	Decoder 80mA/Seg., w/ripple blanking	11.49	10.50	9.59
61F1610	MTX-4000	Decoder driver for MS-4000B	12.85	10.92	9.64
61F1611	MTX-250	Decoder driver for MS-250A	12.85	10.92	9.64
61F1612	MS-4FBA	Module Section Kit Natural	4.95	4.21	3.71
61F1613	MS-4FBB	Module Section Kit Black	4.95	4.21	3.71
61F1614	MS-4BA	Bezel Only, Natural(pr)	1.25	1.06	.94
61F1615	MS-4BB	Bezel Only, Black(pr)	1.25	1.06	.94
61F1167	SKT-4B	Socket for MS-4000	.48	.41	.36

(*)Supplied with socket, red filter. (†)Supplied with socket, clear filler.

Fig. J

Fig. K

RK SERIES—FIGURE J

Precision machined from one-piece aluminum which also serves as a heat sink. Tapped mounting holes for choice of positioning illuminates numerals 0 to 9 and a period. .55" high numerals or (*) symbols. Body size: 2.56" x .78" x .83".

Stk.No.	Type	Desc.	1-24	25-99	100-499
61F982	RK-6	6.3 Volts	8.25	7.01	6.19
61F983	RK-14	14.0 Volts	8.25	7.01	6.19
61F984	RK-24	24.0 Volts	8.75	7.44	6.56

ACCESSORIES FOR RK AND RKP SERIES

61F985	RK-SKT	Pr. Socket	1.65	1.40	1.24
61F986	RK-SKT-C*	Pr. Socket	2.45	2.08	1.84
61F987	RKA-2-8**	Bracket	1.65	1.40	1.24
61F988	RK-FLV	Filter	.40	.28	.20

***With cover **Holds 2 to 8 readouts (RK, RKP)**

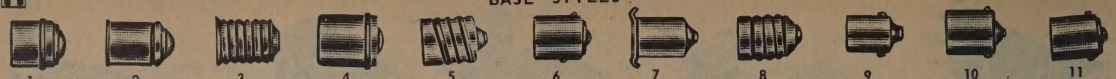
NEON INDICATORS

If Smallest of all neon readouts is only 0.453" (diam) x 1½" (high). Indicator is used to display 0-9 numerals b and — symbols and decimal point. Ideal for 1C circuits. Models MG-17 & MG-19 are subminiature neon indicators.

Stk.No.	Type	Desc.	1-99	25- 99	100- 499
61F1170	MG-17F	7 seg. w/2 pts.	4.95	4.21	3.71
61F1168	MG-19B	9 seg. w/1 pt.	4.95	4.21	3.71
61F1618	MG-17G	7 seg. w/1 pt.	4.95	4.21	3.71
61F1619	MSDD-721	Decoder Driver	14.60	12.41	10.95
61F1620	MSDD-722	Decoder Driver with memory	19.95	16.96	14.96
61F1621	MSDD-723	Decoder Driver with Decode counter	19.95	16.96	14.96
61F1622	PS-51-117	Logic Power Supply	39.95	33.96	29.96

Chicago Miniature Lamps

BASE STYLES



Lamps listed in this catalog are the more popular types available from Chicago Miniature. If your application requires special lamp or a lamp not shown, send Newark a description of your needs.

We will submit our recommendations. AS types are aged & selected for critical app. W= wire terminals (*) Not illustrated.

SOLD IN PKG. OF 10 ONLY.

GENERAL SERVICE LAMPS

Stock No.	Type	Design V.	Design Amp.	Life Hours	B.	Bulb	10-90	100-490	500-Up
27F100	PR-2	2.38	.50	15	7	B-3½	.14	.12	.10
27F101	PR-3	3.57	.50	15	7	B-3½	.14	.12	.10
27F102	PR-4	2.33	.27	10	7	B-3½	.14	.12	.10
27F103	PR-6	2.47	.30	30	7	B-3½	.14	.12	.10
27F105	PR-12	5.95	.50	15	7	B-3½	.14	.12	.10
27F106	PR-13	4.75	.50	15	7	B-3½	.14	.12	.10
27F107	PR-16	12.5	.25	50	7	B-3½	.19	.15	.13
25F091	10	2.5	.5	3000	*	G-3½	.23	.19	.16
25F092	12	6.3	.15	L	*	G-3½	.19	.16	.13
27F111	13	3.7	.30	15	8	G-3½	.12	.10	.08
27F112	14	2.47	.30	15	8	G-3½	.12	.10	.08
25F006	19	14.4	.10	. . .	*	G-3½	.27	.22	.19
27F113	27	4.9	.30	30	8	G-4½	.15	.12	.10
27F114	31	6.15	.30	15	8	G-4½	.19	.15	.13
27F115	40	6.3	.15	3000	8	T-3¼	.10	.08	.07
25F830	41	2.5	.50	3000	5	T-3¼	.20	.16	.14
27F117	43	2.5	.50	3000	9	T-3¼	.20	.16	.14
27F118	44	6.3	.25	3000	9	T-3¼	.10	.08	.07
27F119	45	3.2	.35	3000	9	T-3¼	.16	.13	.11
27F120	46	6.3	.25	3000	8	T-3¼	.10	.08	.07
27F121	47	6.3	.15	3000	9	T-3¼	.10	.08	.07
27F122	48	2.0	.06	1000	8	T-3¼	.20	.16	.14
27F123	49	2.0	.06	1000	9	T-3¼	.16	.13	.11
27F124	50	7.5	.22	1000	8	G-3½	.12	.10	.08
27F125	51	7.5	.22	1000	9	G-3½	.10	.08	.07
25F831	52	14.4	.10	1000	5	G-3½	.25	.21	.18
27F126	53	14.4	.12	1000	9	G-3½	.11	.09	.08
27F127	55	7.0	.41	500	9	G-4½	.11	.09	.08
27F128	57	14.0	.24	5 00	9	G-4½	.12	.09	.08
25F832	63	7	.63	1000	10	G-6	.14	.12	.10
27F129	64	7.0	.63	1000	11	G-6	.20	.16	.14
27F130	67	13.5	.59	L	10	G-6	.15	.12	.10
27F131	68	13.5	.59	L	11	G-6	.22	.18	.15
25F093	81	6.5	1.05	500	10	G-6	.17	.14	.12
27F133	82	6.5	1.05	500	11	G-6	.17	.14	.12
27F134	87	6.8	1.91	300	10	S-8	.27	.22	.19
27F135	88	6.75	1.99	300	11	S-8	.27	.22	.19
27F136	88L	6.75	1.99	750	11	S-8	.72	.59	.50
27F137	90	13.0	.58	750	11	G-6	.16	.13	.11
27F138	93	12.8	1.04	500	10	S-8	.23	.18	.16
25F094	112	1.2	.22	5	8	GTL-3	.12	.10	.08
25F833	123	1.25	.30	10	5	G-3½	.13	.10	.09
25F834	130	6.3	.15	L	6	G-3½	.16	.13	.11
25F143	131	1.3	.10	50	8	G-3½	.14	.11	.10
25F090	159	6.3	.15	L	*	T-3¼	.19	.16	.13
25F835	219	6.3	.25	L	10	G-3½	.31	.25	.21
27F147	222	2.25	.25	5	8	GTL-3	.12	.10	.08
25F148	224	2.15	.22	5	*	GTL-2¾	.17	.14	.12
25F149	233	2.33	.27	10	8	G-3½	.18	.14	.12
25F095	239	6.3	.36	5000	9	T-3¼	.23	.18	.16
25F150	240	6.3	.36	L	9	T-3¼	.21	.17	.14
27F152	252	2.5	.35	10000	4	GTL-1¾	2.26	1.84	1.57
27F153	253X	2.5	.35	10000	2	GTL-1¾	2.74	2.22	1.90
27F154	261	2.5	.35	10000	2	GTL-1¾	4.40	3.57	3.06
27F1012	268	2.5	.35	10000	4	T-1¾	1.45	1.18	1.01
27F156	304	28.0	.30	500	11	G-6	.37	.30	.25
27F158	307	28.0	.66	300	10	S-8	.52	.42	.36
25F836	3071F	28.0	.67	300	10	S-8	.61	.49	.42
27F160	313	28.0	.17	500	9	T-3¼	.24	.20	.17
26F500	323	3.0	.19	350	*	T-1¼	1.08	.88	.75
26F537	324	3.0	.19	350	*	T-1¼	.45	.37	.31
26F501	327	28.0	.04	1000	4	T-1¾	.48	.39	.33
26F502	327AS15	28.0	.04	. . . .	4	T-1¾	1.56	1.26	1.08
26F503	327AS25	28.0	.04	. . . .	4	T-1¾	.88	.71	.61
26F913	327LSV	28.0	.06	. . . .	4	T-1¾	1.05	.85	.73
26F504	328	6.0	.20	1000	4	T-1¾	.38	.31	.26
26F541	330	14.0	.08	750	4	T-1¾	.64	.52	.44
26F542	331	1.35	.06	500	4	T-1¾	.74	.60	.51
26F544	334	28.0	.04	1000	2	T-1¾	.72	.58	.50
27F162	334LSV	28.0	.06	25000	2	T-1¾	1.31	1.06	.91
26F508	335	28.0	.04	25000	3	T-1¾	1.10	.90	.77
26F509	335AS15	28.0	.08	. . . .	3	T-1¾	2.33	1.89	1.62
26F547	336	14.0	.04	750	2	T-1¾	1.10	.89	.76
26F548	337	6.0	.20	1000	2	T-1¾	1.30	1.06	.91
26F552	338	2.7	.06	3000	4	T-1¾	.66	.54	.46
26F511	342	6.0	.03	10000	3	T-1¾	1.33	1.08	.92
26F554	344	10.0	.014	10000	4	T-1¾	1.04	.84	.71
26F555	345	6.0	.04	10000	4	T-1¾	.84	.68	.58
26F914	346	18.0	.04	1000	2	T-1¾	.95	.77	.66
25F008	349	6.3	.20	. . . .	4	T-1¾	.82	.66	.57
26F507	328L	6.0	.20	1000	4	T-1¾	1.53	1.24	1.06
26F915	367	10.0	.04	30000	4	T-1¾	1.05	.85	.73
27F166	370	18.0	.015	1000	4	T-1¾	1.15	.93	.80

GENERAL SERVICE LAMPS CONT'D

Stock No.	Type	Design V.	Design Amp.	Life Hours	B.	Bulb	10-90	100-490	500 Up
27F1017	373	14.0	.08	750	3	T-1¾	1.32	1.07	.91
27F167	375	3.0	.04	10000	4	T-1¾	1.90	1.55	1.32
27F1018	376	28.0	.06	25000	4	T-1¾	1.05	.85	.73
26F916	380	6.3	.04	50000	4	T-1¾	1.60	1.30	1.11
26F917	381	6.3	.20	50000	4	T-1¾	.85	.69	.59
26F918	382	14.0	.08	50000	4	T-1¾	.97	.79	.67
27F1021	385	28.0	.04	50000	4	T-1¾	1.50	1.22	1.04
27F168	386	14.0	.08	50000	2	T-1¾	1.16	.94	.81
26F919	387	28.0	.04	25000	4	T-1¾	.55	.45	.38
27F169	388	28.0	.04	25000	2	T-1¾	1.16	.94	.81
27F1022	397	10.0	.04	30000	2	T-1¾	1.05	.85	.73
25F837	398	6.3	.20	3000	2	T-1¾	.81	.66	.56
25F009	399	28.0	.04	. . . .	8	T-1¾	1.01	.82	.70
27F170	407	4.9	.30	50	8	G-4½	.16	.13	.11
25F838	425	5.0	.50	.15	5	G-4½	.16	.13	.11
27F172	428	12.5	.25	250	8	G-4¼	.19	.15	.13
27F178	502	5.1	.15	100	8	G-4½	.13	.10	.09
27F180	509	24.0	.18	1000	5	G-6	.62	.51	.43
25F839	515	5.0	.115	40000	*	T-1¼	.73	.59	.51
25F840	580	5.0	.06	100000	*	T-1¼	.73	.59	.51
25F841	583	5.0	.06	100000	*	T-1¼	.72	.58	.50
26F521	680	5.0	.06	200000	*	T-1	1.31	1.07	.91
25F842	680AS15	5	.06	100000	*	T-1	1.52	1.24	1.06
26F523	682	5.0	.06	200000	1	T-1	1.59	1.29	1.10
25F843	682AS15	5	.06	100000	1	T-1	1.77	1.44	1.23
26F525	683	5.0	.06	100000	*	T-1	1.31	1.07	.91
25F844	683AS15	5.0	.06	100000	*	T-1	1.52	1.24	1.06
26F527	685	5.0	.06	100000	1	T-1	1.59	1.29	1.10
25F845	685AS15	5.0	.06	100000	1	T-1	1.77	1.44	1.23
26F533	715	5.0	.115	40000	*	T-1	1.31	1.07	.91
26F534	715AS15	5.0	.115	40000	*	T-1	1.52	1.24	1.06
26F535	718	5.0	.115	40000	1	T-1	1.59	1.29	1.10
26F536	718AS15	5.0	.115	40000	1	T-3¼	1.77	1.44	1.23
25F846	755	6.3	.15	50000	9	T-3¼	.24	.20	.17
25F847	756	14.0	.08	50000	9	B-6	.32	.26	.22
25F010	757	28.0	.08	50000	9	B-6	.36	.29	.25
27F183	1003	12.8	.94	100	10	S-8	.22	.18	.15
27F184	1004	12.8	.94	100	11	S-8	.22	.18	.15
27F187	1034	12.8	1.80	200L	*	S-8	.31	.25	.22
27F189	1073	12.8	1.80	200	10	S-8	.22	.18	.15
27F190	1129	6.4	2.63	200	10	RP-11	.23	.19	.16
25F848	1130	6.4	2.80	200	11	S-8	.31	.25	.21
27F192	1133	6.2	3.91	200	10	S-8	.40	.33	.28
27F193	1141	12.8	1.44	500	10	RP-11	.22	.18	.15
27F194	1142	12.8	1.44	500	11	RP-11	.26	.21	.18
27F195	1143	12.5	2.00	400	10	G-6	.53	.43	.37
27F198	1184	5.5	6.36	100	11	G-6	.57	.46	.39
27F202	1251	28.0	.23	L	110	G-3½	.37	.30	.26
27F203	1252	24.0	.23	L	11	G-3½	.42	.34	.29
25F849	1445	18.0	.15	250	10	G-5	.14	.12	.10
27F206	1447	18.0	.15	250	8	T-3	.15	.13	.11
27F208	1458	20.0	.25	250	9	G-4½	.27	.22	.18
27F211	1477	24.0	.17	250	8	G-4½	.50	.41	.35
27F212	1482	6.0	.45	100	8	T-3¼	.26	.21	.18
27F213	1483	6.0	.04	250	8	G-4½	.26	.21	.18
27F214	1487	14.0	.21	3000	8	T-3¼	.20	.16	.14
27F215	1488	14.0	.15	200	9	T-3¼	.21	.17	.15
27F216	1489	6.5	2.75	125	10	T-5	2.38	1.93	1.65
27F217	1490	3.2	.16	3000	9	T-3¼	.16	.13	.11
27F220	1493	6.5	2.80	100	11	S-8	.94	.77	.65
27F221	1503	5.9	6.53	200	*	RP1-1	1.17	.95	.82
27F223	1630	6.5	2.75	100	*	S-8	1.23	1.00	.86
25F862	1648	8.0	2.0	1500	11	S-8	.90	.73	.62
26F556	1705	14.0	.08	750	W	T-1¾	.50	.41	.35
26F557	1728	1.35	.06	500	W	. . . .	.37	.30	.26
26F558	1730	6.0	.04	10000	W	T-1¾	.84	.68	.58
26F559	1738	2.7	.06	6000	W	. . . .	.37	.30	.26
27F1025	1762	28.0	.04	1000	*	T-1¾	.37	.30	.26
27F225	1763	6.1	4.10	125	*	T-1¾	1.14	.93	.79
26F561	1764	28.0	.04	1000	*	S-11			
26F562	1764/LSV	28.0	.06	25000	*	S-11	.41	.33	.29
26F512	1767	2.5	.20	500	3	T-1¾	.68	.55	.47
26F513	1768	6	.20	1000	3	T-1¾	.59	.48	.41
25F863	1768L	6.0	.22	3000	3	T-1¾	.70	.57	.48
26F564	1775	6.3	.075	500	3	. . . .	1.07	.87	.74
27F226	1783	2.5	.20	500	W	T-1	.86	.69	.59
27F1026	1784	6.0	.20	1000	*	T-1¾	.36	.29	.25
27F227	1813	14.4	.10	1000	9	T-3¼	.56	.46	.39
27F228	1815	14	.20	3000	9	T-3¼	.21	.17	.14
27F229	1816	13	.33	1000	9	T-3¼	.18	.14	.12
26F507	7337	6.0	2.0	1000	4	T-1¾	.17	.14	.12
							1.53	1.24	1.06

B

G

GTL

R

RP

S

SL

T

TL

GENERAL SERVICE LAMPS (CONT'D)

Knurled screw. †Spec. midget flanged. ‡Spec. screw **SOLD IN PACKAGES OF 10 ONLY.

Stock No.	Type	Design V.	Design Amps	Life Hours	Base	Bulb	10-90	100-490	500-up
27F230	1819	28	.04	1000	9	T-3¼	.26	.21	.18
27F231	1820	28	.10	1000	9	T-3¼	.28	.22	.19
27F232	1821	28	.17	500	8	T-3¼	.61	.49	.42
27F233	1822	36	.10	1000	9	T-3¼	.48	.39	.34
27F234	1828	37.5	.05	L	9	T-3¼	.52	.42	.36
27F235	1829	28	.075	1000	9	T-3¼	.27	.22	.19
25F085	1835	55.0	.05	.....	9	T-3¼	.59	.48	.41
27F236	1847	6.3	.15	20000	9	T-3¼	.14	.11	.10
27F237	1850	5	.09	1500	9	T-3¼	.27	.22	.19
27F238	1855	6.3	.80	3000	9	T-4½	.28	.23	.20
25F1900	1864	28.0	.17	500	9	T-3¼	.34	.28	.24
27F239	1866	6.3	.25	20000	9	T-3¼	.17	.14	.12
27F240	1869	10.0	.014	10000	W	T-1¾	.89	.72	.62
27F241	1891	14.0	.233	500	9	T-3¼	.12	.10	.09
27F242	1892	14.4	.12	1000	9	T-3¼	.20	.16	.14
27F243	1893	14.0	.33	L	9	T-3¼	.14	.11	.10
25F1901	1895	14.9	.27	1500	9	G-4½	.16	.13	.11
27F244	2102	18.0	.04	1000	W	T-1¾	.66	.54	.46
27F245	2107	10.0	.04	30000	W	T-1¾	1.01	.82	.70
25F099	2114	6.0	.06	3000	W	T-1¼	.59	.48	.41
27F247	2124	2.5	.35	10000	W	GTL-1¾	1.70	1.38	1.18
25F185	2128	3.0	.0125	.....	W	T-1	3.08	2.50	2.14
25F1902	2136	2.5	.350	10,000	W	GTL-1¾	3.25	2.64	2.25
25F086	2158	3.0	.015	.....	W	T-1¾	1.05	.85	.73
27F250	2162	14.0	.088	10000	W	T-1¾	.51	.42	.36
27F1027	2164	6.0	.04	10000	*	T-1¾	.87	.70	.60
25F186	2169	2.5	.350	10000	W	T-1¾	1.00	.81	.70
25F1903	2180	6.3	.04	50000	*	T-1¾	.85	.69	.59
25F087	2181	6.3	.21	.....	W	T-1¾	.46	.37	.32
25F187	2182	14.0	.08	50000	W	T-1¾	.49	.40	.34
27F1028	2187	28.0	.04	25000	*	T-1¾	.72	.58	.50
27F1029	2192	14.0	.08	50000	*	T-1¾	.70	.57	.49
27F096	6803	5.0	.060	7500	1	T-¾	2.07	1.68	1.44
25F189	6833	5.0	.060	100000	W	T-¾	1.87	1.52	1.30
25F1904	6838	28.0	.024	16000	*	T-1	1.94	1.57	1.35
25F191	6839	28.0	.024	16000	1	T-1	2.36	1.92	1.64
25F193	7153	5.0	.115	40000	W	T-¾	1.87	1.52	1.30
27F294	7216	5	.125	500	*	T-1	2.04	1.66	1.42
26F507	7337	6.0	2.0	1000	4	T-1¾	1.53	1.24	1.06
25F1906	8299	2.5	.350	10000	3	TL-1¾	1.90	1.55	1.32
25F1907	8362	14.0	.08	50000	3	T-1¾	.94	.76	.65
25F1908	8369	28.0	.065	5000	3	T-1¾	.99	.80	.68
25F1913	8610	6.3	.20	3000	*	T-1¼	.68	.55	.47
25F1909	8623	28.0	.04	1000	**	T-1¼	1.46	1.19	1.01
25F195	8627	28.0	.04	1000	W	T-1¼	.90	.73	.63
25F1910	8632	28.0	.04	1000	†	T-1¼	1.46	1.19	1.01
25F1911	8635	28.0	.04	1000	‡	T-1¼	1.53	1.24	1.06
25F198	8639	6.0	.20	500	*	T-1¼	1.46	1.19	1.01
26F592	8640	14	.08	1000	*	T-1¼	.65	.52	.45
25F1912	8646	3.0	.008	16000	*	T-1	1.46	1.19	1.01
26F605	8661	6	.04	1000	W	T-1¼	1.04	.84	.72
25F199	8666	5.0	.08	3000	W	T-¾	1.87	1.52	1.30
27F297	8805	5	.06	20000	1	T-1¾	.59	.48	.41

NEON GLOW LAMPS

#Med. Screw #Cand. §Can. Screw **PKG. OF 10 ONLY**

Stock No.	Type	V	Watts	Life Hours	Base	Bulb	10-90	100-490	500-Up
25F810	A1B	105-125	1/25	25000	*	T-2	.21	.128	.095
25F811	A1C	105-125	1/10	25000	*	T-2	.22	.13	.096
27F251	NE2(A1A)	105-125	1/25	25000+	W	T-2	.18	.105	.08
27F252	NE2D(C7A)	105-125	1/10	5000+	*	T-2	1.34	.802	.594
25F812	NE2E(A9A)	105-125	1/4	5000	*	T-2	.20	.119	.088
27F253	NE2H(C2A)	105-125	1/4	5000	W	T-2	.20	.119	.088
25F813	NE2J(C9A)	105-125	1/4	5000	7	T-2	1.34	.802	.594
25F814	NE21(B6A)	110-125	1/4	7500	10	T-4½	1.65	.988	.731
25F815	NE30(J5A)	110-125	1	10000	10	S-11	2.50	1.50	1.11
25F816	NE32(L5A)	110-125	1	10000	11	G-10	2.12	1.27	.94
27F254	NE45(B7A)	110-125	1/4	7500	8	T-4½	1.53	.917	.679
27F255	NE48(B9A)	110-125	1/4	7500	11	T-4½	1.25	.747	.553
27F256	NE51(B1A)	110-125	1/25	15000+	6	T-3¼	.44	.265	.196
27F257	NE51H(B2A)	110-125	1/4	5000+	6	T-3¼	.44	.265	.196
25F817	NE56(J9A)	220-250	1	10000	††	S-11	2.53	1.52	1.12
25F818	NE57(F3A)	110-125	1/4	7500	‡‡	T-4½	1.76	1.06	.783
25F819	NE58(F4A)	220-250	1/2	.....	§	T-4½	1.65	.988	.731
27F258	NE83(5AH)	60-100	.....	.....	W	T-2	.43	.255	.189
25F080	NE86(5AJ)	55	.....	2000	W	T-2	.40	.238	.176

Special units for Dialco series of 81 indicator lights. T-2 incandescent bulb with slide base: ¼" diam., 5000 hr. life. **PKG. OF 10 ONLY.**

INDICATOR LAMPS

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-490	500-up
27F075	6PSB	6	.140	800	.48	.46	.41
27F076	12PSB	12	.170	2500	.48	.46	.41
27F077	24PSB	24	.073	2200	.48	.46	.41
27F078	28PSB	28	.040	2000	.48	.46	.41
27F079	48PSB	48	.053	1500	.48	.46	.41
27F080	60PSB	60	.050	2600	.48	.46	.41
27F081	120PSB	120	.025	1500	.48	.46	.41

TELEPHONE SLIDE BASE LAMPS

Incandescent lamps specifically designed for use in telephone switchboards. 5000 hour life. ½" diameter. **PKG. OF 10 ONLY**

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-490	500-Up
27F084	24C	24	.06-.085	875	.68	.45	.37
27F085	24E	24	.032-.038	600	.68	.45	.37
27F087	24X	24	.032-.038	600	.68	.45	.37
27F088	30B	30	.09-.11	1050	.68	.45	.37
27F090	48D	48	.017-.025	100	.73	.47	.40
27F091	55C	55	.045-.06	1025	.73	.47	.40

STANDARD VOLTAGE LAMPS

Stock No.	Type	Volts	Watts	Life Hours	Base	Bulb	10-90	100-490	500-Up
27F259	3S6/5	120	3	3000	8	S-6	.55	.50	.45
27F260	6S6	115	6	1500	8	S-6	.55	.50	.45
27F261	6S6	145	6	1500	8	S-6	.55	.50	.45
27F262	6S6/DC	120V	6	1500	11	S-6	.40	.36	.32
27F263	6T4½/1	115-125	6	1500	8	T-4½	.75	.68	.61
27F264	7C7	115-125	7	3000	8	C-7	.21	.19	.17
27F265	10C7	115-125	10	....	8	C-7	.30	.27	.24
27F266	10C7DC	115-125	10	....	11	C-7	.40	.36	.32
27F267	10S6/10	230	10	1500	8	S-6	.55	.47	.40

CM7-SERIES BI-PIN LAMPS

Stock No.	Type	Design V.	Design Amps	Life Hours	Bulb	10-90	100-490	500-Up
25F820	CM7-7112	5.0	.021	10000	T-¾	3.50	2.84	2.43
25F821	CM7-7115	5.0	.060	3000	T-¾	2.67	2.17	1.85
25F822	CM7-7117	5.0	.080	15000	T-¾	2.67	2.17	1.85
25F823	CM7-7118	5.0	.115	40000	T-¾	2.67	2.17	1.85
25F827	CM7-7309	6.0	.06	3000	T-1¼	1.50	1.21	1.04
27F268	CM7-7327	28.0	.04	1000	T-1¾	.65	.52	.45
27F269	CM7-7328	6.0	.20	1000	T-1¾	.68	.55	.47
27F270	CM7-7330	14.0	.08	750	T-1¾	.65	.52	.45
25F854	CM7-7344	10.0	.014	10000	T-1¾	.97	.79	.67
25F853	CM7-7349	6.3	.20	3000	T-1¾	.65	.52	.45
25F855	CM7-7367	10.0	.04	5000	T-1¾	1.02	.83	.71
25F856	CM7-7371	12.0	.04	10000	T-1¾	1.11	.90	.77
25F858	CM7-7373	14.0	.10	10000	T-1¾	1.33	1.08	.92
25F859	CM7-7376	28.0	.065	5000	T-1¾	1.11	.90	.77
27F1030	CM7-7377	6.0	.20	500	T-1¾	.65	.52	.45
25F852	CM7-7380	6.3	.04	50000	T-1¾	.88	.72	.61
25F857	CM7-7382	14.0	.08	5000	T-1¾	.71	.58	.50
25F825	CM7-7515	5.0	.115	40000	T-1¼	1.50	1.21	1.04
25F824	CM7-7583	5.0	.06	100000	T-1¼	1.50	1.21	1.04
25F828	CM7-7628	6.0	.20	1000	T-1¼	1.50	1.21	1.04
25F850	CM7.7632	28.0	.04	1000	T-1¼	1.50	1.21	1.04
25F829	CM7-7646	14.0	.08	1000	T-1¼	1.50	1.21	1.04
25F826	CM7-7660	6.0	.04	1000	T-1¼	1.75	1.42	1.22
27F271	CM7-7838	2.7	.06	6000	T-1¾	.88	.72	.61
25F851	CM7-7945	6.0	.04	10000	T-1¾	.88	.72	.61

CM8-SERIES MINIATURE & SUB-MINIATURE LAMPS

Stock No.	Type	Design V	Design Amps	Life Hours	Base	Bulb	10-90	100-490	500-Up
27F273	CM8-60	6.0	5.5	9000	10	RP-11	.82	.66	.57
25F860	CM8-282	3.8	3.8	.....	*	SL-3¾	2.43	1.97	1.69
27F282	CM8-363	28.0	.04	.....		TF-1½	.70	.57	.48
27F283	CM8-373	2.5	.35	10000	2	TL-1¾	1.34	1.09	.93
27F286	CM8-374	2.5	.35	10000	*	TL-1¾	1.19	.97	.83
27F288	CM8-503	6.3	.35	1000	6	TL-3¾	2.81	2.28	1.95
27F099	CM8-967	120	.02	5000	6	T-2	.83	.68	.58

*Not Illustrated W=wire terminals.

Sylvania Miniature Lamp Products

Slide Base

Bayonet Base

PILOT LAMPS

Slide or bayonet base pilot lamps have increased size, 1.056" high x ¼" diameter, to permit use of supports for filament, thus allowing use in vibration and shock conditions. Bayonet base offers same shock resistant feature and is for use where it may not be advantageous to replace older apparatus. All bulbs offer long life, 5,000-hour. Min. life. Wt. 2 oz.

Slide Base		Min. Bayonet					
Stk. No.	Type	Stk. No.	Type	Volts	Watts	Amps	Ohms
35F2800	6PSB	35F2807	6BM	6	.8	.140	5
35F2801	12PSB	35F2808	12MB	12	2.0	.170	7
35F2802	24PSB	35F2809	24MB	24	1.7	.073	28
35F2803	28PSB	35F2810	28MB	28	1.1.	.040	82
35F2804	48PSB	35F2811	48MB	48	2.5	.053	95
35F2805	60PSB	35F2812	60MB	60	3.0	.050	118
35F2806	120PSB	35F2813	120MB	120	3.0	.025	625
.....	.....	35F2814	120MB/6	120	6.0	.052	275

PRICES	1-9	10-99	100-499	500-999	1000-Up
	.56	.48	.46	.41	.37

PANEL LIGHT SOCKETS AND LENSES

Model 30152-0 is made of phenolic for use with pilot lamps (PSB Series). Model 30153-0 is nylon, to be used with indicator lamps (ESB Series). Sockets are designed for use with slide base indicator lamps and are rated for 75 watts, 125 volts. Contacts are nickel plated, matching lamps base, to prevent freezing in socket. Quick mounting with a Tinnerman speed clip. Lenses are made of a high-temperature polycarbon material which eliminates lens warping and signal distortion due to heat. Unique internal design of lens allows for a wider viewing range. 2 oz. U.L. approved.

Stk. No.	Type	1-9	10-99	100-499	500-999	1000-Up
35F2815	30152-0	.33	.30	.28	.25	.23
35F2816	30153-0	.31	.28	.25	.23	.21

Round Lens		Square Lens		
Stk. No.	Type	Stk. No.	Type	Color
35F2817	30160-0	35F2823	30170-0	Red
35F2818	30161-0	35F2824	30171-0	Clear
35F2819	30162-0	35F2825	30172-0	Amber
35F2820	30163-0	35F2826	30173-0	White
35F2821	30164-0	35F2827	30174-0	Green
35F2822	30165-0	35F2828	30175-0	Blue

PRICES	1-9	10-99	100-499	500-999	1000-Up
	.21	.19	.17	.14	.12

UNIVERSAL PILOT LIGHT HOUSING

Two types: a rugged, general purpose housing made entirely of phenolic with a threaded metal bezel (30099-0); all-phenolic type (30094-0) where chrome bezel is not wanted. For use with slide base lamps only. (PSB Series).

Stk. No.	Type	1-9	10-99	100-499	500-999	1000-Up
35F2829	30099-0	.72	.62	.56	.54	.52

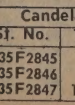
LENSES

Made of Lexan, a high temperature plastic that performs well up to 290°F Lexan provides wider visability than glass.

Jeweled		Transparent		Transluceni		
Stk. No.	Type	Stk. No.	Type	St. No.	Type	Color
35F2831	30100-0	35F2835	30110-0	35F2841	30130-0	Red
35F2832	30106-0	35F2836	30111-0	.....	.....	Amber
35F2833	30102-0	35F2837	30112-0	35F2842	30132-0	Green
35F2834	30103-0	35F2838	30113-0	.....	.....	Blue
.....	.....	35F2839	30114-0	35F2843	30131-0	Yellow
.....	.....	35F2840	30116-0	.....	.....	Clear
.....	.....	.....	.....	35F2844	30133-0	White

PRICES	1-9	10-99	100-499	500-999	1000-Up
	.22	.21	.19	.17	.15

ANNUNCIATOR LAMPS



Long life annunciator lamps designed for use in elevator panels, call boards, etc. Lamps are ⅞" wide and 1 3/16 inches long. Each lamp operates a minimum of 5,000 hours. Their unique light control is made possible by a self-contained reflector. Available with candelabra or bayonet base.

Candelabra		Bayonet							
St. No.	Type	St. No.	Type	Vts.	1-9	10-99	100-499	500-999	1000-Up
35F2845	12RC	35F2848	12RB	12	.73	.69	.65	.62	.52
35F2846	60RC	35F2849	60RB	60					
35F2847	120RC	35F2850	120RB	120					

slide base

unbased

INDICATOR LAMPS

Indicator lamps which offer 5,000 hours of use minimum, are ¼" in diameter. A slide type base has two metal contacts embedded in molder nylon insulator. All unbase lamps have ⅞ inch lead length. Life ratings range from 5000 to 15,000 hours. Shpg. wt. 2 oz.

SLIDE BASE

Stk. No.	Type	V	Watts	Amps	Ohms	1-9	10-99	100-499	500-999	1000-Up
35F2851	4ESB	4	.16	.040	12	.51	.44	.42	.36	.34
35F2852	5ESB	5	.20	.040	17					
35F2853	6ESB	6	.24	.040	19					
35F2854	10ASB	10	.10	.010	157	.77	.66	.58	.55	.51
35F2855	10CSB	10	.18	.017	115	.51	.44	.42	.36	.34
35F2856	10ESB	10	.40	.040	28					
35F2857	12ESB	12	.36	.040	33					
35F2858	16CSB	16	.28	.017	126					
35F2859	16ESB	16	.64	.040	43					
35F2860	18ESB	18	.72	.040	46					
33F2861	24CSB	24	.42	.017	157					
35F2862	24ESB	24	.96	.040	67					
35F2863	28ESB	28	1.12	.040	80					
35F2864	48ESB	48	1.92	.040	185	.56	.53	.46	.41	.39

UNBASED

Stk. No.	Type	V	Watts	Amps	Ohms	1-9	10-99	100-499	500-999	1000-Up
35F2865	4ES	4		.040	12	.40	.34	.31	.28	.25
35F2866	5ES	5	.20	.040	17					
35F2867	6ES	6	.24	.040	19					
35F2868	6.3ES	6.3	.....	.170	...	1.19	1.08	.70	.58	.33
35F2871	10AS	10	.10	.010	157	.56	.53	.46	.41	.39
35F2872	10CS	10	.18	.017	115	.40	.34	.31	.28	.25
35F2875	10ES	10	.40	.040	28					
35F2876	10E	10	.40	.040	28					
35F2877	12ES	12	.36	.040	33					
35F2878	16CS	16	.28	.017	126					
35F2879	16ES	16	.64	.040	43					
35F2880	18ES	18	.72	.040	46					
35F2881	24CS	24	.42	.017	157					
35F2882	24ES	24	.96	.040	67					
35F2886	28ES	28	1.12	.040	80					
35F2892	48ES	48	1.92	.040	185	.44	.39	.36	.31	.29

T—1 SUBMINIATURE LAMPS

Stk. No.	Type	V	Watts	Amps	1-9	10-99	100-499	500-999	1000-Up
35F2947	680	5	.30	.06	3.10	1.86	1.55	1.44	1.29
35F2948	682	5	.30	.06	3.88	2.32	1.93	1.71	1.63
35F2949	713	5	.375	.075	3.20	1.96	1.60	1.47	1.34
35F2950	714	5	.375	.075	4.37	3.05	2.16	1.81	1.72
35F2951	715	5	.575	.115	3.10	1.86	1.55	1.44	1.29
35F2952	718	5	.575	.115	3.88	2.32	1.93	1.71	1.63

T-1¾ SUBMINIATURE

Stk. No.	Type	V	Watts	Amps	1-9	10-99	100-499	500-999	1000-Up
35F2953	327	28	1.12	.04	.70	.41	.35	.32	.30
35F2954	387	28	1.12	.04	.73	.43	.39	.38	.35
35F2955	1762	28	1.12	.04	.33	.28	.24	.22	.20

SINGLE INDICATOR SOCKETS

Square type socket is made of nylon, the round socket of phenolic. Tinnerman clips for front-of-panel mounting.

Stk. No.	Type	Description	1-9	10-99	100-499	500-999	1000-Up
35F2897	30150	Round socket	.29	.26	.24	.21	.20
35F2898	30151	Rectangle	.29	.26	.24	.21	.20

STRIP SOCKETS

Twelve sockets strips that may be used in line or separately.

Stk. No.	Type	Distance Between Centers	1-9	10-19	20-49	50-99	100-Up
35F2895	31250	½"	2.98	2.79	2.54	2.39	2.24
35F2896	31275	¾"	2.98	2.79	2.54	2.39	2.24

END COLOR CAPS

Pyrex caps for lamps exceeding 1.5 watts; profax caps for lesser wattages.

Profax		Pyrex							
Stk. No.	Type	Stk. No.	Type	Color	1-9	10-99	100-499	500-999	1000-Up
35F2899	38001	35F2904	38071	Red	.08	.075	.07	.065	.06
35F2900	38002	35F2905	38072	Yellow					
35F2901	38003	35F2906	38073	White					
35F2902	38004	35F2907	38074	Green					
35F2903	38005	35F2908	38075	Blue					

LAMP T-LITE

For printed circuit boards, indicator panels, call boards, etc. Offers a minimum of 5,000 hours of operation at 5-6 volts, 60 MA. Lighted area is 5/16-inch in diameter. Simple plug in installation.

Stk. No.	Color	1-9	10-99	100-499	500-999	1000-Up
35F2909	Red	1.35	1.16	1.05	.92	.85
35F2910	Yellow					
35F2911	White					

SYLVANIA

CARTRIDGE LAMPS

The cartridge lamps provide a far sharper signal in all lens colors than outmoded neon lights and save cost by eliminating expensive transformers. Constructed of black anodized metal sleeves. All cartridge lamps have clear ends. For use with housing at right.

Stock No.	Type	Volts	Watts	Amps	1-9	10-24	25-99	100-249	250-499	500-Up
35F2912	21	6	.8	.140						
35F2913	31	12	2.0	.170						
35F2914	41	24	1.7	.073						
35F2915	51	28	1.1	.040	1.07	.96	.88	.79	.69	.62
35F2916	61	48	2.5	.053						
35F2917	71	60	3.0	.050						
35F2918	81	120	3.0	.025						

INDICATOR CARTRIDGE LAMPS

Stock No.	Type	Volts	Watts	Min. Amps	1-9	10-24	25-99	100-249	250-499	500-Up
35F2919	901	4	.16	.035						
35F2920	905	5	.20	.035	1.07	.96	.88	.79	.69	.62
35F2921	909	6	.24	.035						
35F2922	913	10	.10	.009	1.20	1.09	1.01	.92	.83	.75
35F2923	914	10	.18	.015						
35F2924	915	10	.40	.035						
35F2925	918	12	.36	.035						
35F2926	925	16	.28	.015	1.07	.96	.88	.79	.69	.62
35F2927	926	16	.64	.035						
35F2928	930	18	.72	.035						
35F2929	933	24	.42	.015						

INDICATOR CARTRIDGE LAMPS (Con'td.)

Stock No.	Type	Volts	Watts	Min. Amps.	1-9	10-24	25-99	100-249	250-499	500-Up
35F2930	934	24	.96	.035	1.07	.96	.88	.79	.69	.62
35F2931	938	28	1.12	.035	1.07	.96	.88	.79	.69	.62
35F2932	941	48	1.92	.035	1.10	.99	.88	.79	.69	.62

CARTRIDGE LIGHT HOUSING

Cartridge light housing and facing nut are of black anodized aluminum as per MIL-A-8625. Base insulation is molded phenolic. With turret lugs. Mounts in .375" hole. For cartridge lamps at left-SM-1 and SM-1A for indicator lamps; SM-2 and SM-2A for pilot lamps. "A" designated solder lugs; other turret lugs.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-Up
35F2933	SM-1						
35F2934	SM-1A	1.00	.90	.84	.75	.67	.61
35F2935	SM-2						
35F2936	SM-2A						

CARTRIDGE LENSES

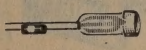
Constructed of polycarbons with high working temperatures that eliminates signal distortion and lens melting. Black anodized aluminum bezels. For housings listed above. Dia., 505".

Transparent Stk. No.	Transparent Type	Translucent Stk. No.	Translucent Type	Color	1-9	10-24	25-99	100-249	250-499	500-Up
35F2937	30140	. . . . .	. . . .	Amber						
35F2938	30141	. . . . .	. . . .	Clear						
35F2939	30142	35F2942	30147	Red	.29	.28	.26	.25	.24	.23
35F2940	30143	35F2943	30148	Blue						
35F2941	30144	35F2944	30149	Green						
. . . . .	. . . .	35F2945	30145	Yellow						
. . . . .	. . . .	35F2946	30146	White						

LEECRAFT

• NEW 44 SERIES

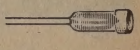
125 volt neon lamp comes with choice of four plastic lens colors. Has built in resistor welded into wire leads. 2 inches.



125 VOLT NEON

Stock No.	Type	Lens Color	1-24	25-99	100-249	250-499	500-999
60F3750	44N-0111	Red					
60F3751	44N-0113	Amber	.74	.62	.42	.38	.32
60F3752	44N-0115	White					
60F3753	44N-0117	Clear					

125 volt neon lamp without resistor in choice of four plastic lens colors. For use with 22 K external resistor. Bare wire leads. 2 inches.

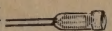


125 VOLT EXTERNAL NEON

Stock No.	Type	Lens Color	1-24	25-99	100-249	250-499	500-999
60F3754	44XN-0111	Red					
60F3755	44XN-0113	Amber	.63	.53	.404	.36	.294
60F3756	44XN-0115	White					
60F3757	44XN-0117	Clear					

44NG1 INCANDESCENT

Incandescent lamp only. Choice of five plastic lens colors. 6.3 volt .20 amps. Bare wire leads. 2 inches.

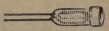


Stock No.	Type	Lens Color
60F3758	44NG1-0111	Red
60F3759	44NG1-0112	Green
60F3760	44NG1-0113	Amber
60F3761	44NG1-0114	Blue
60F3762	44NG1-0115	White

1-24	25-99	100-249	250-499	500-999
1.00	.84	.52	.504	.488

44NG3 INCANDESCENT

Incandescent lamp only. Choice of five plastic lens colors. 14 volt .08 amps. Bare wire leads. 2 inches.

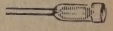


Stock No.	Type	Lens Color
60F3763	44NG3-0111	Red
60F3764	44NG3-0112	Green
60F3765	44NG3-0113	Amber
60F3766	44NG3-0114	Blue
60F3768	44NG3-0115	White

1-24	25-99	100-249	250-499	500-999
1.02	.86	.546	.525	.504

44NG5 INCANDESCENT

Incandescent lamp only. Choice of five plastic lens colors. 28 volt .04 amps. Bare wire leads. 2 inches.

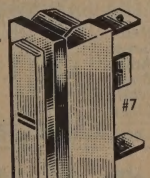


Stock No.	Type	Lens Color
60F3770	44NG5-0111	Red
60F3771	44NG5-0112	Green
60F3772	44NG5-0113	Amber
60F3773	44NG5-0114	Blue
60F3774	44NG5-0115	White

1-24	25-99	100-249	250-499	500-999
1.00	.84	.52	.504	.488

DUAL MESSAGE INDICATOR LIGHTS

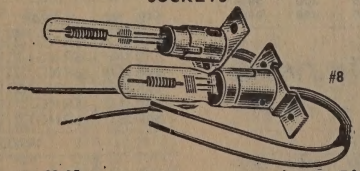
Units incorporating two lamps within a standard housing for activating two legends—seperately or simultaneously. Has three terminals with the center terminal being common to both of the lamps. Units have an internal barrior for light seperation. Has choice of four lens colors and operates on 125 volts. Ideally suited for a variety of appliances and related equipment, these Dual Indicators can be readily adapted to your specific application.



Stock No.	Type	Lens Color
60F3780	31DQ2111T	Red
60F3781	31DQ2113T	Amber
60F3782	31DQ2115T	White
60F3783	31DQ2117T	Clear

1-24	25-99	100-249	250-499	500-999
1.94	1.39	1.04	.943	.808

2200 SERIES SOCKETS



22-25 22-27A

Double-contact base sockets offer operation convenience with single-ended Quartzline Lamps. Permit the lamp to be positioned more accurately, hold lamp more securely, minimize possibility of lamp shaking loose from vibration. Designed for swift installation, reduce extra bulb handling necessary with screw-in type sockets. Designed especially for General Electric Lamps and may also be used for Quartz Iodine Lamps made by other companies.

60F3784 Type 22-25. Socket has straight bracket Net 1.45

60F3785 Type 22-27A. Socket has step bracket Net 1.45

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LAMPS AND ACCESSORIES

Series 200. Miniature bayonet sockets with insulating sleeves. Brackets made of .025/.032" steel cadmium plated. Wire leads, 22 gauge, 6" long.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499	500-999
25F1300	2-01	A					
25F1301	2-04	B					
25F1302	2-06	D	.62	.37	.30	.18	.14
25F1303	2-13	G					
25F1304	2-15	J					

Series 300. Miniature bayonet sockets of molded bakelite. 300 type housing provides insulation where low voltage lamps are to be used. UL listed and CSA approved. Wire leads, 22 gauge, 6" long.

25F1305	3-01	A					
25F1306	3-02	B					
25F1307	3-05	C					
25F1308	3-06	D	.66	.45	.36	.26	.22
25F1309	3-13	G					
25F1310	3-15	J					
25F1311	3-20	H					

Series 400. Candelabra screw base in molded bakelite. #18 gauge wire leads in black and white, 6" long, ends stripped ½". UL listed, CSA App.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499	500-999
25F1312	4-01	A					
25F1313	4-04	B					
25F1314	4-05	C	.66	.45	.36	.24	.23
25F1315	4-06	D					
25F1316	4-08	E					
25F1317	4-15	J					

Series 500. Miniature screw sockets with soldering terminals. Terminals are tinned and brackets are cadmium plated.

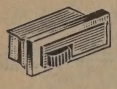
25F452	5-01	A					
25F453	5-04	B					
25F450	5-05	C					
25F454	5-06	D	.50	.32	.24	.11	.10
25F451	5-07	F					
25F447	5-08	E					
25F1318	5-13	G					
25F1319	5-15	J					

Series 600. Candelabra screw sockets with solder terms. Brackets are .025/.032".

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499	500-999
25F463	6-01	A					
25F461	6-05	C					
25F446	6-06	D	.54	.32	.24	.12	.10
25F462	6-07	F					
25F448	6-08	E					
25F1321	6-13	G					

Series 700. Miniature bayonet sockets with soldering terminals, for low voltage incdse. lamps. *For printed circuits.

25F457	7-01	A					
25F458	7-04	B					
25F455	7-05	C					
25F459	7-06	D					
25F456	7-07	F					
25F449	7-08	E	.55	.32	.24	.11	.10
25F1323	7-11	H					
25F1324	7-13	G					
25F1325	7-15	J					
25F460	7-20	—					
25F1326	7-35	*	.71	.52	.40	.305	.207



SERIES 51 LIGHT-SWITCH COMBINATION

Switch rating 6 amp @ 125V 3 amps @ 250V. UL listed and CSA approved. 110-125 volts.

Lens	Stk. No.	Type	1-24	25-99	100-249	250-499	500-999
Red	60F1400	51-2151T					
Amber	60F1401	51-2153T	1.61	1.13	.97	.81	.73
White	60F1402	51-2155T					

SERIES 47 INDICATOR LIGHT

Fits into 3/16x5/8 panel opening. Built in lamps, resistor and solder terms. 110-125 volts.

Lens	Stk. No.	Type	1-24	25-99	100-249	250-499	500-999
Red	60F1416	47-3					
Amber	60F1417	47-9	1.27	.97	.60	.58	.46
White	60F1418	47-2					

SERIES 45 & 46

Series 45. Brass terminals. ⅛" wide, .020" thick. For quick connect or as solder terminals. Mount. hole: 5/16" W/chrome ring, speed nut included.

110-125 VOLT NEON

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3600	45RN2111	Red					
60F3601	45RN2113	Amber	1.28	1.01	.683	.586	.51
60F3602	45RN2115	White					
60F3603	45RN2117	Clear					

6 VOLT .20 AMP INCANDESCENT

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3604	45RNG1-2111	Red					
60F3605	45RNG1-2112	Green					
60F3606	45RNG1-2113	Amber	1.63	1.14	.764	.716	.673
60F3607	45RNG1-2114	Blue					
60F3608	45RNG1-2115	White					
60F3609	45RNG1-2117	Clear					

14 VOLT .08 AMP INCANDESCENT

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3610	45RNG3-2111	Red					
60F3611	45RNG3-2112	Green					
60F3612	45RNG3-2113	Amber	1.55	1.19	.827	.759	.70
60F3613	45RNG1-2114	Blue					
60F3614	45RNG1-2115	White					
60F3615	45RNG3-2117	Clear					

28 VOLT .04 AMP INCANDESCENT

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3616	45RNG5-2111	Red					
60F3617	45RNG5-2112	Green					
60F3618	45RNG5-2113	Amber	1.50	1.13	.767	.725	.69
60F3619	45RNG5-2114	Blue					
60F3620	45RNG5-2115	White					
60F3621	45RNG5-2117	Clear					

Series 46. Has .040" diameter steel pins with 5/32" center to center spacing. Mounting hole: 5/16" w/chrome ring, speed nut included.

110-125 VOLT NEON

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3622	46RN-2111	Red					
60F3623	46RN-2113	Amber	1.28	1.01	.683	.586	.51
60F3624	46RN-2115	White					
60F3625	46RN-2117	Clear					

6 VOLT .20 AMP INCANDESCENT

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3626	46RNG1-2111	Red					
60F3627	46RNG1-2112	Green					
60F3628	46RNG1-2113	Amber	1.63	1.14	.764	.716	.673
60F3629	46RNG1-2114	Blue					
60F3630	46RNG1-2115	White					
60F3631	46RNG1-2117	Clear					

14 VOLT .08 AMP INCANDESCENT

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3632	46RNG3-2111	Red					
60F3633	46RNG3-2112	Green					
60F3634	46RNG3-2113	Amber	1.55	1.19	.827	.759	.70
60F3635	46RNG3-2114	Blue					
60F3636	46RNG3-2115	White					
60F3637	46RNG3-2117	Clear					

28 VOLT .04 AMP INCANDESCENT

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499	500-999
60F3638	46RNG5-2111	Red					
60F3639	46RNG5-2112	Green					
60F3640	46RNG5-2113	Amber	1.50	1.13	.767	.725	.69
60F3641	46RNG5-2114	Blue					
60F3642	46RNG5-2115	White					
60F3643	46RNG5-2117	Clear					

Indicator Lights & Sockets

LEECRAFT

SNAPLITE NEON PILOT LIGHTS

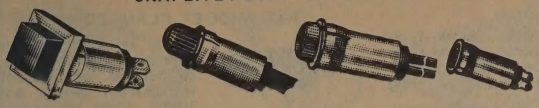


Fig. A Fig. B Fig. C Fig D.

Long-life irreplaceable lamp. One piece nylon housing snaps into standard ½" hole. Body size: 1 1/16" behind panel x .495" dia. Retainer: 1/16" thick x 5/8" O.D. Lens: 27/46" O.D. have #18 gauge. 6" wire leads, except "T" suffix indicates.187" tab terminals. All rated 110-125V except * 210-250V. UL and CSA approved.

SQUARE LENS—FIG. A

Color	Stk. No.	Type	1-24	25-99	100-249	250-499	500-999
Red	60F1290	32R2911					
Amber	60F1291	32R2913					
White	60F1292	32R2915					
Red	60F1293	32R2911T	1.10	.90	.55	.50	.42
Amber	60F1294	32R2913T					
White	60F1295	32R2915T					

STOVEPIPE—FIG. B

Red	60F1274	32-2211					
Amber	60F1275	32-2213					
Clear	60F1276	32-2217					
White	60F1277	32-2215					
Red	60F1278	32-2211T	1.03	.84	.51	.46	.46
Amber	60F1279	32-2213T					
Clear	60F1280	32-2217T					
White	60F1281	32-2215T					
Red*	60F1426	35-2211					
Red*	60F1427	35-2211T					

FLAT CYLINDRICAL LENS—FIG. C

Red	25F1375	32-2111					
Amber	25F1376	32-2113					
Clear	25F1377	32-2117					
White	25F1378	32-2115					
Red	25F1379	32-2111T	1.03	.84	.51	.46	.42
Amber	25F1380	32-2113T					
Clear	25F1381	32-2117T					
White	25F1382	32-2115T					
Red*	60F1428	35-2111					
Red*	60F1429	35-2111T					

FLUSH LENS—FIG. D

Red	60F1282	32-2311					
Amber	60F1283	32-2313					
Clear	60F1284	32-2317					
White	60F1285	32-2315					
Red	60F1286	32-2311T	1.03	.84	.51	.46	.42
Amber	60F1287	32-2313T					
Clear	60F1288	32-2317T					
White	60F1289	32-2315T					
Red*	60F1424	35-2311					
Red*	60F1425	35-2311T					

INCANDESCENT SNAPLIGHTS 6V/.2A & 14V/.08A

All have chrome bezel to fit .500-513" hole. 18 AWG, 6" wire leads, except "T" suffix indicates .187 tab terminals.

SQUARE LENS CAP—FIG. A

Lens Color	6-Volt Types		14 Volt Types	
	Stk. No.	Type	Stk. No.	Type
Red	25F1362	32R-G1-2911	25F1367	32R-G3-2911
Green	25F1363	32R-G1-2912	25F1368	32R-G3-2912
Amber	25F1364	32R-G1-2913	25F1369	32R-G3-2913
Blue	25F1365	32R-G1-2914	25F1370	32R-G3-2914
White	25F1366	32R-G1-2915	25F1371	32R-G3-2915

FLAT CYLINDRICAL LENS CAP—FIG. C

Red	60F1470	32R-G1-2111	60F1480	32R-G3-2111
Green	60F1471	32R-G1-2112	60F1481	32R-G3-2112
Amber	60F1472	32R-G1-2113	60F1482	32R-G3-2113
Blue	.....	.....	60F1483	32R-G3-2114
White	60F1474	32R-G1-2115	60F1484	32R-G3-2115
Red	60F1475	32R-G1-2111T	60F1485	32R-G3-2111T
Green	60F1476	32R-G1-2112T	60F1486	32R-G3-2112T
Amber	.....	.....	60F1487	32R-G3-2113T
Blue	.....	.....	60F1488	32R-G3-2114T
White	.....	.....	60F1489	32R-G3-2115T

	Type	1-24	25-99	100-249	250-499	500-999
Prices	32R-G1	1.46	1.15	.70	.67	.65
	32R-G3	1.40	1.19	.72	.70	.65

FLUSH LENS CAP—FIG D.

Lens Color	Stk. No.	Type	1-24	25-99	100-249	250-499	500-999
Red	60F1430	32R-G1-2311					
Green	60F1431	32R-G1-2312					
Amber	60F1432	32R-G1-2313					
Blue	60F1433	32R-G1-2314	1.46	1.15	.70	.67	.65
White	60F1434	32R-G1-2315					
Red	60F1435	32R-G1-2311T					
Green	60F1436	32R-G1-2312T					
Amber	60F1437	32R-G1.2313T					
Blue	60F1438	32R-G1-2314T					
White	60F1439	32R-G1-2315T					

PRESS FIT MINIATURE NEON TINEON INDICATORS WITH ALUMINUM BEZELS

Fig. E Fig. F

Long-life, high-brightness neon lamps. Press fits into 5/16" diameter hole. Bezel is aluminum anodized. Housing, white nylon. Has transparent plastic lens available in various colors. Wire leads are #18 gauge insulated plastic. Standard length: 6", ½" stripped. Speed nut furnished for maximum security.

Tineon 36EN Series. With built-in resistor for 110-125V.

Lens Color	Flush Lens—Fig. E		High-hat Lens—Fig. F	
	Stk. No.	Type	Stk. No.	Type
Red	60F1254	36EN2311	60F1250	36EN2111
Amber	60F1255	36EN2313	60F1251	36EN2113
Clear	60F1256	36EN2317	60F1252	36EN2117
White	60F1257	36EN2315	60F1253	36EN2115

Tineon 41EN. Less resistor, external resistor req.

Red	60F1262	41EN2311	60F1258	41EN2111
Amber	60F1263	41EN2313	60F1259	41EN2113
Clear	60F1264	41EN2317	60F1260	41EN2117
White	60F1265	41EN2315	60F1261	41EN2115

	Type	1-24	25-99	100-249	250-499	500-999
Prices	36EN	1.15	.95	.62	.55	.46
	41EN	1.10	.89	.58	.52	.41

WITH BEZEL—INCANDESCENT LAMPS

Similar to 41 EN units above, but with incandescent lamps: 14V-.08A. Plastic flush lens.

14-VOLT TYPES

Lens Color	Stk. No.	Type	1-24	25-99	100-249	250-499	500-999
Red	25F1405	41EN-G3-2311					
Green	25F1406	41EN-G3-2312					
Amber	25F1407	41EN-G3-2313	1.46	1.15	.74	.71	.69
Blue	25F1408	41EN-G3-2314					
White	25F1409	41EN-G3-2315					

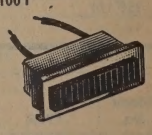
WITHOUT LENS—FLUSH LENS CAP

3600 Series. With built-in resistor for 110-125V.
4100 Series. Less resistor; ext. resistance required. Both types are similar to Fig. E.

Lens Color	With Resistor		Less Resistor	
	Stk. No.	Type	Stk. No.	Type
Red	60F1266	36N2311	60F1270	41N2311
Amber	60F1267	36N2313	60F1271	41N2313
Clear	60F1268	36N2317	60F1272	41N2317
White	60F1269	36N2315	60F1273	41N2315

	Type	1-24	25-99	100-249	250-499	500-999
Prices	36N	.98	.78	.51	.46	.42
	41N	.94	.75	.51	.43	.36

RECTANGULAR 3100 AND 3100T



Rectangular pilot light for maximum message display in compact areas. Have white housings and chrome plated bezels. No replacement of lamp needed. Includes proper dropping resistor for neon lamp. Lens is made of plastic. Mounting hole size, 1.281 x .395". Housing depth 21/32". Lens size, 1 15/32". Wt., 0.5 oz. 110-125 volts.

3100 SERIES—6" WIRE LEAD

Lens	Stk. No.	Type	1-24	25-99	100-249	250-499	500-999
Red	25F1391	31-2111					
Amber	25F1392	31-2113	1.10	.89	.55	.49	.45
Clear	25F1393	31-2117					
White	25F1394	31-2115					

3100T SERIES—BRASS TAB TERMINALS

Red	25F1395	31-2111T					
Amber	25F1396	31-2113T	1.10	.89	.55	.49	.45
Clear	25F1397	31-2117T					
White	25F1398	31-2115T					

WITH INCANDESCENT LAMPS

6V—.2A and 14V—.08A With .250 tab terminals.

Lens Color	6-Volt Types		14-Volt Types	
	Stk. No.	Type	Stk. No.	Type
Red	25F1410	31-G1-2111T	25F1415	31-G3-2111T
Green	25F1411	31-G1-2112T	25F1416	31-G3-2112T
Amber	25F1412	31-G1-2113T	25F1417	31-G3-2113T
Blue	25F1413	31-G1-2114T	25F1418	31-G3-2114T
White	25F1414	31-G1-2115T	25F1419	31-G3-2115T

	Type	1-24	25-99	100-249	250-499	500-999
Prices	31-G1	1.40	1.15	.70	.68	.65
	31-G3	1.40	1.19	.73	.71	.67

Lamps, Bulbs & Sockets

GENERAL ELECTRIC PILOT LAMPS

GE NEON GLOW LAMPS

For 105-125 volts except (*) 210-250 volts. Screw types have series resistor in base, others require external resistor as listed. S.C. stands for single contact: D.C. for double contact. Prices include Fed. Excise Taxes. Av. shpg. wt., 3 oz.

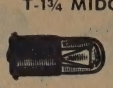
Stk. No.	Type	Watts	Ohms	Base	Starting V. AC	Starting V. DC	Bulb Style	Each 10	Each 1000
25F029	NE-2D(C7A)	1/12	100,000	S. C. Flange	65	90	T-2	.80	.65
25F026	NE-2H(C2A)	1/4	30,000	Wire Term.	95	135	T-2	.13	.08
25F050	NE-2J(C9A)	1/4	30,000	S. C. Flange	95	135	T-2	.80	.65
25F037	NE-16(7AA)			D. C. Bay.	..	67	T-4½	.93	.78
25F038	NE-17(B5A)	1/4	30,000	D. G. Bay.	65	90	T-4½	.87	.70
25F035	NE-21(B6A)	1/4	30,000	S. C. Bay	65	90	T-4½	.88	.72
25F041	NE-30(J5A)	1	7,500	Med. Screw	65	90	S-11	1.50	1.21
25F043	NE-32(L5A)	1	7,500	D. C. Bay.	75	100	G-10	1.27	1.03
25F044	NE-34(R2A)	2	3,500	Med. Screw	95	130	S-14	1.97	1.60
25F046	NE-40(R6A)	3	2,200	Med. Screw	60	85	S-14	2.91	2.35
25F047	NE-42(R9A)	6	2,200	Sk. D. C. Bay	60	85	S-14	2.82	2.28
25F034	NE-45(B7A)	1/4	30,000	Cand. Screw	65	90	T-4½	.83	.68
25F033	NE-48(B9A)	1/25	30,000	D. C. Bay.	65	90	T-4½	.68	.55
25F031	NE-51(B1A)	1/4	220.000	S. C. Bay. Min.	65	90	T-3¼	.25	.20
25F028	NE-51H(B2A)	1/7	47,000	S. C. Bay. Min.	95	135	T-3¼	.27	.22
25F040	NE-56(J9A)	1	33,000	Med. Screw	75	100	S-11	1.52	1.24
25F032	NE-57(F3A)	1/4	30,000	Cand. Screw	65	90	T-4½	.95	.77
25F036	NE-58*(F4A)	1/2	100,000	Cand. Screw	75	100	T-4½	.88	.72
25F052	NE-79(R1A)	1	7,500	D.C.Bay.	65	90	S-7	1.41	1.14

CIRCUIT COMPONENT NEON LAMPS

For use as voltage indicators, regulators, switching etc. T-2 style bulbs. Parallel post electrodes. Temp. range: —0° - +165°F. Wire terminal base.

Stk. No.	Type	Starting DCV	Oper. DCV	DC Ma	Each 1-9	Each 10-Up
25F064	NE23(5AB)	60-90	59	0.3	.17	.14
25F065	NE83(5AH)	60-100	61	10.0	.25	.20

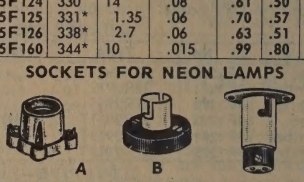
T-1¾ MIDGET FLANGED BULBS



Single contact, tiny incandescent bulbs. *Recommended for use with transparent lenses only 17/8" L. Shpg. wt., 4 oz.

Stock No.	Lamp No.	Volt	Amp	10	100	500
25F122	327	28	.04	.46	.37	.32
25F123	328	6	.20	.36	.24	.25
25F124	330	14	.08	.61	.50	.42
25F125	331*	1.35	.06	.70	.57	.49
25F126	338*	2.7	.06	.63	.51	.44
25F160	344*	10	.015	.99	.80	.69

SOCKETS FOR NEON LAMPS



A B C

Pilot lamp sockets for neon type lamps. Edison medium bases accomodate standard type bulbs (Figure A). S.C. bayonet candelabra indicates for use with single contact type bulb (Figure B). D.C. bayonet candelabra indicates for use with double contact type bulb. (Figure B) *Denotes hard rubber insert in outer metal shell (Figure C). Shpg. wt., 3 oz.

No.	Base	Fig.	EACH	10 for
25F300	Edison Med.	A	.31	2.72
25F303	Cand. Screw	A	.23	2.08
25F304	D.C. Bay. Cand.	C*	.70	5.60
25F305	D.C. Bay. Cand.	B	.75	6.00
25F306	S. C. Bay. Cand.	B	.71	5.70

SYLVANIA

125 VOLT PILOT LIGHT

Type S6. 125V clear color glass envelope. Candelabra base. Rated at 1500 hours. 1-7/8" long. Shpg. wt., 4 oz. *Indicates for 230 volt operation.

Stk. No.	Type	Watts	Each	10-90	100-Up
25F170	6S6	6	.21	.23	.21
25F173	3S6	3	.37	.36	.34
25F176	10S6	10*	.55	.45	.43

Type 7C7. Rated 1500 hrs. Candelabra base. Like illus. except conical 2⅛" long. Wt., 4 oz.

Stk. No.	Color	Each	10-90	100-Up
25F171	Clear	.21	.17	.16
25F172	White	.25	.20	.19

Type 6S6/DC. 125 V. double contact bayonet base bulb.

Stk. No.	Color	Each	10-90	100-Up
25F175	Clear	.31	.34	.32

HERZOG

120 VOLT 4-WATT PILOT LAMP

Stock No.	Color	10-90	100-Up
25F174	Clear	.60	.55

Type T-4½. Pilot lamp with clear bulb. Candelabra screw base. Rated at 4 watts at 120 volts. Dimensions: 9/16" dia. by 1⅜" max. overall. Wt., 4 oz.

ERICSSON COMPONENTS

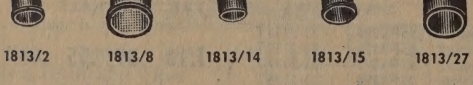
Stock No.	Type	25c/s Oper. VAC	25c/s Imp.	50c/s Oper. VAC	50c/s Imp.	D.C. Resist.	Wt.	NET
92F700	KLG-5103.2	22-90	5600	27-90	7000	3100	0.1	16.75

BUZZER FOR AC OPERATION

Suitable for an extra signalling device. The buzzer is mounted on a base plate of zinc-plated sheet metal and has an ivory thermoplastic cover. Size: Height-100mm, Width-77 mm, Depth-41mm.

APM

SILIKROME COLORED FILTERS



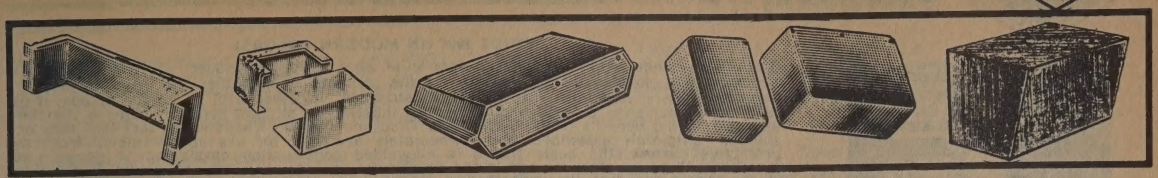
1813/2 1813/8 1813/14 1813/15 1813/27

Change colors of clear incandescent miniature lamps. Operate at 500° for 1000 hours without appreciable change in color. Temperature range: —160°F to 500°F. Resistant to environmental conditions. Mil. Spec. models available on special order.

Stk. No.	Type	Color	Lamp Size	Overall Ht.	O.D.	1-99	100-499
30F805	1813/15-R5	Red	T-2	13/64"	9/32"	.22	.143
30F807	1813/15-B1	Blue	T-2	13/64"	9/32"		
30F806	1813/15-G1	Green	T-2	13/64"	9/32"		
30F808	1813/15-A2	Amber	T-2	13/64"	9/32"		
30F809	1813/20-R5	Red	T-2	27/64"	9/32"	.23	.153
30F811	1813/20-B1	Blue	T-2	27/64"	9/32"		
30F810	1813/20-G1	Green	T-2	27/64"	9/32"		
30F812	1813/20-A2	Amber	T-2	27/64"	9/32"		

Stk.No.	Type	Color	Lamp Size	Overall Ht.	OD	1-99	100-499
30F801	1813/14-R-5	Red	T-2	13/64"	9/32"	.22	.143
30F803	1813/14-B-1	Blue	T-2	13/64"	9/32"		
30F802	1813/14-G-1	Green	T-2	13/64"	9/32"		
30F804	1813/14-A-2	Amber	T-2	13/64"	9/32"		
30F781	1813/2-R-2	Red	T-1¾	5/16"	1/4"	.20	.127
30F793	1813/2-B-1	Blue	T-1¾	5/16"	1/4"		
30F782	1813/2-G-1	Green	T-1¾	5/16"	1/4"		
30F794	1813/2-A-2	Amber	T-1¾	5/16"	1/4"		
30F795	1813/8-R-2	Red	T-3¼	11/16"	7/16"	.23	.153
30F786	1813/8-B-1	Blue	T-3¼	11/16"	7/16"		
30F788	1813/8-G-1	Green	T-3¼	11/16"	7/16"		
30F796	1813/8-A-2	Amber	T-3¼	11/16"	7/16"		
30F797	1813/27-R-5	Red	T-3¼	11/16"	7/16"		
30F799	1813/27-B-1	Blue	T-3¼	11/16"	7/16"		
30F798	1813/27-G-1	Green	T-3¼	11/16"	7/16"		
30F800	1813/27-A-2	Amber	T-3¼	11/16"	7/16"		

BUD INDEX



- Add-A-Rack System
- Engineered To Make Installation & Servicing Of Contents Easy
- Sheet Metal Enclosures
- Enclosures Completely Assembled & Ready To Use

Newark stocks a complete line of Bud products available for immediate delivery. Consult us about your special enclosure problems. We are an extension of the Bud factory's engineering department and can recommend the proper design and size for your equipment. Our advice will save you time and money. Our long years of experience assures you that we can readily understand your problems and solve them economically.

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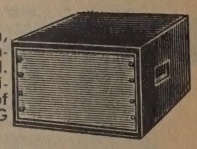
CLASSIC II
(In Modern Color)



The serene beauty of this cabinet reflects the present mode of electronic enclosures. The rectilinear outlines combine with the innovative construction features to meet the demands of the most critical engineers. Two steel flanges, extending the length of each side, support the handle so that extra safety in carrying is achieved. The anodized aluminum handles are fully recessed into a die cast alloy receptacle. Clear inside depth-panel to panel is 20 9/16", overall depth 21 7/16". Frame is made of 6063-T5 aluminextrusions, all panels on top, bottom, sides .050 aluminum. Will accomodate standard 19" panels, four rubber feet included. B-50, B-52, B-54 blowers will fit these cabinets. Finish is textured enamel. Choice of charcoal grey or gold. For grey select CG number; for gold select sand number.

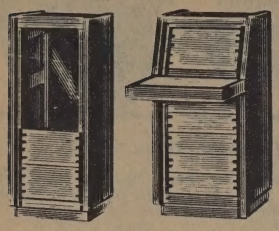
CABINETS

Gold Stk. No.	CG Stk. No.	RB Stk. No.	Type AGC	Height Inches	Depth	Wt. Lbs.	1-4	5-9	10-14
80W688	80W689	91F1684	9267	7 1/16	5 5/16	19	82.80	74.52	66.24
80W690	80W691	91F1685	9268	8 3/16	7 1/16	20	87.30	78.57	69.84
80W692	80W693	91F1686	9269	10 1/16	8 3/16	22	89.40	80.46	71.52
80W694	80W695	91F1687	9270	12 5/16	10 1/16	23	92.40	83.16	73.92
80W696	80W697	91F1688	9271	14 1/16	12 5/16	25	96.15	86.54	76.92
80W698	80W699	91F1689	9272	15 13/16	14 1/16	26	99.10	89.18	79.28
80W700	80W701	91F1690	9273	17 9/16	15 13/16	28	102.85	92.77	88.68
80W702	80W703	91F1691	9274	19 5/16	17 9/16	29	105.85	95.27	84.68
80W704	80W705	91F1692	9275	21 1/16	19 5/16	31	108.15	97.34	86.52
80W706	80W707	91F1693	9276	22 1/16	21 1/16	32	111.75	100.58	89.40
80W680	80W681	91F1694	9277	24 5/16	22 13/16	34	114.75	102.28	91.80
80W682	80W683	91F1695	9278	25 5/16	24 5/16	35	117.90	106.11	94.12
80W684	80W685	91F1696	9279	28 1/16	25 5/16	37	120.90	108.81	96.72
80W686	80W687	91F1697	9280	29 13/16	28 1/16	38	123.45	111.11	98.76

DOORS

Sand Stk. No.	White Stk. No.	Type AGD	Height	Lbs.	1-4	5-9	10-14
91F1451	91F1466	367	5 1/4"	3/4	8.90	8.01	7.12
91F1452	91F1467	368	7"	2	10.40	9.36	8.32
91F1453	91F1468	369	8 3/4"	2 3/4	11.40	10.26	9.12
91F1454	91F1469	370	10 1/2"	3	12.50	11.25	10.00
91F1455	91F1470	371	12 1/4"	3 1/4	13.40	12.06	10.72
91F1456	91F1471	372	14"	3 1/2	13.80	12.42	11.04
91F1457	91F1472	373	15 3/4"	4	15.50	13.95	12.40
91F1458	91F1473	374	17 1/2"	4 1/2	16.80	15.12	13.44
91F1459	91F1474	375	19 1/4"	5 1/4	18.00	16.20	14.40
91F1460	91F1475	376	21"	6 1/4	19.10	17.19	15.28
91F1461	91F1476	377	22 3/4"	6 1/4	20.00	18.00	16.00
91F1562	91F1477	378	24 1/2"	7	21.00	18.90	16.80
91F1463	91F1478	379	26 1/4"	7 1/2	22.20	19.98	17.76
91F1464	91F1479	380	28"	8	23.70	21.33	18.96

BUD Cabinet Racks



SERIES 2000 (IN MODERN COLORS)

The creative industrial deisgner's conception of what image the modern electronic enclosure should convey to enhance the prestige of the contents. It combines the dramatic appearance of sheer, square lines with rugged construction. Together with its unique facade, it offers many exclusive features and economies inherent in all Bud products. One of the time and cost saving benefits of the Series Two Thousand Cabinet Racks is the fact that they are shipped completely assembled and immediately available for use upon removal from the protective carton. The basic frame is all-welded construction employing 14 gauge steel members. 18 gauge steel is used in the door, sides and top. "U" braces welded to the sides of the frame augment its strength and rigidity and act as the mounting for the vertical rails, which may be horizontally adjusted. Front panel mounting rails are tapped 10-32. Rear rails are pierced 9-32. Caster bracket in base is drilled for Bud RC-7758 casters. Standard finishes are Royal Blue (RB) or Gray (GT), Textured enamel with clear anodized aluminum cowl and Gold (GD) Textured with gold anodized aluminum cowl.

INCLINED PANEL CABINET RACKS

Being positioned 20 degrees off vertical, viewing the instruments by a seated person is more comfortable. Exclusive feature: panel mounting rails in the front vertical and the inclined panel section, as well as in the rear, are adjustable from front to rear. Dimensions: Ht. 51¼", Wid. 24 3/16", out. dep.-23 7/8" ins. dep. 20½" Wt. 173 lbs. Size A-inclined panel space-Size B-vertical panel space.

PLAIN SIDES AND DOOR

RB	GT	GD	Type	Size A	Size B	1-9	10-14	15-19
80W650	80W512	80W651	SE-2064	10½"	29¾"	184.05	166.05	147.04
80W513	80W652	80W653	SE-2065	15¾"	24½"	195.10	176.09	156.08
80W654	80W514	80W655	SE-2066	17½"	22¾"	195.10	176.09	156.08

LOUVERED SIDES AND DOOR

80W656	80W657	80W658	SE-2067	10½"	29¾"	197.70	177.63	158.56
80W659	80W515	80W660	SE-2068	15¾"	24½"	209.30	188.27	167.24
80W661	80W662	80W663	SE-2069	17½"	22¾"	209.30	188.27	167.24

Add-A-Rack Enclosures

RB	GT	GD	Type	To Add A-Rack To	Wt. Lbs.	1-9	10-14	15-19
80W662	80W663	80W664	ASE-2084	SE-2064	115	155.75	140.68	124.60
80W665	80W666	80W667	ASE-2085	SE-2065	115	166.15	149.14	132.12
80W668	80W669	80W670	ASE-2086	SE-2066	120	166.15	149.14	132.12
80W671	80W672	80W673	ASE-2087	SE-2067	115	157.55	141.50	126.44
80W674	80W675	80W676	ASE-2088	SE-2068	115	170.20	153.18	136.16
80W677	80W678	80W679	ASE-2089	SE-2069	120	170.20	153.18	136.16

UPRIGHT CABINET RACKS

All cabinets accommodate standard 19" panels. The series below include welded framework, plain sides, plain rear door & solid top. All units: Width: 24 3/16", Outside Depth: 23 7/8". For 20½" ins. depth and 27 5/8 for 24" ins. depth.

RB	GT	GD	Type	Ht.	Ins. Dep.	Pan. Sp.	Wt. Lbs.	1-9	10-14	15-19
80W500	80W638	80W639	E-2000	30¼"	20½"	21"	125	135.10	122.09	108.08
80W640	80W501	80W641	E-2001	40¾"	20½"	31½"	150	167.10	150.09	134.08
80W502	80W503	80W642	E-2002	44¼"	20½"	35"	155	176.35	158.32	141.28
80W643	80W644	80W645	E-2003	51¼"	20½"	42"	167	185.65	167.59	148.53
80W646	80W647	80W648	E-2004	61¾"	20½"	52½"	205	206.40	185.36	165.32
80W649	80W625	80W504	E-2005	70½"	20½"	61¼"	219	229.10	206.09	183.08
80W621	80W622	80W623	E-2006	79¼"	20½"	70"	240	254.55	229.50	203.44
80W624	80W505	80W626	E-2007	88"	20½"	78¾"	262	277.95	249.86	222.76
80W627	80W628	80W629	E-2008	30¼"	24"	21"	135	159.55	133.50	127.44
80W630	80W631	80W632	E-2009	40¾"	24"	31½"	160	185.30	167.27	148.24
80W633	80W634	80W635	E-2010	44¼"	24"	35"	165	195.55	176.50	156.44
80W506	80W636	80W637	E-2011	51¼"	24"	42"	187	205.90	185.81	164.72
80W604	80W605	80W606	E-2012	61¾"	24"	52½"	222	228.55	205.50	182.44
80W607	80W507	80W608	E-2013	70½"	24"	61¼"	235	254.00	229.00	203.00
80W609	80W610	80W611	E-2014	79¼"	24"	70"	265	282.15	254.14	226.12
80W612	80W613	80W614	E-2015	88"	24"	78¾"	280	308.00	277.00	246.00

The Series below includes welded framework, louvered sides & rear door, Solid top. All units: width: 24 3/16" outside depth: 23 7/8". For 20½" ins. Depth and 27 5/8 for 24" ins. depth.

RB	GT	GD	Type	Ht.	Ins. Dep	Pan. Sp.	Wt. Lbs.	1-9	10-14	15-19
80W615	80W616	80W617	E-2016	30¼"	20½"	21"	125	140.80	126.72	112.64
80W618	80W619	80W620	E-2017	40¾"	20½"	31½"	150	174.25	157.23	139.20
80W538	80W539	80W540	E-2018	44¼"	20½"	35"	155	184.75	166.68	147.60
80W541	80W542	80W543	E-2019	51¼"	20½"	42"	167	195.25	176.23	156.20
80W544	80W545	80W546	E-2020	61¾"	20½"	52½"	205	223.15	201.14	176.76
80W508	80W547	80W548	E-2021	70½"	20½"	61¼"	219	242.95	218.86	194.64
80W549	80W509	80W600	E-2022	79¼"	20½"	70"	240	269.80	242.72	215.64
80W601	80W602	80W603	E-2023	88"	20½"	78¾"	262	293.05	264.05	234.04
80W522	80W523	80W524	E-2024	30¼"	24"	21"	135	165.35	149.32	132.28
80W525	80W526	80W527	E-2025	40¾"	24"	31½"	160	199.80	179.72	159.64
80W528	80W529	80W510	E-2026	44¼"	24"	35"	165	211.15	190.14	169.12
80W530	80W531	80W532	E-2027	51¼"	24"	42"	187	222.45	200.41	178.36
80W533	80W534	80W535	E-2028	61¾"	24"	52½"	222	247.25	222.23	198.20
80W536	80W511	80W537	E-2029	70½"	24"	61¼"	235	274.85	147.77	219.68
80W516	80W517	80W518	E-2030	79¼"	24"	70"	265	305.20	290.18	244.16
80W519	80W520	80W521	E-2031	88"	24"	78¾"	280	332.65	314.59	286.52

DESK TOPS

For Installation on Series 2000 racks only. Serve as a smooth writing surface or shelf. Two pre-slotted supporting channels are quickly bolted-to panel mtg. rails. Surface Ant. White Formica, 24 3/16" W, 19½" D, 3 1/16" H. Supports in excess of 200 lbs.

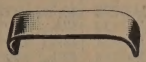
RB	GT	GD	Type	Fits. Ser. 2000	Supp. Channel	Wt.	1-9	10-14	15-199
78F002	78F000	78F001	DT-2960	with 23 7/8" d.	21 9/43"	29 lbs.	43.75	39.38	35.00
78F003	78F004	78F005	DT-2962	with 27 3/8" d.	24 25/32	30 lbs.	45.10	40.59	36.08

These Accessories will fit Series Two Thousand

Doors available from Newark on Special Order

Handles are fabricated from steel, brass or cast aluminum. Durable, attractive finish will provide long wear. The material and finish specifications for each handle is described below. They have unlimited applications in the electronic, electrical, and many other fields. Necessary mounting hardware is furnished. Designed for rugged applications.

Type H-9100B. All models of this type have 1" hand clearance. All are made from solid brass and are Chrome plated. H-9100B and H-9101B are 1"x¼". H-9102B and H-1903B are ⅜x¼". Hardware is supplied on all models: two 6-32 by ½" screws.



Stk. No.	Type	Mtg. Cen.	Net Each 1-99	100-199	200-499
90F700	H-9100-B	4x½"	3.05	2.75	2.45
90F701	H-9101-B	8x½"	5.05	4.55	4.05
90F702	H-9102-B	4"	2.75	2.50	2.20
90F703	H-9103-B	6"	3.05	2.75	2.45

Type UH-70A. Useful for attaching to any small housing or speaker enclosure to achieve portability. Handle is made from aluminum and given an etched finish. Aver. Shpg. wt., 3 oz.

Stk. No.	Type	Len.	Mtg. Cen.	1-49	50-99	100-149
91F079	UH-70A	5⅛"	4⅜"	.65	.59	.52
91F1680	UH-71A	3¾"	3¼"	.55	.50	.45

Type H-9151B. Made from die cast aluminum. Silver anodized. 1⅜" hand clearance. Hardware: four 10-32x½" screws. **Type H-9152.** Similar to H-9151B. Has 1⅛" hand clearance. Also silver anodized. Hardware: two 10-32x⅜" screws. Aver. Shpg. Wt., 3 oz.

Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F711	H-9151-B	5 5/32x⅝"	3.90	3.50	3.10
90F712	H-9152-B	3⅞"	3.15	2.85	2.50

Type H-9150B. Made of die cast aluminum and finished in silver anodize. Has 1¼" hand clearance. Hardware: four 10-32x½" screws. Aver. shpg. wt. 3 oz.

Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F710	H-9150-B	4x⅝"	2.40	2.15	1.90

Type H-9120-B. Handle made of die cast aluminum and finish is silver anodize. Has hand clearance of 1". Hardware: four 6-32x½" screws. Shpg. wt. 5 oz.

Type H-9121-B. Similar to H-9120 except made of die cast alloy and is chrome plated.

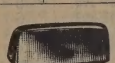
Type H-9123-B. Similar to H-9120 except hardware: two 10-32x½" screws.

Stk. No.	Type	Mtg. Ctrs. Ins.	Outs.	Net Each 1-99	100-199	200-499
90F705	H-9120-B	4⅜"	5⅜"	2.95	2.65	2.35
90F706	H-9121-B	4⅜"	5⅜"	3.70	3.35	2.95
90F707	H-9123-B	4½"	...	1.90	1.70	1.50

Type H-9131B. Made of die cast aluminum. Finish is silver anodize. Size: 4x2⅞". Hardware: two ¼-28x¾" raised countersunk screws and nuts. Useful as cabinet handle replacement. Average shpg. wt. 3 oz.

Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F713	H-9131-B	2¼"	2.95	2.65	2.35

Type H-9140B. This handle is made of die cast aluminum with a silver anodized finish. Has a hand clearance of ¾". This solid design handle provides a modern look to your cabinets or racks. Hardware provided for this model is two 10-32½" screws. Shpg. wt. 6 oz.



Stk. No.	Type	Mtg. Ctrs.	1-99	100-199	200-499
90F709	H-9140-B	3½"	1.70	1.55	1.35

LEVER TYPE DOOR HANDLES

Chrome plated, die cast handle and face plate. Corrosion resistant steel spindle and cam. Easily and quickly attached to Super Deluxe Relay Racks.

9223

Stk. No.	Type	Desc.	Net Each 1-99	100-199	200-499
91F1681	9196	Non-Locking	4.65	4.19	3.77
91F1682	9223	With lock & Key	7.90	7.11	6.32

FLUSH TYPE HANDLE AND CATCH

Combination handle and catch is standard on Bud Cabinet Racks. Fits flush with top of cabinet. All exposed parts are chrome plated.

Stock No.	Type	Net Each 1-99	100-199	200-499
91F1683	H-9347	1.55	1.40	1.24

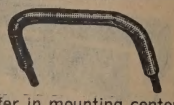
Type H-9122B. Handle made of die cast aluminum with a silver anodized finish. This handle has a hand clearance of 15/16" and is hinged on ¼" diameter pins with two hinge blocks. Hardware provided: four 10-32x⅜" screws. Shpg. wt., 5 oz.

Stk. No.	Type	Mtg. Ctrs. Ins.	Outs.	Net Each 1-99	100-199	200-499
90F704	H-9122-B	6½"	7¼"	5.05	4.55	4.05

Types H-9115B and H-9116B. These handles made of ⅜" steel rod, chrome plate finish. Have hand clearance of 15/16". Ideal for use where a thin, durable handle is necessary or desirable. Hardware provided: two ¼-28 nuts. Av. shpg. wt. 3 oz.

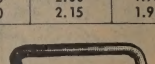
Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F746	H-9115-B	4"	1.70	1.55	1.35
90F732	H-9116-B	6"	1.90	1.70	1.50

Types H-9160B, H-9161B, H-9162B, H-9163B, H-9164B, H-9165B. All have chrome plated finish and are made of ⅜" diameter steel. All have 1 11/16" hand clearance. All are provided with two ¼-28 hex nuts as hardware. Types differ in mounting centers only which are listed below.



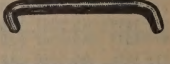
Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F733	H-9160-B	3½"	1.90	1.70	1.50
90F734	H-9161-B	5¼"	1.90	1.70	1.50
90F735	H-9162-B	7"	2.00	1.80	1.60
90F736	H-9163-B	8¾"	2.10	1.90	1.70
90F737	H-9164-B	10½"	2.20	2.00	1.75
90F738	H-9165-B	12¼"	2.40	2.15	1.90

Types H-9166B, and H-9168B. Both are made of ¼" diameter brass and both have a chrome plated finish. These handles each have a 1" hand clearance and are provided with the same hardware: two 6—32x½" screws. They differ only in mounting centers which are listed below.



Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F739	H-9166-B	1 29/32"	.95	.85	.75
90F740	H-9168-B	3"	1.00	.90	.80

All are made of ⅜" dia. steel chrome-plated except H-9114 ½" Dia. All provided with two 10-32x½" screws except H-9114 two ¼-28x½" screws. Hand clearance 1" except* 1¼" and ** 1½". Shpg. Wt. 3 oz.



Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F741	H-9110-B*	6"	1.90	1.70	1.50
90F742	H-9111-B	4"	1.25	1.15	1.00
90F743	H-9112-B	6"	1.35	1.20	1.10
90F744	H-9113-B	8"	1.35	1.20	1.10
90F745	H-9114-B**	8"	2.10	1.90	1.70

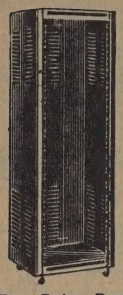
SAVE WORK! Make Newark your Complete 1-Point Stock Source
SAVE TIME! At Newark—fast, efficient service always!
SAVE MONEY! Quantity Prices Competitive with Manufacture!

Cabinet Racks

BUD ENCLOSED RELAY RACKS

Made of 16 gauge steel with 7/64" panel M+G. supports which are recessed so that panel will be flush with face of rack. Bottom supports use RC 7756 casters. Stk. No. 91F082. with necessary assembly hardware.

Black	Grey	Ham. Grey	Type	HxWxD	Panel Space	Lbs.	1-9	10-14	15-19
91F050	91F056	91F062	CR-1772	66 9/16"x22"x17 1/8"	61 1/4"x19"	115	93.30	83.95	74.65
91F051	91F057	92F063	CR-1773	82 5/16"x22"x17 1/8"	77" x19"	135	107.45	96.70	85.95
91F058	91F061	91F078	CR-1771	47 5/16"x22"x17 1/8"	42" x19"	92	74.60	67.15	59.70
91F059	91F060	91F077	CR-1774	42 1/16"x22"x17 1/8"	36 3/4"x19"	82	65.80	59.20	52.65



Enc. Relay Rack

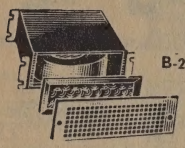
Prestige Racks

ENCLOSED RELAY RACK—GREY HAMMERTONE FINISH

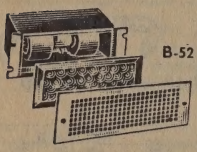
Stk. No.	Type	Ht.	P S	Dep.	Lbs.	1-9	10-14	15-19
91F095	CR-2071	47 5/16"	42"x19"	22 1/8"	102	89.45	80.50	71.55
91F096	CR-2072	66 9/16"	61 1/4"x19"	22 1/8"	137	112.05	100.85	89.65
91F097	CR-2073	82 5/16"	77"x19"	22 1/8"	159	133.05	119.75	106.45
91F098	CR-2074	42 1/16"	36 3/4"x19"	22 1/8"	98	79.05	71.15	63.25

PRESTIGE RELAY CABINET RACKS

Stk. No.	Type	Panel	HxWxD	Lbs.	1-9	10-14	15-19
91F087	CR-2280	61 1/4"x19"	66 9/16"x22"x22"	179	162.80	146.50	130.25
91F088	CR-2281	66 1/2"x19"	71 13/16"x22"x22"	186	166.85	150.15	133.50
91F089	CR-2282	77"x19"	82 5/16"x22"x22"	213	187.45	168.70	149.95



B-27A



B-52

TRANS-AIRE-BLOWERS

Designed for cooling electronic equipment. All are 115 volts, 50/60 Hz. single phase.

Model B-27A. Two speed packaged blower for top CFM. Air delivery: 515 CFM high speed, 280 CFM low speed. Motor: 1350/1150 RPM, 550/350 watt shaded pole motor.

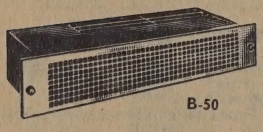
Model B-23A: Low silhouette two speed, requiring just 3½" of panel space. Produces 180 CFM on high, 130 CFM on low speed. Motor: 1450/1250 RPM, 125/100 shaded pole motor.

Model B-25A. Two speed 350/160 CFM blower, delivers a turbulent air distribution pattern to eliminate hot spots. Motor: 1420/1075 RPM, 375/200 shaded pole.

Model B-52. Produces 150 CFM, equipped with two extra wide, small diam. centrifugal blower wheels. Motor: 3000 RPM, fan cooled, 80 watts.

Model B-54. Dual wheels deliver 300 CFM of clean, cool filtered air. Motor: 1550 RPM, rubber mounted.

Model B-50. Requires only 3½" of panel ht., produces 150 CFM, 12½" wide air stream. Motor: 3150 RPM shaded pole. Gray finish on all.

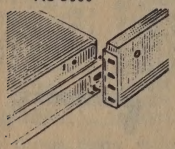


B-50

BLOWER						USE FILTER				
Stk. No.	Type	Dim. HxWxD	1-4	5-9	10-24	Stk. No.	Type	1-24	25-49	50-99
91F1630	B-27A	7x19x14½"	109.60	98.64	87.68	91F720	BF-28	2.40	2.16	1.92
91F1631	B-23A	3½x19x12"	85.35	76.82	68.28	91F904	BF-24	1.90	1.71	1.52
91F1632	B-25A	5¼x19x14½"	97.50	87.75	78.00	91F638	BF-26	2.10	1.89	1.68
91F1633	B-52	5¼x19x7 1/16"	85.35	77.38	68.60	80W723	BF-53	2.10	1.89	1.68
91F1634	B-54	7x19x10 3/16"	109.80	98.82	87.84	80W724	BF-55	2.40	2.16	1.92
91F1635	B-50	3½x19x6 13/32"	83.05	74.75	66.44	91F904	BF-24	1.80	1.71	1.52

CHASSIS SLIDES

AS-5000



AS-5800

Unsurpassed for reliability and absence of wear after hundreds of thousands of cycles. Ball bearings of chrome carbon steel are set in special retainers which keep them evenly spaced to give an extremely smooth movement of the slide. Self-cleaning bridged ball retainer. Bright Electro-Zinc finish. High-low temp. grease.

Stk. No.	Type No.	Lt.	Travel	Load Rating	Shpg. Wt.	Per Pair 1-4	5-9	10-24
91F1607	AS-5000	12"	9.00	108	1.75	9.50	8.55	7.60
91F1608	AS-5001	16"	12.00	95	2.00	11.00	9.90	8.80
91F1609	AS-5002	20"	15.00	82	2.50	11.80	10.60	9.45
91F1610	AS-5020	12"	12.88	175	3.25	22.40	20.15	17.90
91F1611	AS-5021	16"	16.88	160	4.25	24.90	22.40	19.90
91F1612	AS-5022	20"	20.00	142	5.25	26.90	24.20	21.50
91F1613	AS-5040	12"	11.88	120	3.25	29.80	26.80	23.85
91F1614	AS-5041	16"	15.88	108	4.25	32.30	29.05	25.85
91F1615	AS-5042	20"	20.88	92	5.25	34.40	30.95	27.50
91F1616	AS-5060	12"	9.00	108	1.75	8.70	7.85	6.95
91F1617	AS-5061	16"	12.00	95	2.00	9.30	8.35	7.45
91F1618	AS-5062	20"	15.00	82	2.50	9.80	8.80	7.85
91F1619	AS-5080	12"	12.00	80	3.50	27.30	24.55	21.85
91F1620	AS-5081	16"	16.00	70	4.50	27.90	25.10	22.30
91F1621	AS-5082	20"	20.00	60	5.50	30.75	27.70	24.60

MOUNTING BRACKETS AND BAR NUTS FOR SLIDES

*Bar Nut can be used with all mtg. brackets.

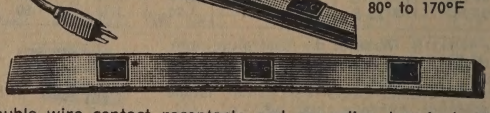
Stk. No.	Type	Mounts	1-4	5-9	10-24
91F1622	BAS-5100	Front	1.30	1.15	1.05
91F1623	BAS-5101	Back	1.30	1.15	1.05
91F1624	BAS-5102	Front	1.30	1.15	1.05
91F1625	BAS-5103	Back	1.30	1.15	1.05
91F1626	NAS-5110	*	1.30	1.15	1.05

"TEM-STAT" TEMPERATURE CONTROL

Features: Bimetal sensing element, normally open contacts close on temperature rise. Small size—2 15/16" long x 1" wide x 17/32" deep. Listed by U.L.

Stk. No.	Type	1-4	5-9	10-24
91F1636	TS-15	6.10	5.49	4.88

POWER OUTLET STRIPS

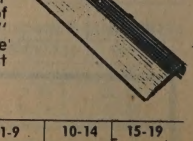


- All components are U.L. approved
- Temp. Range 80° to 170°F

Double wire contact receptacle and grounding terminal. ¾" x 1 9/32" cross section. 6 foot cord. Light gray enamel finish with 15 amp overload breaker & pushbutton reset.

Stk. No.	Type	Outlets	Length	Lbs.	1-5	6-11	12-17
90F396	POS-4	4	17½"	2	24.95	22.45	19.95
90F397	POS-7	7	48"	3½	26.30	23.65	21.05
90F398	POS-9	9	60"	4¼	28.95	26.05	23.15
90F399	POS-11	11	72"	4¾	31.55	28.40	25.25

"PAN-L-LITE" LIGHT



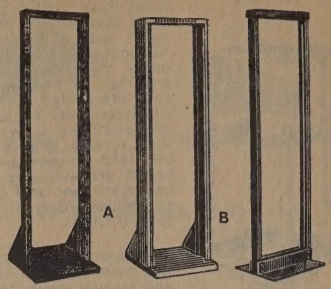
Type PL-5. Bright, glare-free lighting for areas requiring concentrated source of light. Mounted on standard Bud 1¾" x 19" steel rack panel with gray hammertone finish. Less tube but uses 15 watt fluorescent tube. Wt. 2 lbs.

Stk. No.	Type	Size	1-9	10-14	15-19
91F746	PL-5	5"x18"x 1¾"	11.75	10.60	9.40

Racks and Accessories

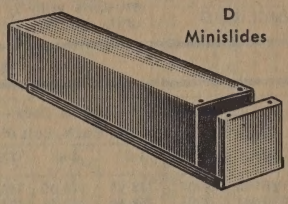
OPEN TYPE RELAY RACKS

For mounting equipment where a complete enclosure is not necessary or advisable. Racks A and B may add casters for mobility. Fig. B has louvered "U" member which allows for ventilation. Available in black Rinkletex or light grey hammertone.



Black	Type	Fig.	HXWxD	PanelSp.	lbs.	1-9	10-14	15-19
91F052	RR1263BR	A	35 39/64 x19 3/4x22"	31 1/2x19"	35	29.80	26.80	23.85
91F053	RR1264BR	A	70 39/64 x19 3/4x22"	66 1/2x19"	46	34.20	30.80	27.35
91F054	RR1265BR	C	72 5/32 x20 1/2x13"	66 1/2x19"	36	79.40	71.45	63.35
93F634	RR1363BR	A	40 55/64 x19 3/4x22"	36 3/4x19"	69	28.80	25.90	23.05
93F635	RR1364BR	A	75 55/64 x19 3/4x22"	71 3/4x19"	48	35.85	32.25	28.70
93F636	RR1366BR	A	81 7/64 x19 3/4x22"	77 x19"	49	39.25	35.35	31.40
93F642	RR1367BR	B	64 5/8 x20 7/8x26"	61 1/4x19"	80	56.75	51.10	45.40
93F643	RR1368BR	B	73 3/8 x20 7/8x26"	70 x19"	89	61.05	54.95	48.85
93F644	RR1369BR	B	80 3/8 x20 7/8x26"	77 x19"	104	68.00	61.20	54.40

Used where access to internally mounted parts is necessary. .050 aluminum. Grey hammertone HG except (*) plain.



Stk.No.	Type	LxWxH	Lbs.	1-49	50-99	100-149
91F862	MS-2150	13x3 1/8x2 5/8"	1	5.15	4.65	4.10
91F863	MS-2151	13x5 1/8x2 5/8"	1 1/2	5.85	5.25	4.70
91F864	MS-2152	17x3 1/8x2 5/8"	1 1/4	5.70	5.15	4.55
91F1600	MS-3050 *	13x3 1/8x2 5/8"	1	3.85	3.45	3.10
91F1601	MS-3051 *	13x5 1/8x2 5/8"	1 1/2	4.75	4.30	3.80
91F1602	MS-3052 *	17x3 1/8x2 5/8"	1 1/4	4.50	4.05	3.60

CONVERTA-BOX

This new box enclosure consisting of a welded base and a two sided cover. Box may be easily mounted to any type of surface. Converta-Box is made of 20 gauge steel. Hardware furnished: 4 self-tapping screws. The box has a cadmium-plated finish.

Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F554	CU-341	1 1/2x4x3"	1/2	2.65	2.40	2.10
91F555	CU-452	2x5x4"	1	2.55	2.30	2.05
91F556	CU-482	2x8x4"	1 1/4	2.75	2.50	2.20
91F557	CU-592	2 1/2x9 1/2x5"	1 3/4	2.95	2.65	2.35
91F558	CU-622	2 1/2x12x6"	1/4	3.20	2.90	2.55
91F559	CU-712	2 1/2x15x7"	3	4.30	3.85	3.45

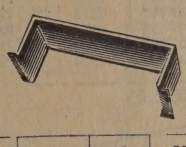
DESK TYPE OPEN RELAY RACKS

Chassis type base for mounting heavy components. Supporting angles assure steady support. Panel mounting rails are recessed so that any standard 19" panel will fit flush with the front. Available in Black Rinkletex (BR) or Light Gray Hammertone HG.

Black	Type	Ham.Gray	Type	Hgt.	Space	Lbs.	1-14	15-24	25-34
91F030	RR-1248B	91F677	RR-1248HG	24"	21"	14 1/4	12.80	11.50	10.25
91F031	RR-1249B	91F678	RR-1249HG	31"	28"	16 3/4	15.10	13.60	12.10

VERTICAL PANEL CHASSIS

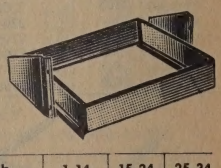
Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .060" aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.



Stk.No.	Type	Ht.	Wt. Lbs.	1-24	25-49	50-99
91F493	CB1370	1 3/4"	3/4	3.30	2.95	2.65
91F494	CB1371	3 1/2"	1 1/4	3.65	3.30	2.90
91F495	CB1372	5 1/4"	1 1/2	4.20	3.80	3.35
91F496	CB1373	7"	2	4.75	4.30	3.80
91F497	CB1374	8 3/4"	2 1/4	5.60	5.05	4.50
91F498	CB1375	10 1/2"	2 3/4	6.50	5.85	5.20
91F499	CB1376	12 1/4"	3	7.25	6.55	5.80
91F479	CB1377	14"	3 1/4	7.90	7.10	6.30

SLIDING DRAWER ASSEMBLY

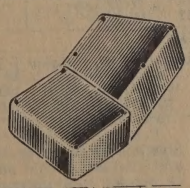
Used in mounting record players, portable typewriters, instruments, drawer space and many other purposes. Chasis and slide are light gray hammertone. Brackets are 11GA-steel. Will support 30 lbs. Fits standard relay rack. Size: 16 3/4x14x3".



Stk.No.	Type	Description	Lb.	1-14	15-24	25-34
91F826	SD-1717	Assembly	5	15.90	14.30	12.70
91F827	TP-1718	Drawer Plate	1 1/2	3.95	3.55	3.15

PRECISION DIE CAST UTILITY BOXES

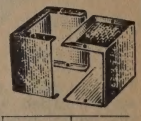
For applications requiring a sturdier structure than a sheet metal utility cabinet. LM-380 aluminum lightweight & easy to machine. Suitable for instrument and meter cases, filter networks, junction boxes, switches, audio and radio frequency distributors, etc.



Stk.No.	Type	Thickness	Wt.Lbs.	LxWxH"	1-24	25-49	50-99
91F1603	CU-124	.063	1/2	4.38x2.38x1.06	1.55	1.40	1.25
91F1604	CU-234	.094	3/4	4.69x3.69x2.06	2.50	2.25	2.00
91F1605	CU-247	.094	1 3/4	7.39x4.70x2.06	4.10	3.70	3.30
91F1606	CU-347	.094	1 1/2	7.39x4.70x3.06	4.40	3.95	3.50

STEEL HANDY BOXES

Two-piece steel cases. Provides the maximum degree of accessibility, adequate shielding as well as complete protection from mechanical injury and dust particles. Formed of 22 gauge steel. Finished in black Rinkletex (BR)



Stk. No.	Type	WxHxL	Wt.	1-49	50-99	100-149
91F541	HB-1621	1 1/2x2 1/4x4 1/4"	1/4	2.05	1.85	1.65
91F542	HB-1622	2 3/4x2x4"	1/2	2.05	1.85	1.65

SWIVEL TRUCK CASTERS

Type RC-7756. Heavy-duty casters for use on relay racks. Four casters will carry a load of 400 pounds. Wheels are high grade hard rubber composition. Ball-bearing mounted. With screws.

Type RC-7758. Truck Casters.

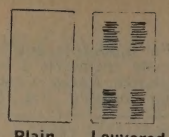
StockNo.	Type	Height	Weight	1-49	50-99	100-149
91F082	RC-7756	2 5/8"	1 3/4	1.30	1.15	1.05
91F094	RC-7758	3 1/4"	6	3.20	2.90	2.55

Series "60" Cabinet Racks

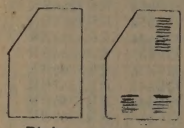
INCLINED

Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 18 gauge steel. Vertical Channel, 4" wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32. W. E. spacing. Rear rails are drilled according to universal spacing.

All Sizes Sixty enclosures may be quickly combined with each other to create units of any width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed. Standard finishes are textured baked enamel over a primer. Standard Bud relay rack panels are available for the Series "60" racks in light gray and light blue. Available in Louvered door and Louvered side, Louvered door-plain sides, Louvered sides-plain door on special order. All Series "60" items listed below are available in light blue finish on Special Order.



Plain Louvered
UPRIGHT



Plain Louvered
INCLINED

UPRIGHT CABINET RACKS

Completely assembled with sides, rear door, and top. Standard units have plain sides and door and a solid top. For greater ventilation, order the units with louvered sides and/or rear door. Both have solid tops. Width of all units: 24 ". Inside depth: 20½"clear on units with 22" outside depth. 23 "on all others. Top opening: 18⁵⁄₁₆" wide by 17 ¹⁄₃₂"d.on units with 22" depth. Top opening on all others: 18¹⁵⁄₁₆"w x 20¹⁷⁄₃₂" d.

"AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK."

Stock No. Grey	With Plain Sides & Door—OD 22"—Net Each, Lots of Type	1-3	4-6	7-9	Ht.	Panel Space	Wt. Lbs.
92F900	2300	128.95	116.05	103.15	29⅝"	21"	118
92F901	2301	159.60	143.65	127.70	40⅛"	31½"	156
92F902	2302	177.25	159.55	141.80	50⅝"	42"	173
92F903	2303	196.90	177.20	157.50	61⅛"	52½"	197
92F904	2304	218.70	196.80	174.95	69⅞"	61¼"	220
92F905	2305	243.10	218.80	194.56	78⅝"	70"	235
92F906	2306	265.35	238.80	212.30	87⅜"	78¾"	265

Stock No. Grey	With Plain Sides & Door—OD 25½"—Net Each, Lots of Type	1-3	4-6	7-9	Ht.	Panel Space	Wt. Lbs.
92F907	2307	152.25	137.05	121.80	29⅝"	21"	156
92F908	2308	176.95	159.25	141.55	40⅛"	31½"	176
92F909	2309	196.55	176.90	157.25	50⅝"	42"	185
92F910	2310	218.20	196.40	174.55	61⅛"	52½"	211
92F911	2311	242.55	218.30	194.05	69⅞"	61¼"	240
92F912	2312	269.45	242.50	215.55	78⅝"	70"	256
92F913	2313	294.10	264.70	235.30	87⅜"	78¾"	267

INCLINED PANEL CABINET RACKS

Completely assembled with sides, rear door and solid top. Available in two combinations of plain or louvered sides and rear door. Size, 50⅝"h.x24¹⁄₁₆"w.x22" d. outside; 20½"d. clear inside. Weight 165 lbs.

Stk. No. Grey	With Plain Sides and Door Type	Net Each, Lots of 1-3	4-6	7-9	Incline Panel Hgt.	Vert. Panel Hgt.	Top Opening W.xD.
93F023	2330	193.30	173.95	154.65	10½"	29¾"	18⁵⁄₁₆"x11⁵³⁄₆₄"
93F024	2331	204.85	184.35	163.90	15¾"	24½"	18⁵⁄₁₆"x10¹⁄₃₂"
93F025	2332	204.85	184.35	163.90	17½"	22¾"	18⁵⁄₁₆"x9²⁷⁄₆₄"

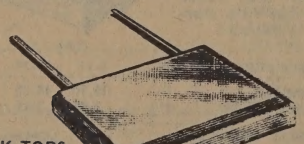
ADD-A-RACK SERIES

Each assembly consists of frame, top, bottom, rear door and cowlings; used as ar. add-on unit to join any of the Series Sixty enclosures into a bank of two or more. One standard rack plus several Add-A-Racks make any desired number of racks combined for optimum width. Colors same as above Racks.

Stock No. Grey	Type	Plain Doors For Add-on to Rack No. 60-	Net Each, Lots of 1-3	4-6	7-9	Wt. Lbs.
93F077	2500	2300,	109.75	98.68	94.68	92
93F078	2501	2301,	128.50	115.40	102.40	113
93F079	2502	2302,	140.80	126.72	112.64	115
93F080	2503	2303,	153.85	138.77	122.68	145
93F081	2504	2304,	171.90	154.81	137.72	148
93F082	2505	2305,	191.50	172.45	153.40	152
93F083	2506	2306,	205.60	185.54	164.48	158
93F084	2507	2307,	122.75	110.68	108.60	120
93F085	2508	2308,	143.85	133.77	118.68	132

Stock No. Grey	Type	Plain Doors For Add-on to Rack No. 60-	Net Each, Lots of 1-3	4-6	7-9	Wt. Lbs.
93F086	2509	2309,	157.10	141.09	126.08	138
93F087	2510	2310,	171.45	154.41	137.36	142
93F088	2511	2311,	191.75	172.68	153.60	164
93F089	2512	2312,	213.45	192.41	170.36	168
93F090	2513	2313,	236.25	212.23	189.20	172
93F091	2530	2330,	163.60	147.54	137.50	119
93F091	2531	2331,	174.50	157.45	139.40	119
93F093	2532	2332,	174.50	157.45	139.40	125

RACK ACCESSORIES



DESK TOPS

SLIDES

DRAWERS

SERIES "60" DESK TOPS

Two pre-drilled full length supporting channels are quickly bolted to panel mounting rails. Surface is ant. white formica 24¹⁄₁₆" wide, 19½" deep, 3¹⁄₁₆" high. Supports 200 lbs. Color, grey.

Stk. No.	Type	Fits "60" Series	Sup. Channel	Lbs.	1-3	4-6	7-9
93F016	60-2360	W/22" d.	21³⁄₃₂"	22	41.70	37.55	33.35
93F039	60-2362	W/25½" d.	24³⁄₄"	23	43.05	38.75	34.45

DRAWERS

Fits cabinet or cabinet rack with 19" panel space. Front panel drawer is 8¾"x19". Slides on rollers. Type 60-2368 fits Series 60 cabinets.

Stk.No	Color	Stk.No.	Color	Stk.No.	Color	Type	Ins. Size	Lbs.	1-3	4-6	7-9
91F921	Blk.	91F922	Gr. Wr.	91F923	G. H.	D-1721	16³⁄₈x6³⁄₈x16¼	19½	55.10	49.60	44.10
.....	....	93F019	Lt. Bl.	93F018	Sm. Gr.	60-2368	16¹⁹⁄₃₂x6³⁄₈x19⁵⁄₃₂	28	37.50	33.75	30.00

SERIES "60" SLIDING DESK TOP

Surface ant. white Formica. Usable area 11"x16⅞". Supports 50 lbs. of distributed weight. Occupies 1¾" panel space (height). Fits flush with front of unit when not in use. Mounts directly to uprights in Series 60. Cabinet Racks.

Stk. No.	Type	Color	WxD	Panel	1-3	4-6	7-9	Wt. Lbs.
93F048	60-2361	Tex. Gr.	16⅞x15⅛"	19x1¾"	22.45	20.20	17.95	9¼

SERIES "60" DESK TOP DRAWER

Spacious drawer for small tools and components, circuit designs and manuals. Front panel: 3½" x 19". Hinged desk top is Formica bonded to aluminum and has piano-type hinge. Latch on front panel locks and releases drawer as well as releasing top. With hardware. Textured gray finish.

Stk. Grey	Type	Size Inside	1-3	4-6	7-9	Wt. Lbs.
93F050	60-2363	16⁹⁄₁₆x2³¹⁄₃₂14⅞	64.35	57.92	51.48	19

Cabinet Accessories

Surface Shield

Shelf Assembly

Triangular Brackets

Rack Shelves

Chassis Brackets

Fit. E—"SURFACE SHIELD" RACK PANELS

Each panel is covered on both sides with sturdy pressure sensitive white paper for indicating size and position of drilling or milling. Panels have standard notching. Made of aluminum alloy.

1/8" Panels 19" Wide

Stk.No.	Type	Height	lbs.	1-49	50-99	100-149
91F265	SFA-1831	1¾"	¼	1.50	1.35	1.20
91F266	SFA-1832	3½"	¾	2.30	2.05	1.85
91F267	SFA-1833	5¼"	1	3.00	2.70	2.40
91F268	SFA-1834	7"	1¾	3.80	3.40	3.05
91F269	SFA-1835	8¾"	2	4.35	3.90	3.50
91F270	SFA-1836	10½"	2½	5.50	4.95	4.40
91F271	SFA-1837	12¼"	2¾	6.55	5.90	5.25
91F272	SFA-1838	14"	3	7.35	6.60	5.90
91F273	SFA-1839	15¾"	3½	8.30	7.45	6.65
91F274	SFA-1840	17½"	4	9.00	8.10	7.20
91F275	SFA-1841	19¼"	4¼	9.90	8.90	7.90
91F276	SFA-1842	21"	5	10.95	9.85	8.75

3/16" Panels 19" Wide

Stk.No.	Type	Height	Lbs.	1-49	10-99	100-149
91F277	SFA-3161	1¾"	¾	2.65	2.40	2.10
91F278	SFA-3162	3½"	1¼	3.80	3.40	3.05
91F279	SFA-3163	5¼"	1¾	4.95	4.45	3.95
91F280	SFA-3164	7"	2½	6.10	5.50	4.90
91F281	SFA-3165	8¾"	3	7.25	6.55	5.80
91F282	SFA-3166	10½"	3¾	8.40	7.55	6.70
91F283	SFA-3167	12¼"	4½	10.70	9.65	8.55
91F284	SFA-3168	14"	5	12.20	11.00	9.75
91F285	SFA-3169	15¾"	5¾	13.70	12.35	10.95
91F286	SFA-3170	17½"	6¼	15.05	13.55	12.05
91F287	SFA-3171	19¼"	7	16.55	14.90	13.25
91F288	SFA-3172	21"	7¼	17.95	16.15	14.35

STEEL RACK PANELS

Made of 1/8" steel. 19" widths. Have standard notched edges which are able to fit the normal mounting screw spacing of all standard relay racks and telephone type relay racks.

White	Sand	Grey	Ham Grey	Textured Blue	Textured Grey	Type	Lbs.	Height	1-49	50-99	100-149
91F1574	91F1575	91F230	91F435	.....	91F412	PS-1250	1¼	1¾"	1.45	1.30	1.15
91F1576	91F1577	91F321	91F436	.....	91F413	PS-1251	2¼	3½"	1.55	1.40	1.25
91F1578	91F1579	91F322	91F437	91F402	91F414	PS-1252	3¼	5¼"	2.10	1.90	1.70
91F1580	91F1581	91F323	91F438	.....	91F415	PS-1253	4½	7"	2.20	2.00	1.75
91F1582	91F1583	.....	91F439	.....	91F416	PS-1254	6	8¾"	2.95	2.65	2.35
91F1584	91F1585	91F325	91F440	91F405	91F417	PS-1255	7	10½"	3.40	3.05	2.70
91F1586	91F1587	.....	91F441	91F406	91F418	PS-1256	8¼	12¼"	3.95	3.55	3.15
91F1588	91F1589	.....	91F442	.....	91F419	PS-1257	9½	14"	4.40	3.95	3.50
91F1590	91F1591	.....	91F443	.....	91F420	PS-1258	10¾	15¾	4.75	4.30	3.80
91F1592	91F1593	91F329	91F444	.....	91F421	PS-1259	11¾	17½"	5.30	4.75	4.25
91F1594	91F1595	.....	91F445	.....	.....	PS-1260	13	19¼"	5.85	5.25	4.70
91F1596	91F1597	91F331	91F446	.....	91F423	PS-1261	14¼	21"	6.70	6.05	5.35

ALUMINUM—RACK—PANELS— 1/8 PANELS (5005 H-36)

91F1700	91F1701	91F360	91F388	91F240	91F252	PA-1101	¼	1¾"	1.60	1.45	1.30
91F1702	91F1703	91F361	91F389	91F241	91F253	PA-1102	¾	3½"	2.30	2.05	1.85
91F1704	91F1705	91F362	91F390	91F242	91F254	PA-1103	1	5¼"	3.00	2.70	2.40
91F1706	91F1707	91F363	91F391	91F243	91F255	PA-1104	1¾	7"	3.80	3.40	3.05
91F1708	91F1709	91F364	91F392	91F244	91F256	PA-1105	2	8¾	4.35	3.90	3.50
91F1710	91F1711	91F365	91F393	91F245	91F257	PA-1106	2½	10½"	5.50	4.95	4.40
91F1712	91F1713	91F366	91F394	91F246	91F258	PA-1107	2¾	12¼"	6.55	5.90	5.25
91F1714	91F1715	91F367	91F395	91F247	91F259	PA-1108	3	14"	7.35	6.60	5.90
91F1716	91F1717	91F368	91F396	91F248	91F260	PA-1109	3½	15¾"	8.30	7.45	6.65
91F1718	91F1719	.....	91F397	91F249	91F261	PA-1110	4	17½"	9.00	8.10	7.20
91F1720	91F1721	.....	91F398	.....	91F262	PA-1111	4¼	19¼"	9.90	8.90	7.90
91F1722	91F1723	.....	91F399	91F251	91F263	PA-1112	5	21"	10.95	9.85	8.75

1/8" PANELS, 2024 T-3

Ham Gray	Textured Blue	Textured Grey	Type	Lbs.	Height	1-49	50-99	100-149
90F284	.....	.....	PA-1131	¼	1¾"	2.00	1.80	1.60
90F285	.....	90F309	PA-1132	¾	3½"	2.55	2.30	2.05
90F286	.....	90F310	PA-1133	1	5¼"	3.30	2.95	2.65
90F287	90F299	90F311	PA-1134	1¾	7"	4.30	3.85	3.45
90F288	90F300	.....	PA-1135	1	8¾"	4.75	4.30	3.80
90F289	90F301	90F313	PA-1136	2½	10½"	6.15	5.55	4.90
90F290	.....	90F314	PA-1137	2¾	12¼"	6.95	6.25	5.55
90F291	90F303	90F315	PA-1138	3	14"	8.15	7.35	6.50
90F292	.....	90F316	PA-1139	3½	15¾"	8.80	7.90	7.05
90F293	.....	.....	PA-1140	4	17½"	9.55	8.60	7.65
90F294	.....	.....	PA-1141	4¼	19¼"	10.35	9.30	8.30
90F295	.....	90F319	PA-1142	5	21"	11.75	10.60	9.40

3/16" PANELS, 2024 T-3

90F224	90F236	90F248	PA-3101	¾	1¾"	2.65	2.40	2.10
90F225	90F237	90F249	PA-3102	1¼	3½"	3.70	3.35	2.95
90F226	90F238	90F250	PA-3103	1¾	5¼"	4.85	4.35	3.90
90F277	90F239	90F251	PA-3104	2½	7"	6.10	5.50	4.90
.....	.....	90F252	PA-3105	3	8¾"	7.15	6.45	5.70
90F230	.....	.....	PA-3107	4½	12¼"	10.25	9.25	8.20

CHASSIS SUPPORTING ANGLES

7/64" steel. Black. Supplied in pairs.

Stk.No.	Type	Length	Width	Lbs.	1-24	25-49	50 99
91F090	SA-1349	14½"	3"	4	3.20	2.90	2.55
91F091	SA-1350	12"	3"	3	3.20	2.90	2.55

SHELF ASSEMBLY

Slides welded to shelf bottom Mtg. brackets slip into slides, fastened with two screws. Ht. is 7⅛".

Black	Gray	HG	Type	Size	Lbs.	1-14	15-24	25-34
91F878	91F880	91F882	SA-1719	16x22	14	15.90	14.31	12.72
91F879	91F881	91F883	SA-1720	20x22"	15	14.15	12.75	11.30

CHASSIS MOUNTING BRACKETS

Black enamel. *For 4" chassis. Sold in pairs.

Stk.No.	Type	Dimensions	Lbs.	1-49	50-99	100-149
91F070	MB-458	6½x8"	1¼	1.75	1.60	1.40
91F071	MB-448	6½x10"	1¾	1.75	1.60	1.40
91F072	MB-459	6½x11"	2	2.00	1.80	1.60
91F073	MB-449	6½x12"	2	2.30	2.05	1.85
91F074	MB-460	6½x13"	2½	2.20	2.00	1.75
91F075	MB-450*	8½x10"	2¼	2.55	2.30	2.05
91F076	MB-451*	8½x13"	3	2.75	2.50	2.20

TRIANGULAR TYPE CHASSIS MOUNTING BRACKETS

Black enamel 16 guage steel with ¾" flang. Sold in pairs.

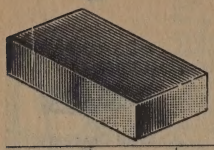
Stk.No.	Type	Ht.	Dep.	Wt. Lbs.	1-49 Pair	50-99 Pair	100-149 Pair
91F484	MB1266	5"	5"	1	1.45	1.30	1.15
91F485	MB1267	7"	7"	1	1.55	1.40	1.25
91F486	MB1268	9"	9"	1½	1.90	1.70	1.50

RACK SHELVES

Stk.No.	Type	Size	Lbs.	1-24	25-49	50-99
91F092	CB-1976	19x1x15"	6½	4.95	4.45	3.95
91F093	CB-1977	19x1x12"	5½	3.95	3.55	3.15

Chassis & Panels

ALUMINUM CHASSIS



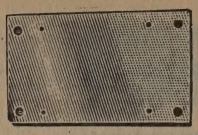
Unsurpassed range of standard sizes. Made of one piece of 5005-H-14 aluminum alloy. Reinforced, welded corners to insure utmost strength and long lasting qualities. Folded over on bottom for extra strength.

Stock No.	Mfg. No.	Dimen.	Wt. Lbs.	1-24	25-49	50-99
91F1319	AC-1401	2½"x 4½"x1"	⅛	1.45	1.30	1.15
91F1320	AC-1402	3½"x 4½"x1"	⅛	1.45	1.30	1.15
91F1321	AC-1403	3½"x 5½"x1"	⅛	1.45	1.30	1.15
91F1322	AC-1404	4" x 5" x2"	¼	1.75	1.60	1.40
91F1323	AC-1405	4" x 6" x1½"	¼	1.55	1.40	1.25
90F940	AC-430	4" x 6" x3"	⅓	2.00	1.80	1.60
90F941	AC-431	4" x 6" x2"	¼	1.75	1.60	1.40
91F1324	AC-1406	4" x 8" x2"	1	2.00	1.80	1.60
90F942	AC-432	4" x17" x3"	¼	3.40	3.05	2.70
91F1325	AC-1407	4½"x 8" x1½"	¼	1.75	1.60	1.40
90F943	AC-402	5" x 7" x2"	¼	1.90	1.79	1.50
90F944	AC-429	5" x 7" x3"	⅓	2.10	1.90	1.70
91F1326	AC-1408	5" x 9" x1½"	½	1.75	1.60	1.40
91F1327	AC-1409	5" x9½" x1½"	⅓	1.85	1.65	1.50
90F945	AC-403	5" x 9½"x2	⅓	2.00	1.80	1.60
90F939	AC-401	5" x 9½"x1½"	½	2.30	2.05	1.85
90F946	AC-421	5" x 9½"x3"	⅝	2.40	2.15	1.90
90F947	AC-404	5" x10 x3"	⅝	2.40	2.15	1.90
90F948	AC-422	5" x13" x3"	¾	2.75	2.50	2.20
91F1328	AC-1410	5" x13½"x2½"	¾	2.30	2.05	1.85
91F1329	AC-1411	5½"x 5½"x1"	⅕	1.65	1.50	1.30
91F1330	AC-1412	5½"x 9½"x1½"	⅓	1.85	1.65	1.50
91F1331	AC-1413	6" x 8" x2"	⅓	2.00	1.80	1.60
91F1332	AC-1414	6" x14" x3"	⅛	3.65	3.30	2.90
90F949	AC-433	6" x17" x3"	1¼	4.10	3.70	3.30
90F950	AC-405	7" x 7" x2"	½	2.00	1.80	1.60
90F951	AC-406	7" x 9" x2"	½	2.10	1.90	1.70
90F952	AC-407	7" x11" x2"	⅝	2.40	2.15	1.90
90F593	AC-408	7" x12" x3"	⅞	2.95	2.65	2.35
90F954	AC-409	7" x13" x2"	¾	2.55	2.30	2.05
91F1333	AC-1415	7" x15" x2"	1	3.20	2.90	2.55
90F955	AC-411	7" x15" x3"	1¼	4.05	3.65	3.25
91F1334	AC-1416	7" x17" x2"	1⅛	3.65	3.30	2.90
91F1335	AC-1417	7" x17" x2½"	1¼	3.75	3.40	3.00
90F956	AC-423	7" x17" x3"	1½	4.10	3.70	3.30
91F1336	AC-1418	8" x10" x2½"	1	3.10	2.80	2.50
91F1337	AC-1419	8" x12" x2½"	1⅛	3.65	3.30	2.90
90F957	AC-424	8" x12" x3"	1¼	3.50	3.15	2.80
90F958	AC-425	8" x17" x2"	1½	3.65	3.30	2.90
90F959	AC-412	8" x17" x3"	1¾	4.15	3.75	3.30
91F1338	AC-1420	8½"x15" x3"	1½	3.85	3.45	3.10
91F1339	AC-1421	9" x15" x3"	1½	4.40	3.95	3.50
90F960	AC-413	10" x12" x3"	1¼	4.15	3.75	3.30
90F961	AC-414	10" x14" x3"	1½	4.20	3.80	3.35
90F962	AC-415	10" x17" x2"	1½	4.10	3.70	3.30
90F963	AC-416	10" x17" x3"	1¾	4.75	4.30	3.80
90F969	AC-427	10" x17" x4"	2½	6.60	5.95	5.30
91F1340	AC-1422	10" x17" x5"	2¼	9.55	8.60	7.65
91F1341	AC-1423	10" x23" x3"	2¾	6.95	6.25	5.55
90F964	AC-426	11" x17" x2"	2	5.05	4.55	4.05
90F965	AC-417	11" x17" x3"	2¼	5.85	5.25	4.70
91F1342	AC-1424	12" x12" x3"	1½	4.20	3.80	3.35
91F1343	AC-1425	12" x17" x2"	1⅝	5.30	4.75	4.25
90F966	AC-418	12" x17" x3"	2¼	4.95	5.35	4.75
90F967	AC-419	13" x17" x2"	2⅝	5.30	4.75	4.25
90F968	AC-420	13" x17" x3"	2¾	6.25	5.65	5.00
90F970	AC-428	13" x17" x4"	3¼	7.70	6.95	6.15
91F1344	AC-1426	13" x17" x5"	3½	10.45	9.40	8.35
91F1345	AC-1427	14" x17" x3"	2¾	7.50	6.75	6.00
91F1346	AC-1428	15" x17" x4"	3¼	10.45	9.40	8.35
91F1347	AC-1429	15" x17" x6"	4½	14.30	12.85	11.45
91F1348	AC-1430	17" x17" x3"	3¼	8.80	7.90	7.05
91F1349	AC-1431	17" x17" x4"	3⅞	12.45	11.20	9.95

ZINC PLATED STEEL BOTTOM PLATE

Stk. No.	Type	Dem.	Wt.	1-49	50-99
90F876	BP-706	5x 7"	⅜	.95	.85
90F878	BP-538	5x10"	½	1.10	1.00
90F879	BP-668	7x 7"	½	1.40	1.25
90F880	BP-669	7x 9"	⅝	1.45	1.30
90F881	BP-670	7x11"	¾	1.50	1.35
90F875	BP-710	8x12"	⅞	1.75	1.60
90F882	BP-671	7x13"	¾	1.90	1.70
90F884	BP-1067	4x17"	⅝	1.65	1.50
90F898	BP-673	7x17"	1⅛	1.75	1.60
90F885	BP-674	8x17"	1¼	1.65	1.50
90F887	BP-675	10x12"	1	2.10	1.90
90F888	BP-514	10x14"	1⅜	2.00	1.80
90F889	BP-676	10x17"	1¾	2.15	1.95
90F893	BP-677	11x17"	1⅞	2.20	2.00
90F895	BP-678	12x17"		2.55	2.30
90F897	BP-679	13x17"	2¼	2.95	2.65

ALUMINUM BOTTOM PLATES



Widest variety of standard sizes. Fit all BUD chassis. Made of 5005-H-14 aluminum alloy. Natural finish. Plates have four embossed feet to prevent damage to surface. Fit snugly on bottom of chassis.

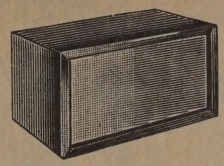
Stock No.	Mfg. No.	Dimen.	Wt. Lbs.	1-24	25-49	50-99
91F1406	BPA-1501	2½"x 4½"	1/16	.75	.70	.60
91F1407	BPA-1502	3½"x 4½"	1/16	.90	.80	.70
91F1408	BPA-1503	3½"x 5½"	⅛	.90	.80	.70
91F1409	BPA-1504	4" x 5"	⅛	.90	.80	.70
91F1410	BPA-1505	4" x 6"	⅛	.90	.80	.70
91F1411	BPA-1506	4" x 8"	⅛	1.10	1.00	.90
91F1413	BPA-1532	4" x17"	¼	1.10	1.00	.90
91F1412	BPA-1507	4½"x 8"	3/16	1.20	1.10	.95
90F860	BPA-1589	5" x 7"	⅛	1.00	.90	.80
91F1414	BPA-1508	5" x 9"	3/16	1.00	.90	.80
90F861	BPA-1590	5" x 9½"	⅛	1.00	.90	.80
90F862	BPA-1591	5" x10"	¼	1.00	.90	.80
91F1415	BPA-1509	5" x13"	¼	1.55	1.40	1.25
91F1416	BPA-1510	5" x13½"	¼	1.55	1.40	1.25
91F1417	BPA-1511	5½"x 5½"	⅛	1.00	.90	.80
91F1418	BPA-1512	5½"x 9½"	3/16	1.10	1.00	.90
91F1419	BPA-1513	6" x 8"	3/16	1.20	1.10	.95
91F1420	BPA-1514	6" x14"	5/16	1.55	1.40	1.25
91F1421	BPA-1515	6" x17"	⅜	2.00	1.80	1.60
90F863	BPA-1592	7" x 7"	3/16	1.00	.90	.80
90F864	BPA-1593	7" x 9"	¼	1.10	1.00	.90
90F865	BPA-1594	7" x11"	¼	1.20	1.10	.95
90F866	BPA-1595	7" x12"	5/16	1.45	1.30	1.15
90F867	BPA-1596	7" x13"	½	1.55	1.40	1.25
91F1422	BPA-1516	7" x15"	½	1.75	1.60	1.40
91F1423	BPA-1517	7" x17"	½	1.75	1.60	1.40
91F1424	BPA-1518	8" x10"	¼	1.65	1.50	1.30
91F1425	BPA-1519	8" x12"	⅜	2.00	1.80	1.60
91F1426	BPA-1520	8" x17"	½	2.10	1.90	1.70
91F1427	BPA-1521	8½"x15"	½	2.40	2.15	1.90
91F1428	BPA-1522	9" x15"	½	2.55	2.30	2.05
91F1429	BPA-1523	10" x12"	½	2.00	1.80	1.60
91F1430	BPA-1524	10" x14"	½	2.00	1.80	1.60
90F868	BPA-1597	10" x17"	⅝	2.00	1.80	1.60
91F1431	BPA-1525	10" x23"	⅞	2.95	2.65	2.35
91F1432	BPA-1526	11" x17"	¾	2.20	2.00	1.75
91F1433	BPA-1527	12" x12"	⅝	2.20	2.00	1.75
91F1434	BPA-1528	12" x17"	¾	2.65	2.40	2.10
90F869	BPA-1598	13" x17"	⅞	2.85	2.55	2.30
91F1435	BPA-1529	14" x17"	1 3/16	2.85	2.55	2.30
91F1436	BPA-1530	15" x17"	1	2.85	2.55	2.30
91F1437	BPA-1531	17" x17"	1 1/16	3.95	3.55	3.15

STEEL CHASSIS

Chassis is made from one piece of metal. Corners are reinforced and spot welded. Four sides are folded in at the bottom for additional strength. Zinc plated.
*22 gauge † 20 gauge ‡ 18 gauge

Stock No.	Type	Dimen.	Wt. Lbs.	1-24	25-49	50-99
90F783	CB-104	6" x 8" x2"	1⅛	2.20	2.00	1.75
90F785	CB-106	12" x12" x3"	4	4.60	4.15	3.70
90F855	CB-629	5" x 7" x2"	¾	2.00	1.80	1.60
90F786	CB-645	5" x 9½"x2½"	1¼*	2.55	2.30	2.05
90F831	CB-605	5" x10" x3"	1¼*	2.60	2.35	2.10
90F788	CB-756	6" x14" x3"	2¼†	3.10	2.80	2.50
90F832	CB-1191	7" x 7" x2"	1¼†	2.30	2.05	1.85
90F833	CB-1192	7" x 9" x2"	1½†	2.30	2.05	1.85
90F834	CB-1193	7" x11" x2"	1⅝†	2.55	2.30	2.05
90F789	CB-793	7" x12" x3"	2¼	3.10	2.80	2.50
90F835	CB-1194	7" x13" x2"	1¾†	2.75	2.50	2.20
90F790	CB-1198	5" x13½"x2½"	1¾†	3.20	2.90	2.55
90F792	CB-666	8½"x15" x3"	2¾†	4.10	3.70	3.30
90F793	CB-1199	7" x17" x2½"	2½†	3.30	2.95	2.65
90F794	CB-702	8" x10" x2½"	1¾†	2.95	2.65	2.35
90F795	CB-704	8" x12" x2½"	2¼†	3.20	2.90	2.55
90F854	CB-760	8" x12" x3"	2½†	3.40	3.05	2.70
90F838	CB-774	8" x17" x2"	2½†	3.40	3.05	2.70
90F840	CB-1195	10" x12" x3"	2¾†	3.50	3.15	2.80
90F841	CB-779	10" x14" x3"	3†	3.50	3.15	2.80
90F842	CB-769	10" x17" x2"	2¾†	3.50	3.15	2.80
90F797	CB-1197	10" x23" x3"	5½‡	5.05	4.55	4.05
90F847	CB-771	11" x17" x3"	5¼‡	5.15	4.65	4.10
90F848	CB-661	12" x17" x2"	4½‡	4.50	4.05	3.60
90F850	CB-772	13" x17" x2"	5‡	5.40	4.85	4.30
90F851	CB-773	13" x17" x3"	5¾‡	5.95	5.35	4.75
90F844	CB-641	10" x17" x4"	5½‡	5.30	4.75	4.25
90F852	CB-643	13" x17" x4"	6¾‡	6.95	6.25	5.55
90F798	CB-624	10" x17" x5"	6‡	7.80	7.00	6.25
90F799	CB-626	13" x17" x5"	7½‡	8.60	7.75	6.90

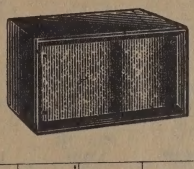
"FUTURA" CABINETS



Versatile housing for small equipment. Made of 20-gauge steel except for front panel, which is 18-ga. Top and sides are one piece, easily removable to expose interior. Front panel is held by flanges (no screws to mar appearance); is vertical, except † rises vertically 2", then has 15° incline. Chassis may be attached to base, rear, or front panels. Has four rubber feet. Dark Blue textured body with light blue textured panel (BBY) or light gray hammertone body, textured panel. (HG)

Gray Stk.No.	Blue Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F1350	91F1356	MD-1960	7x13x8"	6¾"	10.35	9.30	8.30
91F1351	91F1357	MD-1961	8x14x9"	7¾	11.15	10.05	8.90
91F1352	91F1358	MD-1962	8x16x9"	8½	11.50	10.35	9.20
91F1353	91F1359	MD1963†	7x13x8"	7	12.10	10.90	9.70
91F1354	91F1360	MD-1964†	8x14x9"	8	13.00	11.70	10.40
91F1355	91F1361	MD-1965†	8x16x9"	8¾	13.80	12.40	11.05

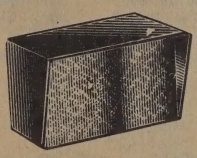
SHADOW CABINET



Extremely versatile housing since front rear and bottom may be removed for installation or servicing. One inch recessed front panel prevents accidental movement of controls, knobs, and switches attached to it. Body made of 18 gauge steel and panels of 16 gauge steel. Four rubber feet attached to base eliminates scratching. Finished in light gray hammertone.

Stk.No.	Type	WxHxD	Lbs.	1-24	25-49	50-99
91F892	SB-2140	14¼x8x10"	11½	9.80	8.80	7.85
91F893	SB-2141	13¼x7½x9"	9¾	7.80	7.00	6.25
91F894	SB-2142	17x9½x11"	15¼	13.10	11.80	10.50
91F895	SB-2143	15½x6x9"	9½	7.50	6.75	6.00

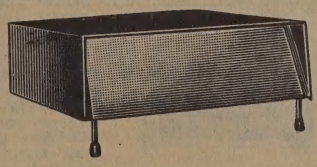
COWL TYPE MINIBOX



Has projecting cover which reduces glare on panel from overhead lighting and provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled this type of construction results in a sturdy, rigid housing. Fabricated of .040 aluminum. Overall dimensions and wt.: SC-2130 and SC-3030. 6x10x7". 1¾ lb. SC-2131 and SC-3031, 7x12x8", 2 lbs. SC-2132 and SC-3032, 3x8x5". 1 lb.; SC-2133 and SC-3033, 5x5x5", ¾ lb.

Stk.No. G-H	Type	1-49	50-99	100-149	Stk.No. Nt'al	Type	1-49	50-99	100-149
91F884	SC-2130	8.05	7.25	6.45	91F888	SC-3030	5.85	5.25	4.70
91F885	SC-2131	8.80	7.90	7.05	91F889	SC-3031	6.40	5.75	5.10
91F886	SC-2132	4.75	4.30	3.80	91F890	SC-3032	3.30	2.95	2.65
91F887	SC-2133	4.75	4.30	3.80	91F891	SC-3033	3.50	3.15	2.80

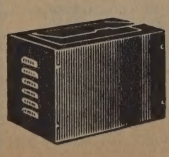
TILT-A-VIEW CABINET



Designed to present selective angles of vision to the viewer who may be observing the action of meters or the position of dials and recorders. Detachable legs change the position of the cabinet. Two piece construction permits immediate access to interior for installation and service. Cabinet fasteners are all positioned on the lower portion of the cabinet so that no fasteners appear on the front or rear panels. Color is gray textured with sand front and rear panels. All models 18 gauge steel.

StockNo.	Type	Lbs.	H	W	D	1-14	15-24	25-34
90F393	TV2155	8½	4½"	15"	10"	8.90	8.00	7.10
90F394	TV2156	13	6½"	16"	12"	10.45	9.40	8.35
90F395	TV2157	17	8½"	17"	14"	15.20	13.70	12.15

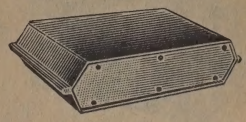
INSTRUMENT AND RECEIVER CABINETS



For table mounting of test instruments and receivers. Each cabinet has an evenly recessed hinged cover with convenient finger lift. The panel on front of cabinet is readily attached with self-tapping screws. Louvers provide ample ventilation. Available in black Rinkletex (BR) only.

Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F630	C-973	7x8x8"	4¾	6.25	5.65	5.00
91F631	C-993	7x10x8"	5	7.15	6.45	5.70
91F632	C-994	7x12x8"	6	7.35	6.60	5.90
91F633	C-995	7x14x8"	7	2.90	2.70	2.30
91F634	C-1190	8x16x8"	8½	11.20	10.10	8.95
91F635	C-975	9x15x11"	12¼	13.65	12.30	10.90
91F636	C-999	12x18x12"	18¼	14.75	13.30	11.80

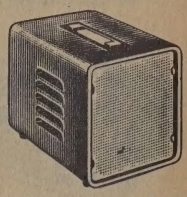
"GRAND PRIX" CABINETS



New concept in styling; ideal for audio equipment, medical electronics, or wherever appearance is of importance. Handles are brushed aluminum extrusions that slide over end flanges of the upper and lower body segments and are secured by setscrews; when removed, the upper body segment comes off to permit servicing contents. Made entirely of 20-gauge steel. With four rubber feet to prevent damage to desk tops, etc. Choice of light gray hammertone body with matching panels (HG) or dark gray textured body with light gray panels (GGY).

Dk.gray Stk.No.	L.gray Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F1362	91F1365	MD-1	4¾6x19⅛x10½"	7¼"	18.40	16.55	14.70
91F1363	91F1366	MD-2	7¾6x19⅛x10½"	7¾	19.25	17.35	15.40
91F1364	91F1367	MD-3	4¾6x12⅛x8¾	7	14.85	13.35	11.90

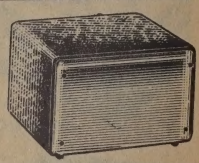
PORTACAB



Desirable as housings for instrumentation requiring high stylized appearance. Body is one piece aluminum with contoured corners. Panel is also aluminum. Flexible recessed handle permits easy portability as well as vertical stacking. Louvers point inward permitting side-to-side placement without loss of space. Welded back has opening. Front panel recessed ½". Four detachable rubber feet are provided. Gray hammertone finish.

Stk.No.	Type	Lbs.	Dimensions D	W	H	1-24	25-49	50-99
91F615	WA-1540	2	8"	6⅛"	8"	12.45	11.20	9.95
91F616	WA-1541	3½	12"	8⅛"	9"	16.15	14.55	12.90
91F617	WA-1542	3¾	8"	10⅛"	8"	14.40	12.95	11.50
91F618	WA-1543	5½	18"	11⅛"	11"	20.00	18.00	16.00
91F619	WA-1544	8	18"	14⅛"	12"	23.10	20.80	18.50

CONTOUR UTILITY CABINETS



Housing and flanged panels have rounded corners. Solid front and louvered rear panels are removable. Four rubber feet attached to base prevent scratching. Dark gray textured body and light gray textured panel. All parts are 20 gauge steel.

Stk.No.	Type	Overall Size	Lbs.	1-24	25-49	50-99
91F896	CU-463	4 7/32x6 7/32x3¾"	1½	6.50	5.85	5.20
91F897	CU-465	4 7/32x6 7/32x5¾	2	7.45	6.70	5.95
91F898	CU-585	5 7/32x8 7/32x5¾"	3	9.55	8.60	7.65
91F899	CU-587	5 7/32x8 7/32x7¾"	3½	10.50	9.45	8.40
91F900	CU-7125	7 7/32x12 7/32x5¾"	5	9.65	8.70	7.70
91F901	CU-7127	7 7/32x12 7/32x7¾	5¾	10.20	9.20	8.15

UNIVERSAL SLOPING PANEL CABINETS

One piece, detachable back and sides fastened to body with four self tapping screws permits easy access for mounting and servicing components. Available in steel or aluminum.

Aluminum

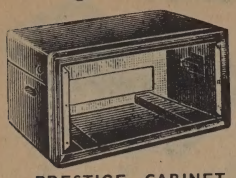
Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F634	AC-1610	4x4x4¼"	3/8	2.65	2.40	2.10
91F835	AC1611	4x5x4¼"	½	2.55	2.30	2.05
91F836	AC1612	4x6x4¼"	9/16	2.75	2.50	2.20
91F837	AC1613	4x7x4¼"	5/8	3.10	2.80	2.50

Steel

91F830	C-1606	4x4x4¼"	1	2.10	1.90	1.70
91F831	C-1607	4x5x4¼"	1	2.20	2.00	1.75
91F832	C-1608	4x6x4¼"	1¼	2.40	2.15	1.90
91F833	C-1609	45x7x4¼"	1½	2.75	2.50	2.20

Cabinets and Cases

"PRESTIGE" CABINETS

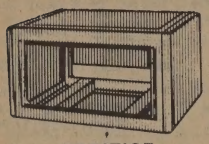


PRESTIGE CABINET

Stock cabinets of 16 gauge steel for housing quality instruments, etc. Hinged covers. . .solid or perforated. Grommeted finger holes for easy cover lifting. Cover closes by pressure fasteners. Chassis supporting channels and embossed feet. Width 21⅜, Depth 14¾. Finished in gray hammertone.

Stock No	Type No.	Cover	Overall Height	Panel Space	Lbs.	1-14	15-24	25-34
91F064	C-1440	Solid	9 9/16	7"	25	40.05	36.05	32.05
91F065	C-1441	Solid	11 5/16	8¾"	26	42.25	38.05	33.80
91F066	C-1442	Solid	13 1/16	10½"	28½	44.00	39.60	35.20
91F067	C-1550	Perf.	9 9/16	7"	23½	43.35	39.00	34.70
91F068	C-1551	Perf.	11 5/16	8¾"	25	45.10	40.60	36.10
91F069	C-1552	Perf.	13 1/16	10½"	27½	47.65	42.90	38.10

PRESTIGE VERSA CABINETS

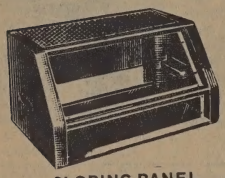


PRESTIGE VERSA CABINET

Has sturdy framework with ball cornered sides. Unit also has solid bottom plate and two supporting channels. All of these parts are removable. Unit uses standard 19" panels. Cabinets are made to be stacked, or may be fastened side by side. Grey Hammertone finish.

Stk. No.	Type	Overall Height.	Panel Space	Rear Panel	Lbs.	Net Each, Lots of 1-14	15-24	25-34
91F906	PC-1700	8¾"	5¼"	3½"	27	38.00	34.20	30.40
91F907	PC-1701	10½"	7"	5¼"	28¼	40.20	36.20	32.15
91F908	PC-1702	12¼"	8¾"	7"	32	41.25	37.15	33.00
91F909	PC-1703	14"	10½"	8¾"	33	46.55	41.90	37.25
91F910	PC-1704	15¾"	12¼"	10½"	34¾	49.05	44.15	39.25

SLOPING PANEL PRESTIGE CABINETS

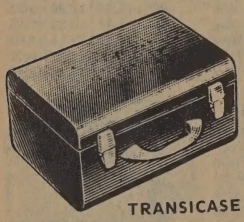


SLOPING PANEL PRESTIGE CABINET

Cabinet has ventilated top, full top opening, recessed handle, shielded handles in sides. Top panel swept back for easy viewing, rear opening for easy cable or control access. Panel trim bar removable. Provides for installation or removal of panels. Grey hammertone finish. Rear opening is 2½"x18", panel offset; 1¼" overall width: 22" pnl. ht. vert: 3½".

Stock No.	Type	Ht. x Depth	Pan. Ht. Slope	Lbs.	1-14	15-24	25-34
91F743	C-1555	11 7/8x14 3/8"	7"	25	48.20	43.40	38.55
91F744	C-1556	13¼x15 1/8"	8¾"	27	51.80	46.60	41.45
91F745	C-1557	14¾x16 1/8"	10½"	30	55.55	50.00	44.45

TRANSICASE

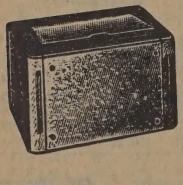


TRANSICASE

A portable instrument case. Made of .040 aluminum with a flush fitting panel. Transicase has two slide-off bright nickel plated hinges for easy removal of top and has two bright nickel toggle catches. Also, bright nickel handle. Two types of finishes are available; dark blue textures or dark gray textured. Rubber feet on base and back. Clear int. space above panel: 1 15/32".

Stk. No. BLUE	Stk. No. GREY	Type	W x D x H	Panel Size	Clear Int. Space Below Panel	Internal Aperture	Lbs.	1-49	50-99	100-149
91F911	91F916	TC-300	10 1/16x7x6"	8 15/16x5 15/16"	4 13/32"	8x5 31/32"	2½	29.20	26.30	23.35
91F912	91F917	TC-301	11½x8 1/4x6"	10 3/8x7¼"	4 13/32"	9 7/16"x7 9/32"	3¼	29.95	26.95	23.95
91F913	91F918	TC-302	13x9x7½"	11 7/8x7 15/16"	5 29/32"	10 15/16x7 31/32"	4	32.00	28.80	25.60
91F914	91F919	TC-303	16½x9x7½"	15 3/8x7 15/16"	5 29/32"	14 7/16x7 31/32"	4¾	32.55	29.30	26.05
91F915	91F920	TC-304	20 1/8x8x9"	19x7"	7 11/32"	18 1/16x7 1/32"	6¾	34.30	30.85	27.45

STREAMLINED CABINETS



Ideal cabinets for electronic devices. They have recessed hinged cover with convenient finger lift. Grey hammertone finish or black Rinkletex. Overall ht. is 8" and overall depth is 8¼". Complete with panel.

Stk. No. Black	Stk. No. Ham. Grey	Type	Wid.	Panel	Top Opening	Lbs.	1-24	25-49	50-99
91F680	91F775	CD-1480	10½"	8x8"	5 5/8x 7 7/8 "	6¼	8.35	7.50	6.70
91F681	91F776	CD-1481	12½"	8x10"	5 5/8x 9 1/8"	6¾	8.45	7.60	6.75
91F682	91F777	CD-1482	14½"	8x12"	5 5/8x11 1/8"	7½	9.00	8.10	7.20
91F683	91F778	CD-1483	16½"	8x14"	5 5/8x13 1/8"	7¾	9.70	8.75	7.75
91F684	91F779	CD-1484	18½"	8x16"	5 5/8x15 7/8"	9¼	10.35	9.30	8.30
91F685	91F780	CD-1485*	20 5/8"	12x18"	10½x15½"	17½	20.15	18.15	6.10

*Has 12" overall depth.

CARRYING CASES

Portable cases for transceivers, test units and other types of compact equipment. Front and back panels are fastened by self-tapping screws. Have easy grip handle. Back Rinkletex finish.

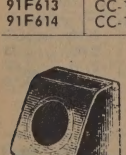
Stk. No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F608	CC-1095	9x 6x5"	3	4.50	4.05	3.60
91F609	CC-1092	7x12x6"	5	6.25	5.65	5.00
91F610	CC-1100	10x10x8"	7	7.15	6.45	5.70
91F611	CC-1091	6x 9x5"	3	4.50	4.05	3.60
91F612	CC-1096	12x 7x6"	5¼	6.25	5.65	5.00
91F613	CC-1097	15x7¾x7"	7¼	6.95	6.25	5.55
91F614	CC-1093	9x15x7"	8	8.70	7.85	6.95

MARK-T

Unique triagular 16 gauge steel welded cabinet. Features include. Removable front panel & rear door; recessed carrying handles; 4 rubber feet; dark gray textured body, light gray textured panel & door. All models 6 17/32"H.

Stock No.	Type	W	Panel	Weight	1-14	15-24	25-34
90F384	MT-214	16"	5¾x14"	9¾	31.90	28.70	25.50
90F385	MT-219	21"	5¾x19"	12¼	34.95	31.45	27.95
90F386	MT-224	26"	5¾x24"	14¼	41.15	37.05	32.90

UNIVERSAL METER CASES



Can accommodate either a 2" or 3" meter. Center hole is punched for 2" meter and has an easily removed knock-out ring which increases size of hole to fit 3" meter. One piece, detachable back and sides fastened to the body of case with four self tapping screws. Two ⅜" knock-out holes in top for installation of feed through insulators if required. Available in steel or aluminum gray hammertone. 4¼"H. x 4"W. x4"D. *CMA-1930. 4¼x6x4".

Stk. No.	Type	Lbs.	1-49	50-99	100-149
91F598	CM-1935 Steel	¾	1.85	1.65	1.50
91F599	CMA-1936 Alum.	¼	2.10	1.90	1.70
91F597	*CMA-1930 Alum.	½	3.65	3.30	2.90

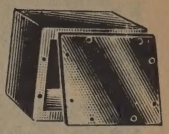
MAKE NEWARK YOUR ONE STOP SOURCE FOR ALL BUD RADIO CABINETS AND ACCESSORIES FAST DELIVERY FROM ON-THE-SHELF STOCKS.

Cabinets & Miniboxes

BUD — THE MARK OF PERFECTION

STEEL UTILITY CABINETS

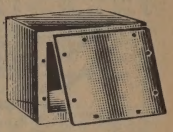
Stk. No. Black	Type	Stk. No. Ham. Grey	Type	HxWxD	Lbs.	1-49	50-99	100-149
91F620	CU-883	91F640	CU-883HG	4x4x2"	3/4	1.45	1.30	1.15
91F621	CU-728	91F641	CU-728HG	4x5x3"	1	1.75	1.60	1.40
91F622	CU-729	91F642	CU-729HG	6x5x4"	1 3/4	2.00	1.80	1.60
91F623	CU-1098	91F643	CU-1098HG	6x6x6"	2 1/4	3.10	2.80	2.50
91F624	CU-1099	91F644	CU-1099HG	9x6x5"	3	3.30	2.95	2.65
91F625	CU-880	91F645	CU-880HG	10x10x8"	6 1/4	5.45	4.90	4.35
91F626	CU-882	91F646	CU-882HG	15x9x7"	8 1/4	6.10	5.50	4.90
91F627	CU-879	91F647	CU-879HG	10x8x7"	3 1/4	4.50	4.05	3.60
91F628	CU-881	91F648	CU-881HG	12x11x8"	8 1/2	6.00	5.40	4.80
91F629	CU-1124	91F649	CU-1124HG	12x7x6"	5	4.40	3.85	3.50



Steel utility cabinets for electronic equipment, monitors, frequency meters, etc. Ideal for the amateur, experimeter. Accurately formed of sheet steel for rugged use. Have two removable sides. Black rinkletex (BR) and light grey hammertone finish.

ALUMINUM UTILITY CABINETS

Stk. No.	Type	HxWxD	Lbs.	1-49	50-99	100-149
91F543	AU-1028	4x5x3"	1/2	2.00	1.80	1.60
91F544	AU-1029	6x5x4"	3/4	2.20	2.00	1.75
91F545	AU-1039	6x6x6"	1	3.10	2.80	2.50
91F546	AU-1040	9x6x5"	1 1/2	3.65	3.30	2.90
91F547	AU-1083	4x4x2"	1/4	2.00	1.80	1.60
91F716	AU1083HG	4x4x2"	1/4	2.20	2.00	1.75
91F717	AU1028HG	4x5x3"	1/2	2.55	2.30	2.05
91F718	AU1029HG	6x5x4"	3/4	2.65	2.40	2.10
91F719	AU1039HG	6x6x6"	1	3.50	3.05	2.80
91F720	AU1040HG	9x6x5"	1 1/2	4.40	3.95	3.50

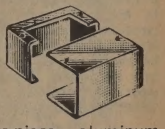


Ideal for mounting amplifiers, meters, test instruments, etc. Removable front and back may be fastened to cabinet with self-tapping screws provided. Available in natural or light gray hammertone finish (HG). Rugged and attractive. Aluminum alloy 5005 H14.

MINIBOXES

Grey Hammertone							Natural Aluminum				
Stk. No.	Type	1-49	50-99	100-149	LxHxW	Wt. Lbs.	Stk. No.	Type	1-49	50-99	100-149
91F700	CU-2100A	1.00	.90	.80	2 3/4x2 1/8x1 5/8"	1/4	91F572	CU-3000A	.90	.80	.70
91F701	CU-2101A	1.00	.90	.80	3 1/4x2 1/8x1 5/8"	1/4	91F573	CU-3001A	.90	.80	.70
91F702	CU-2102A	1.10	1.00	.90	4x2 1/8x1 5/8"	1/4	91F574	CU-3002A	.90	.80	.70
91F703	CU-2103A	1.20	1.10	.95	4x2 1/4x2 1/4"	1/4	91F575	CU-3003A	1.10	1.00	.90
91F704	CU-2104A	1.30	1.15	1.05	5x2 1/4x2 1/4"	1/4	91F576	CU-3004A	1.20	1.10	.95
91F705	CU-2105A	1.65	1.50	1.30	5x4x3"	1/2	91F577	CU-3005A	1.20	1.10	.95
91F706	CU-2106A	1.45	1.30	1.15	5 1/4x3x2 1/8"	1/4	91F578	CU-3006A	1.20	1.10	.95
91F707	CU-2107A	2.10	1.90	1.70	6x5x4"	3/4	91F579	CU-3007A	1.55*	1.40	1.25
91F708	CU-2108A*	2.40	2.15	1.90	7x5x3"	3/4	91F580*	CU-3008A	2.00	1.80	1.60
91F709	CU-2109A	3.10	2.80	2.50	8x6x3 1/2"	1	91F581*	CU-3009A	2.55	2.30	2.05
91F697	CU-2110A*	3.40	3.05	2.70	10x6x3 1/2"	1 1/4	91F582*	CU-3010A	2.75	2.50	2.20
91F698	CU-2111A*	4.60	4.15	3.70	12x7x4"	1 3/4	91F583*	CU-3011A	3.85	3.45	3.10
91F535	CU-2112A*	4.60	4.15	3.70	17x5x4"	2 1/4	91F584*	CU-3012A	3.85	3.45	
91F536	CU-2113A*	1.75	1.60	1.40	10x2x1 5/8"	1/2	91F585*	CU-3013A	1.45	1.30	1.15
91F537	CU-2114A*	2.30	2.05	1.85	12x2 1/2x2 1/4"	3/4	91F586*	CU-3014A	2.00	1.80	1.60
91F538	CU-2115A	1.20	1.10	.95	4x2x2 3/4"	1/4	91F587	CU-3015A	1.10	1.00	.90
91F539	CU-2116A	1.20	1.10	.95	4 1/4x2 1/4x1 1/2"	1/4	91F588	CU-3016A	1.10	1.00	.90
91F540	CU-2117A	1.20	1.10	.95	3 1/4x2 1/8x1 1/8"	1/4	91F589	CU-3017A	.90	.80	.70

*Made of .050" aluminum.

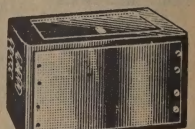


Two-piece aluminum design insures maximum degree of accessibility, adequate shielding as well as complete protection from mechanical injury and dust particles. Formed of .040 gauge aluminum. Comb. snap lock and screw type fastening. Excellent for constructing amplifiers, shielded oscillators, etc.

DELUXE METAL CABINET RACKS COMPLETE WITH PANELS

Will accommodate standard 19" panels. Five larger sizes only have hinged rear door. All sizes have top door for easy servicing or inspection. "No scratch" metal feet are embossed on bottom to minimize marring. Available in black Rinkletex (BR), gray Rinkletex (BR) gray Rinkletex (GR), or light gray hammertone (HG) finish, specify when ordering.

Black	Grey	Type	HG Fin.	Type	DxWxH	Panel	Wt. Lbs.	1-14	15-24	25-34
91F687	91F688	CR-1726	91F689	CR-1726HG	14 3/4x22x8 25/32"	7"	28	20.70	18.65	16.55
91F650	91F656	CR-1741	91F671	CR-1741HG	14 3/4x22x10 5/16"	8 3/4"	30	22.65	19.85	17.65
91F662	91F664	CR-1740	91F668	CR-1740HG	14 3/4x22x12 5/16"	10 1/2"	34	25.85	23.25	20.70
91F651	91F657	CR-1742	91F672	CR-1742HG	14 3/4x22x14 1/16"	12 1/4"	37	26.65	24.00	21.30
91F652	91F658	CR-1739	91F673	CR-1739HG	14 3/4x22x15 13/16"	14"	40	36.10	32.50	28.90
91F653	91F659	CR-1743	91F669	CR-1743HG	14 3/4x22x19 5/16"	17 1/2"	47	35.40	31.85	28.30
91F654	91F660	CR-1744	91F670	CR-1744HG	14 3/4x22x28 1/16"	26 1/4"	58	40.85	36.75	32.70
91F666	91F667	CR-1728	91F674	CR-1728HG	14 3/4x22x33 5/16"	31 1/2"	68	43.35	39.00	34.70
91F655	91F661	CR-1745	91F675	CR-1745HG	14 3/4x22x36 13/16"	35"	78	45.55	41.00	36.45
91F663	91F665	CR-1727	91F675	CR-1727HG	14 3/4x22x22 13/16"	21"	51	38.00	34.20	30.40



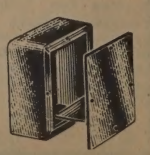
SLOPING PANEL CABINETS

Stk. No. Black	Type	Stk. No. HG Fin.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F782	C-1584	91F791	C-1584HG	6 1/2x7 1/16x7 9/32"	2 1/2	4.65	4.20	3.70
91F783	C-1587	91F792	C-1587HG	8x8 1/16x8"	2 3/4	6.15	5.55	4.90
91F784	C-1585	91F793	C-1585HG	6 1/2x9 1/16x7 9/32"	3	5.10	4.60	4.10
91F785	C-1588	91F794	C-1588HG	8x10 1/16x8"	3 1/4	6.80	6.10	5.45
91F786	C-1586	91F795	C-1586HG	6 1/2x11 1/16x7 9/32"	3 1/2	5.85	5.25	4.70
91F787	C-1894	91F796	C-1894HG	8x14 1/16x8"	4	7.25	6.55	5.80
91F788	C-1892	91F797	C-1892HG	8x13 1/16x15/32"	5 1/4	8.00	7.20	6.40
91F789	C-1896	91F798	C-1896HG	9x18 3/32x5/32"	7	10.15	9.15	8.10
91F790	C-1893	91F799	C-1893HG	10x18 3/32x10 1/2"	8 1/2	10.60	9.55	8.50

The entire front panel of this cabinet is removable if so desired. This cabinet is also provided with a hinged top for easy accessibility to tubes and other parts that are mounted on the chassis, without necessitating removal of the front panel. These cabinets are finished in black Rinkletex (BR) or light grey hammertone (HG) enamel.

MINIATURE UTILITY CABINETS

Stk. No.	Type	HxWxD	Wt. Lbs.	1-49	50-99	100-149
91F487	C1793	4x4x2"	3/4	1.85	1.65	1.50
91F488	C1794	4x5x3"	1 1/4	2.10	1.90	1.70
91F489	C1795	5x4x3"	1	2.30	2.05	1.85
91F490	C1796	6x5x4"	2	2.40	2.15	1.90
91F491	C1797	5x6x4"	2	2.75	2.50	2.20
91F492	C1798	6x6x6"	2 3/4	3.30	2.95	2.65

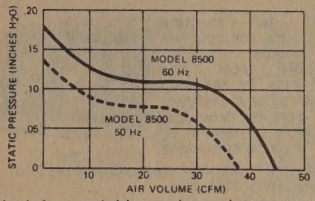


Has two removable panels. The front panel has a chassis attached. An ideal housing for constructing electronic devices using miniature tubes or transistors. Black Rinkletex (BR) finish only.

PAMOTOR

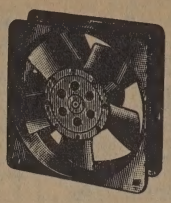
MODELS 8500 & 8500P

- Ultra-compact 3⅛" fan
- High air-flow; low noise
- Ideal for standard 3.5" rack applications
- Weighs only 18.5 oz.



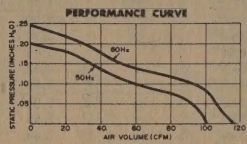
Sub-miniature, shaded pole axial fan for general cooling purposes. High air-flow ultra-quiet fan provides twenty percent more air-flow in free air, almost 3 times more air flow at moderate back pressures than competitive fans. Has half the noise level, making it ideal for portable equipment; or any application where size is a limiting factor and low noise is desirable. Designed for use in electronic devices from portable test equipment to large capacity computers. Delivers 43 cfm @ less than 28.8 dB SIL. Rated life (continuous operation): 100,000 hours @ 25°C, 20,000 hours @ 55°C. Heavy-duty, 12 inch, No. 24 AWG wire leads are standard. Tvpe 8500P similar to type 8500 except has 5 year warranty. Built to Underwriters' Laboratories standards. Size: 3⅛" x 3⅛" x 1½". Wt.: 18.5 oz.

Stock No.	Type	Hz.	CFM	RPM	W.	1-9	10-24	25-49	50-99	100-249
57F1038	8500	60	43	3200	15	14.95	13.65	12.60	11.30	10.50
57F1041	8500P	60	43	3200	15	18.95	17.35	15.95	14.35	13.30



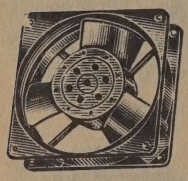
MODELS 4500A, 4500P & 4550A

- Low noise and high airflow output
- Powerful shaded-pole motor
- Wide variety of Applications
- U.L. Listed



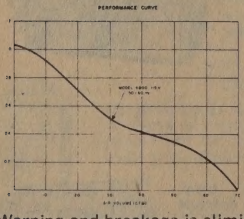
Shaded-pole type, low-noise level fans. Provide 115 cfm with less than 37.5 dB SIL. All-metal precision hubs, impellers, and die-cast housings eliminate warping often found in plastic fans. Designed for applications in electronic apparatus, such as computers, laboratory and office machines, sound systems, power supplies and telephone equipment. Designed to operate continuously at room temperature for over 100,000 hours. Delivers more air at lower noise level, yet priced under similar conventional plastic fans. Powerful shaded-pole motor operates with low internal heat rise— efficient inside-out design. Hand-fitted proven broached dual-sleeve bearing system assures longer, more reliable operation. Type 4500P is similar to type 4500A except has a 5 year warranty. Operates over range of 105 to 125 VAC at dual frequency of 50/60 Hz. Terminals: heavy-duty plug-in (also solderable — # 18 AWG wire. Size: 4 1/16 x 4 1/16 x 1½". U.L. Listed. Wt. 1 lb. 4 oz.

Stock No	Type	V.	RPM	W.	1-9	10-24	25-49	50-99	100-249
57F1025	4500	115	2900	20	12.65	11.70	10.50	9.55	8.90
57F1026	4550	230	2850	17	12.65	11.70	10.50	9.55	8.90
57F1042	4500P	115	2900	20	16.65	15.40	13.85	12.60	11.70



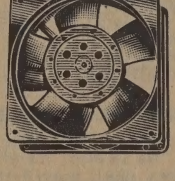
MODEL 4800

- Moderate air-flow, low-noise fan
- Ideal for Hi/Fi-Stereo equipment
- Warp-proof all-metal construction
- Corrosion resistant finish



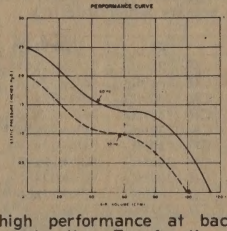
Miniature, shade-pole, axial fan. Moderate air flow, low noise fan intended for general cooling purposes. Designed for noiseless performance with noise level of less than 18 dB. SIL. Delivers 70 cfm of air. Ideal for such applications as Hi/Fi stereo equipment, television equipment, medical or office equipment. Fan functions as a natural heat sink, assuring cooler operation. Universal mounting, 4", makes it interchangeable with similar fans. Warping and breakage is eliminated by the all metal construction. Moisture resistant finish prevents deterioration under humid atmospheric conditions. Terminals are designed for use with # 18 AWG wire or with a plug and cord assembly. Size: 4 1/16" x 4 1/16 x 1½". Wt: 20 oz.

Stock No.	Type	V.	RPM	W.	1-9	10-24	25-49	50-99	100-249
57F1028	4800	115	1450	10	13.95	12.65	11.90	10.55	9.55



MODEL 4506

- High-temperature miniature fan
- For high air-flow low-noise applications
- Shaded-pole type motor provides higher torque capacity



All-metal shaded-pole ball-bearing high-temperature miniature axial fan. Designed for high air-flow, low-noise applications in a wide variety of equipment with high-temperature environments. Provides high performance and long life, in such equipment as diffusion furnaces and other equipment requiring fans to operate in an exhaust stream. Delivers 115 cfm at a noise level of less than 37.5 dB SIL. Maintains extremely high performance at back pressures. Lightweight all-metal construction. Fan functions as a natural heat sink, mandatory for fans operating in a high-temperature environment. Universal 4⅛" mounting makes it interchangeable with similar fans. Impeller blades are impulse-welded to the rotor and do not extend beyond the fan housing. Longer, more reliable trouble-free performance is assured by the exclusive ball-bearing system, sealed lubricated for life of fan. Lubrication is guaranteed to -40 C. Size: 4 1/16 x 4 1/16 x 1½". Wt. 20 oz.

Stock No.	Type	V.	RPM	W.	1-9	10-24	25-49	50-99	100-249
57F1027	4506	115	2950	19	23.95	22.35	19.70	18.10	16.90

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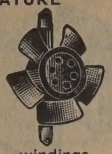
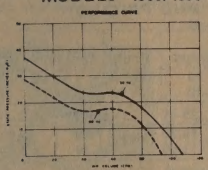
MODEL 4700 SHADED POLE MINIATURE

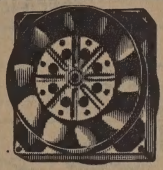


For industrial control equipment, audio amplifiers, telephone systems, RF power amplifiers, etc. 100,000 hours operation at room temperature delivering 65 CFM at a noise level less than 37 db. SIL. Measures 4½" in diameter and is designed for a universal mounting, interchangeable with similar fans. Special moisture resistant finish for humid atmospheric applications. Stator laminations, windings, and splices varnish treated and baked at 130°C. Fan speed: 2900 RPM at 115V/60 Hz. Temperature range: -20°C to +55°C. Power requirements: 105-125 VAC, 50/60 Hz.; 20 watts at 115 Volts. Wt. 1 lb.

Stk. No.	Mod.	1-9	10-24	25-49	50-99	100-249
57F1029	4700	12.65	11.70	10.50	9.55	8.90

MODELS 1500/1550 SHADED-POLE MINIATURE

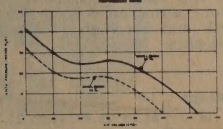




For portable test equip. to large computers. Unit meas. 4.45 x 4.45 x 1.97 in. with universal 4⅛ in. mounting, directly interchangeable with similar fans. All metal construction with moisture resist. finish for humid cond. Stator laminations, windings, and splices are varnish treated and baked at 130°C. Designed for more than 100,000 hrs. of cont. operation at room temp. Delivers 105 CFM at noise level less than 56 DB/SIL. Maintains high performance at back pressures shown on curves. Standard acces. available for both models. Model: 1500: 100-125 VAC, 50/60 Hz.; 27 watts; 3300 RPM. Model 1550: 198-253 VAC, 50/60 Hz.; 25 watts; 2800 RPM. Wt. 2 lbs. 10 oz.

Stk. No.	Mod.	1-9	10-24	25-49	50-99	100-249
57F1015	1500	18.20	16.35	14.70	13.20	11.90
57F1017	1550	18.20	16.35	14.70	13.20	11.90

MODELS 1000A AND 1110 INDUCTION TYPE



- **120 CFM Capacity**
- **100,000 Hrs. At Room Temperature**

For industrial and military applications. Die-cast housing eliminates warping and breakage common to plastic fans. Meas. 4½x4½x1³¹/₃₂ in. Univ. 4⅛ in. mount. Model 1000A: 105-125 VAC, 50/60 Hz.; 29 watts; 3500 RPM; -20°C to +45°C. Model 1110: 105-125 VAC, 400 Hz.; 35 watts; 3740 RPM; -20°C to +55°C. Wt. 2 lbs. 8 oz.

Stk. No.	Mod.	1-9	10-24	25-49
57F1004	1000A	31.55	28.40	25.35
57F1006	1110	42.10	37.60	34.70

ACCESSORIES

Mounting Brackets — 5501. Two cadmium plated steel mounting brackets. These must be ordered separately.

Filter — 5501. The multilayer, oil-treated metal filter is designed to permit a maximum of air flow while providing effective filtering.

Screen Assembly — 5503. The screen portion is a protective fan guard and is housed in a rugged die-cast metal frame with spring steel holding clips which mount the assembly on equipment panels. Mounting brackets (part number 5501) for the screen assembly must be ordered separately.

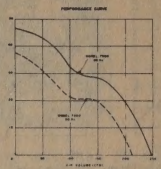
Finger Guards

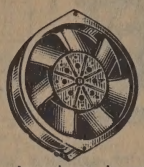
5504—Metal. Attaches easily, for safer operation
5506—Metal. For 6" fans; 7500 and 7550
5507—Plastic. For 4⁷/₁₆" fans; 1000, 1110, 1300, 1500, and 1550
5508—Metal. For 3⅛" fans; 8500, 8550

Plug and Cord—5505. Durable plug and cord assembly measures 24" long.

Stk. No.	Type	Des.	1-499	Stk. No.	Type	Des.	1-499
57F1030	5501	Brac. (2)	.20 pr.	57F1035	5506	Finger Guard	3.00
57F1031	5502	Filter	2.00 ea.				
57F1032	5503	Scrn.Assbly	2.00 ea.	57F1036	5507	Finger Guard	.85
57F1033	5504	Finger Guard	1.00 ea.	57F1039	5508	Finger Guard	.85
57F1034	5505	Plug & Cord	.60	57F1037	5509	Air Strghtn'r.	3.50

MODEL 7500 AND 7550 SHADED-POLE MINIATURE

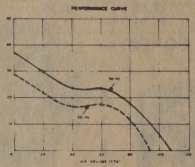


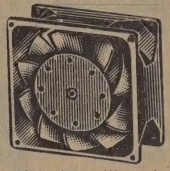


Light weight fan for use where high air volume is essential, or to replace several smaller fans. Delivers 250 CFM at a noise level less than 40.6 db SIL. Unit measures 5²⁹/₃₂ x 6⅜ x 2¾₁₆ inches, one-third larger but provides more than 2½ times the air flow. 100,000 hours operation at room temperature. Performance characteristics with variable back pressures are illustrated on adjacent graph. Model 7500: 105-125 VAC, 50/60 Hz.; 40 watts; 3300 RPM. Model 7550: 198-253 VAC, 50/60 Hz.; 49 watts; 3250 RPM. Temp. range, -20°C to +50°C. Wt. 2 lbs. 11.5 oz.

Stk. No.	Mod.	1-9	10-24	25-49	50-99	100-249
57F1023	7500	32.90	31.15	28.05	24.95	23.40
57F1024	7550	32.90	31.15	28.05	24.95	23.40

MODELS 2500 AND 2550 SHADED-POLE MINIATURE

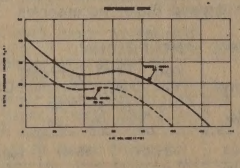


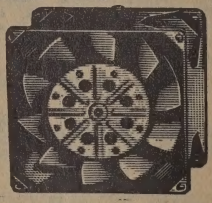


Miniature axial fan measuring 4⁷/₁₆x4⁷/₁₆x1³¹/₃₂ in. with universal 4⅛ in. mounting. Stator laminations, winding, and splices are varnish treated and baked at 130°C. Moisture resistant finish prevents corrosion under extreme temp. variations and humid atmospheric conditions. Performance characteristics with variable back pressures are illustrated on adjacent graph. Noise level, 43 db SIL. Model 2500: 105-125 VAC, 50/60 Hz.; 25 watts; 3300 RPM. Model 2550: 198-253 VAC, 50/60 Hz.; 31 watts; 3250 RPM. -20°C to +45°C. Wt. 2 lbs. 10 oz.

Stk. No.	Mod.	1-9	10-24	25-49	50-99	100-249
57F1019	2500	18.20	16.35	14.70	13.20	11.90
57F1021	2550	18.20	16.35	14.70	13.20	11.90

MODEL 2000 INDUCTION TYPE



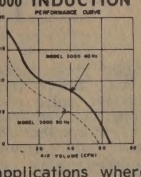


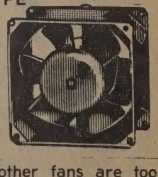
Min. axial fan for wide variety of electronic devices which require low noise and high air flow. Delivers 125 CFM, noise level less than 42 db. SIL. Cont. operation more than 100,000 hrs. at room temp. Special baked finish makes it usable under humid atmospheric cond. Adjacent graph gives performance char. 105-125 VAC, 50/60 Hz.; 29 watts; 3500 RPM; -20°C to +45°C. Wt. 2 lbs. 1 oz.

Stk. No.	Mod.	1-9	10-24	25-49
571011	2000	31.55	28.40	25.35

MODEL 3000 INDUCTION TYPE

- **65 CFM, 3¹⁵/₃₂ Inches**
- **Adjustable Speed Operation**
- **Will Not Warp, Crack, Or Shatter**





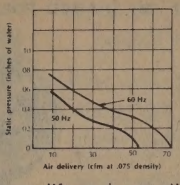
May be used in many applications where other fans are too large yet delivering a high volume of air movement. All metal construction insures maximum durability, and natural heat sinking. Metal impeller blades do not protrude beyond diecast housing. Baked grey moisture resistant finish protects against corrosion and deterioration in humid atmospheric conditions or extreme temperature variations. Performance characteristics with variable back pressures are illustrated on adjacent graph. 105-125 VAC, 50/60 Hz.; 15 watts; 3200 RPM; Temperature range, -20°C to +45°C. Wt. 1 lb. 3 oz.

Stk. No.	Mod.	1-9	10-24	25-49
57F1000	3000	20.05	18.10	16.30

Fans

IMC

BALL BEARING BOXER



Designed for optimum life and operating efficiency, equipped with stainless steel ball bearings provide minimum 10 year life. Temp. range: -250F to +1850F. Patented bearing design utilizes a large capacity lubricant reservoir to insure long bearing life and lubricant cooling. Ideal for use in instruments and systems requiring long life, quiet operation and minimum maintenance. Fan can be mounted in either direction to give exhaust or intake.

SPECIFICATIONS AND PRICING

Stk. No.	Type	Volt. (Vac)	Current (Amps)	Freq. (Hz)	Air Delivery (cfm)
62F1577	BS2107FL	115	.18	60/50	115
60F1628	BS2107FL-2	115	.10	60/50	70

Stk. No.	1-9	10-24	25-49	50-99	100-249
62F1577	21.85	20.75	19.05	16.75	16.15
60F1628	22.25	21.65	19.95	17.55	16.90

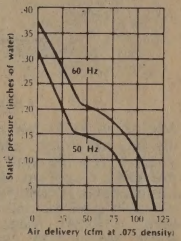
• NEW SUPER BOXER

High performance

UL Approved

Metal housing

7 blade impeller



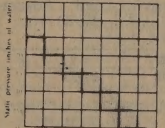
High performance fans designed for efficient, economical cooling in tightly packed card racks, cabinets, and similar space critical systems enclosures. Aerodynamic impeller design provides exceptional output characteristics against high back pressure, see adjoining performance chart. Two patented bearing designs are available. Operating temperature range: —25°F to +185°F for ball bearing model, —20°F to +158°F for sleeve bearing. Operate on 50 or 60 Hz, 115 volt input. Size and styling are identical to the standard Boxer. For added flexibility Super Boxer fans accept the wide range of standard Boxer accessories. Size: $4^{11}/_{16}$"x$4^{11}/_{16}$"x$1^{1}/_{2}$" deep.

SPECIFICATIONS AND PRICING

Stk. No.	Type	Bearing	Volt. (Vac)	Freq. (Hz.)	Current Amps.	CFM
62F1570	BS2107F-110	ball	115	60/50	.20	117
62F1571	WS2107F-110	sleeve	115	60/50	.24	117

Type	1-9	10-24	25-49	50-99	100-249
62F1570	23.80	22.70	20.90	18.60	17.90
62F1571	15.40	14.05	12.60	11.20	10.50

DC BOXER



Long life

Mounts easily

Versatile

Solid state inverter

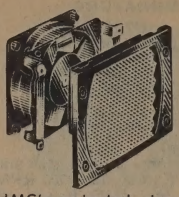
Integrally mounted solid state module converts DC input to drive the standard A.C. Boxer fan. Eliminates arcing contacts with their attendant noise and short life found in DC fans. Integrally mounted inverter means no extra connections or additional fasteners. Protected circuit; inadvertent reversal of polarity will not cause failure of inverter electronics.

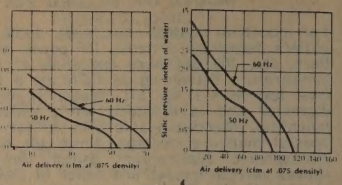
SPECIFICATIONS AND PRICING

Stk. No.	Type	Bearing	Input VDC	Air Delivery (cfm)
60F1647	BS2107F-12	ball	12-16	97-118
60F1649	BS2107F-24	ball	22-26	100-110
60F1646	WS2107F-12	sleeve	12-16	95-110
60F1648	WS2107F-24	sleeve	22-26	97-110

Type	1-9	10-24	25-49	50-99
60F1647	59.50	58.40	56.70	54.40
60F1649	59.50	58.40	56.70	54.40
60F1646	51.60	50.20	48.85	47.50
60F1648	51.60	50.20	48.85	47.50

SLEEVE BEARING BOXER





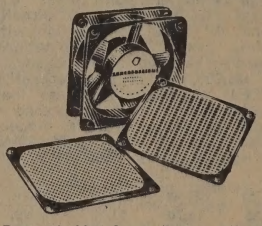
IMC's patented sleeve bearing, a unique oil recirculating design that assures positive lubrication of the entire bearing surface, provides cooler, more efficient operation longer life than conventional designs, units are rated at 10 years life under normal operating temperatures from -200F to +1580F. UL Approved.

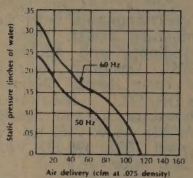
SPECIFICATIONS AND PRICING

Stk. No.	Type	Volt.	Amps	Freq.	Air Delivery (cfm)
60F1600	WS2107FL	115	.24	60/50	115
60F1625	WS2107FL-2	115	.10	60/50	70

Type	1-9	10-24	25-49	50-99	100-249
60F1600	12.40	11.30	10.20	9.30	8.90
60F1625	14.50	13.20	11.90	10.60	9.80

MIL SPEC BOXER

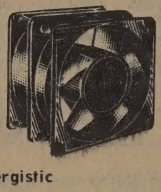


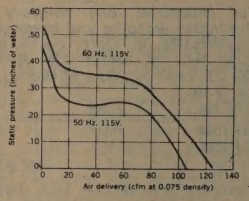


Rugged Mil Spec Boxer UL approved fans increase life and reliability of military equipment. Featuring ball bearing design units meet 16 different mil spec tests, salt, sand, humidity, fungus, moisture, rain, temperature, vibration shock, acceleration, radio noise finish and barometric pressure. Will operate up to +185°F. Frequency: 60/50 Hz. Air delivery: 115 cfm.

Stk. No.	Type	Volt. (Vac)	Amps	1-9	10-24	25-49	50-99	100-249
62F1572	BS2107F-0-1	115	.18	28.50	26.40	23.95	21.15	20.30

• NEW TANDEM BOXER





Synergistic

Parallel Redundancy

Two Boxer working push-pull in tandem move volumes of air through systems where high density component packaging would otherwise impede airflow. Parallel redundancy by wiring and fuzing the two fan motors in parallel an extra measure of protection is obtained at a relatively low increase in cost. Excellent for use in evolving systems where addition of additional heat producing components requires more cooling with out changing enclosure. Frequency: 60/50 Hz. Air delivery: 125 CFM. Size: $4^{11}/_{16}$" x $4^{11}/_{16}$" x 3" deep.

Stk. No.	Type	Volt. (Vac)	Amps	1-9	10-24	25-49	50-99	100-249
62F1573	TBS2107F	115	0.35	44.00	41.80	38.40	33.80	32.60

BARBER-COLMAN

TUBE COOLING FAN

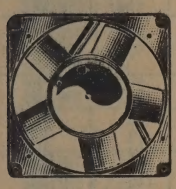
Model DYAB6167-3. High speed motor and fan for cooling power tubes and boosting current ratings of vacuum capacitors. Shaded Pole motor is not radio interfering. Size: $2^{19}/_{32}$" x $2^{3}/_{8}$" x $1^{5}/_{8}$". Shaft $^{1}/_{8}$" diam. For 110v, 50-60 cycles AC. Shpg. wt. 1 lb.

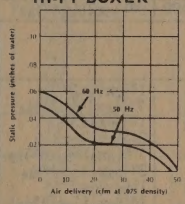
Stock No.	1-9	10-24	25-49	50-Up
28F998	7.45	6.43	6.13	4.70

IMC BOXER FANS

The basic fan is compact, just 4 1/16 inches square by 1½ inches deep. Mounts for either intake or exhaust (flip fan over to reverse air flow) inside or outside the equipment to be cooled. Rugged all metal housing resists breakage and acts as an effective heatsink. Motors are reliable 60/50 Hz shaded pole types. Five bladed aerodynamic impeller (seven bladed in SuperBoxer) is designed for high strength, light weight and maximum air delivery against high impedance. Construction and other features found only in Boxer fans are covered by three US Patents. The standard ball bearing, sleeve bearing, Super Boxer, Mil Spec Boxer, Tandum Boxer, HIFi Boxer and Condor fans are all Underwriter Laboratory Approved. IMC fans are excellent for cooling all types of electronic enclosures helping to reduce the size of the system or enclosure. Effective cooling provided by IMC fans will prolong the life of electronic components and in many cases permit the use of less expensive components in instruments of systems thereby reducing the system cost while at the same time adding reliability. No other fan can offer IMC's metal housing, lubrication system, cooling power, quiet operation and long life at the same cost.

HI-FI BOXER



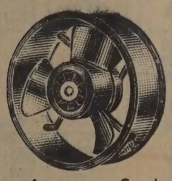


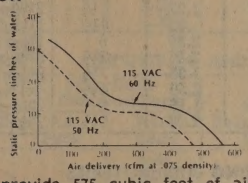
- 50 CFM
- Easy Installation
- Low Cost
- Hardware Included

A high powered exceptionally low-noise fan that will fit into almost any enclosure. It will remove heat quietly, efficiently and extend the life of your Hi-Fi. Comes as a kit including Boxer fan, line cord, mounting brackets, rubber isolators and hardware. Low cost, easy to install. Filter & guards available. Frequency: 60/50 Hz. Air delivery: 50 CFM.

Stk. No.	Type	Volt (VAC)	Amps	1-9	10-24	25-49	50-99	100-249
60F1639	WS2107F-9	115	.10	14.50	13.25	12.00	10.75	10.00

CONDOR

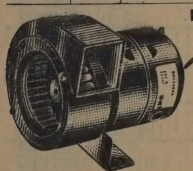


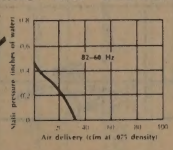


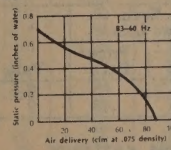
High performance Condor fans provide 575 cubic feet of air per minute for use in relay racks, transmitter packages, computers, peripheral equipment, and electronic enclosures where high volume flushing and cooling is required. Lightweight, 10 inches dia. and 3.5 inches depth design makes for easy mounting inside or outside system enclosures. Aerodynamically designed impeller is high strength polycarbonate with integral venturi and skelton assembly of sturdy die-cast aluminum. Condor motor, equipped with long-life stainless ball bearings is matched to the impeller for maximum operating efficiency. Zinc plated steel finger guard available. Standard terminal block, 115 volts 50/60 Hz. Operates over temperature range from -20°F to +140°F. Noise level is held to a minimum, less than 49DB (SIL).

Stk. No.	Type	Description	1-9	10-24	25-49	50-99	100-249
60F1645	10	With Standard terminal block	28.70	26.80	25.50	22.45	20.90
62F1574	11	With Quick Disconnect term. block	28.80	26.90	25.60	22.55	23.00
62F1575	12	With 24" lead extension	28.20	26.30	25.00	21.00	20.40

IMC AIR BLOWERS



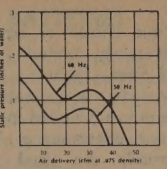




Designed for applications where low air flows are required at relatively high pressures. Compactly designed metal housings will not distort under heat. Continuous duty operation, single phase shaded pole motor with bearing life of 10,000 hours at 125°F. Size B2, 7/8"h x 4¾" w x 3½" d.B3 5⅝" h x 5⅞" w x5"d. For operation from 115 volts, 50-60 cycles.

Stk. No.	Type	CFM	Amps.	1-9	10-24	25-49	50-99	100-249
60F1617	B2	24	.55	13.75	12.75	11.90	11.40	10.90
60F1618	B3	87	.60	26.35	24.75	23.75	22.75	21.80

MINI BOXER

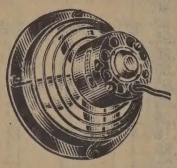


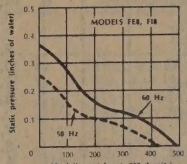
- 3⅜ inch square
- 46 CFM
- Metal housing
- Long life

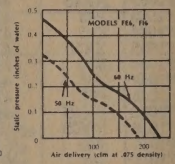
Measuring less than 20 cubic inches (3⅜ inch sq. x 1½ inch deep) with a total unit weight 1.6 lbs. Mini Boxer fans deliver 46 CFM for cooling tape decks, memory stacks, main frames and similar low profile cooling applications. Motors are reliable shaded pole type operating on 115 VAC, 60 Hz 1 phase. Aerodynamic five bladed impeller is high strength, fire retardent polypropylene venturi housing, spider and hub are die-cast of rugged zinc alloy. No filter or screen kits are available.

Stk. No.	Type	Bearing	Amps	1-9	10-24	25-49	50-99	100-249
60F1642	MWS2107F	sleeve	.24	14.40	13.00	11.65	10.30	9.60

IMC AIR FANS







For applications where high air flow and low noise operation is required. Precision-built shaded pole motor. Flush mounting with shaft is any operating position. All single phase. Size: Model FE8, F18, 10" dia. x 2½" deep - 5 13/16" with motor clearance. Models FE6, F16 8⅛" dia x 2" deep -4½" with motor clearance. For operation from 115 volts, 50-60 cycles.

Stk. No.	Type	CFM	Amps.	1-9	10-24	25-49	50-99	100-249
60F1613	FE6	225	.50	15.30	13.80	13.00	12.30	11.50
60F1614	F16	225	.50	15.30	13.80	13.00	12.30	11.50
60F1615	FE8	485	1.0	26.60	25.00	24.00	21.30	20.00
60F1616	F18	485	1.0	26.60	25.00	24.00	21.30	20.00

ACCESSORIES

Type 69-95 Boxer Screen Kit
Consists of screen assembly and one set of mounting brackets with screws and nuts.

Type 69-79-1 Mounting Brackets
Cadmium plated steel, positive action mounting brackets allow quick, easy, shock and vibration proof installation. Includes screws, nuts and washers.

Type 69-94 Boxer Filter Kit
Consists of filter panel, filter frame, plus one set of mounting brackets and hardware.

Type 69-93 Slim Line Filter
Compact filter measures just 0.125-inch deep for applications where space is critical and systems must be protected from the environment. One piece all aluminum design is more rugged than plastic frame filters and is alodined for RFI shielding. Supplied oil sprayed, it can be easily washed in solvent or vapor degreaser, or cleaned ultrasonically. Respray with atomized oil after cleaning. Filter may be mounted directly to a panel or to the fan with bolts or self-tapping screws.

Type 69-93-1 Slim Line Screen
Sturdy, all aluminum, flat screen unit, just 0.125-inch thick acts as an effective guard for fingers or other large objects. Mounts directly to the fan or to the panel. Minimal airflow impedance. May be easily removed for cleaning.

Type 65-175 Finger Guard
Bright, zinc plated finger guard ⅜-inch deep, prevents accidental contact with the rotating fan impeller.

Type 69-74 Plug and Cord Set
Fully insulated 24-inch cord with female connector, plugs into fan terminals.

Type 69-74-1 Plug and Cord Set
Fully insulated 36-inch cord set with female plug. Plug can be optionally removed and wires soldered directly to the fan terminals.

Stk. No.	Type	Net	Stk. No.	Type	Net
60F1607	69-95	1.75	60F1638	69-93-1	1.50
60F1643	69-79-1	.30	60F1624	65-175	.75
60F1606	69-94	3.25	60F1623	69-74	.60
60F1637	69-93	1.50	62F1576	69-74-1	.80

BURGESS • EVEREADY® Radio and Industrial Batteries

BURGESS AND EVEREADY RADIO BATTERIES

Your choice of equivalent Burgess and Eveready batteries for a wide variety of uses. Includes portable radios, tape recorders and hearing aids. NEDA numbers are included in the tables (below) for your convenience. These world renown brands are used extensively by both government and industrial research laboratories. Both Burgess and Eveready batteries are noted for dependable performance and long life. *Indicates price per each in standard package quantity. †S.P. indicates standard package price. ‡B.P. indicates broken package price.

COMBINATION "A" AND "B" PACKS

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each In Case Lots: Price Each	Volts	Size	Approx. Wt. Lbs.	NEDA No.
49F1000	6TA60	.....	1	11.40	.....	.....	.....	1½A, 90B	$9\frac{31}{32}$x$2\frac{1}{4}$x$4\frac{23}{32}$"	$4\frac{3}{4}$	410

PORTABLE "B" BATTERIES

49F1001	U30	415	1	1.95	.....	6	1.75	$22\frac{1}{2}$	$1\frac{3}{32}$x$\frac{5}{8}$x$\frac{31}{16}$	2 oz.	213
49F1002	XX45	467	1	3.05	.....	12	2.70	$67\frac{1}{2}$	$2\frac{13}{16}$x$1\frac{3}{8}$x$3\frac{43}{64}$	$\frac{3}{4}$	200
49F1003	P45	477	1	3.40	.....	6	3.05	$67\frac{1}{2}$	$1\frac{29}{32}$x1x$5\frac{7}{16}$	$\frac{1}{2}$	211
49F1004	K45	457	1	3.35	.....	6	2.97	90	$2\frac{13}{16}$x$1\frac{3}{8}$x$2\frac{1}{2}$	$\frac{1}{2}$	203
49F1005	XX50	437	1	8.95	.....	6	8.10	75	$1\frac{15}{16}$x$1\frac{15}{32}$x$6\frac{15}{32}$	$\frac{3}{4}$	212
49F1006	V60	490	1	3.80	.....	6	3.40	90	$3\frac{23}{32}$x$1\frac{3}{8}$x$3\frac{43}{64}$	$1\frac{1}{4}$	204
49F1007	U15	412	1	1.35	.....	12	1.17	$22\frac{1}{2}$	$1\frac{1}{32}$x$\frac{5}{8}$x2	$1\frac{1}{4}$	215
49F1008	P60	479	1	4.85	.....	6	4.35	90	$1\frac{31}{32}$x$1\frac{1}{32}$x$7\frac{15}{32}$	$\frac{3}{4}$	214
49F1009	UX45	416	1	3.90	.....	6	3.50	$67\frac{1}{2}$	$1\frac{21}{64}$x$6\frac{3}{64}$x$3\frac{1}{2}$	$3\frac{1}{2}$ oz	217
49F1010	N60X	.....	1	7.20	.....	3	6.50	90	$1\frac{15}{16}$x$1\frac{15}{32}$x$7\frac{1}{8}$	$\frac{3}{4}$	216
49F1011	V45	.....	6	3.10	3.10	12	2.77	$67\frac{1}{2}$	$2\frac{3}{4}$x$1\frac{11}{32}$x$3\frac{43}{64}$	$\frac{3}{4}$	200C
49F1012	.....	495	1	4.95	.....	6	4.45	90	$1\frac{7}{8}$x$1\frac{11}{32}$x$7\frac{1}{8}$	$1\frac{1}{4}$	216
49F1013	.....	468	1	3.25	.....	12	2.91	$67\frac{1}{2}$	$2\frac{3}{4}$x$1\frac{11}{32}$x$3\frac{43}{64}$	$\frac{3}{4}$	200C

ASSORTED PORTABLE BATTERIES

49F1014	1	935	24	2.20	2.45	144	.195	$1\frac{1}{2}$	$1\frac{1}{32}$Dx$1\frac{15}{16}$	$\frac{3}{4}$	14F
49F1015	2F	W353	1	1.40	.....	6	1.22	$1\frac{1}{2}$	$2\frac{19}{32}$x$1\frac{3}{8}$x$4\frac{1}{4}$	$\frac{3}{4}$	11
49F1016	.....	950	48	.40	.50	192	.33	$1\frac{1}{2}$	$1\frac{11}{32}$Dx$2\frac{13}{32}$	2 oz.	.....
49F1017	Z4	724	1	2.95	.....	6	2.65	6	$1\frac{7}{32}$x$1\frac{7}{32}$x$2\frac{7}{16}$	$\frac{1}{4}$	2
49F1018	B5	713	1	3.20	.....	6	2.85	$7\frac{1}{2}$	$3\frac{29}{32}$x$\frac{7}{8}$x$2\frac{27}{32}$	$\frac{1}{2}$	8
49F1019	C5	717	1	1.55	.....	6	1.35	$7\frac{1}{2}$	$2\frac{7}{32}$x$1\frac{15}{16}$x$3\frac{1}{32}$	$\frac{3}{4}$	9
49F1020	F3	736	1	2.80	.....	4	2.50	$4\frac{1}{2}$	4x$1\frac{1}{16}$x$4\frac{1}{8}$	$1\frac{1}{4}$	3
49F1021	F4P1	744	1	1.35	.....	12	1.15	6	$2\frac{21}{32}$x$2\frac{21}{32}$x$4\frac{1}{8}$	$1\frac{1}{2}$	6
49F1022	4D	.....	1	2.35	.....	12	2.08	$1\frac{1}{2}$	$2\frac{5}{8}$x$2\frac{5}{8}$x$2\frac{13}{16}$	1	.....

TRANSISTOR RADIO AND HEARING AID BATTERIES

49F1023	NE	904	6	.15	.25	48	.095	$1\frac{1}{2}$	445Dx1.18	$\frac{1}{2}$ oz.	910
49F1024	D6PI	2506	1	4.65	.....	3	4.20	3, 6, 9	$2\frac{13}{16}$x$1\frac{19}{16}$x8	$4\frac{1}{4}$	1601
49F1025	2N6	246	1	1.70	.....	6	1.50	9	$1\frac{13}{32}$x$1\frac{11}{32}$x$2\frac{3}{4}$	$\frac{1}{4}$	1602
49F1026	D6	276	1	1.90	.....	6	1.67	9	$2\frac{29}{16}$x$2\frac{1}{32}$x$\frac{35}{32}$	1	1603
49F1027	XX9	239	1	4.65	.....	6	4.20	9, $13\frac{1}{2}$	$1\frac{21}{64}$x$1\frac{11}{32}$x$2\frac{11}{16}$	2 oz.	1900
49F1028	2U6	216	48	.55	.65	192	.48	9	$1\frac{1}{32}$x$1\frac{1}{16}$x$1\frac{29}{32}$	$1\frac{1}{4}$ oz.	1604
49F1029	P6	226	6	.95	1.10	24	.88	9	1D.x$1\frac{15}{16}$	$1\frac{1}{2}$ oz.	1600
49F1030	230	1050	12	.30	.35	72	.22	$1\frac{1}{2}$	$1\frac{11}{32}$D.x$2\frac{13}{32}$	3 oz.	13
49F1031	A4	.....	1	3.05	.....	3	2.75	6	$1\frac{9}{32}$x$1\frac{9}{32}$x$2\frac{11}{32}$	$\frac{1}{4}$	.....
49F1032	D5	707	1	2.80	.....	6	2.50	$7\frac{1}{2}$	$2\frac{9}{16}$x$2\frac{1}{32}$x$2\frac{13}{16}$	1	26
49F1033	C6X	2356N	1	2.45	.....	6	2.16	9	$2\frac{5}{16}$x$1\frac{5}{32}$x$6\frac{1}{4}$	$\frac{1}{2}$	1612
49F1034	130	1035	12	.30	.35	72	.22	$1\frac{1}{2}$	$1\frac{1}{32}$Dx$1\frac{15}{16}$	2 oz.	14
49F1035	930	1015	24	.25	.35	144	.19	$1\frac{1}{2}$	$\frac{9}{16}$Dx$1\frac{31}{32}$	$\frac{1}{2}$ oz.	15
49F1036	M6	266	1	1.55	.....	12	1.36	9	$1\frac{13}{16}$x$1\frac{13}{16}$x$2\frac{7}{16}$	$\frac{1}{2}$	1605
49F1037	D6S	2761N	1	5.35	.....	6	4.80	9	$2\frac{9}{32}$x$1\frac{1}{4}$x$7\frac{31}{32}$	$1\frac{1}{4}$	1608
49F1038	.....	960P	1	1.45	.....	6	1.30	$1\frac{1}{2}$	$1\frac{11}{32}$Dx$4\frac{1}{16}$	$\frac{1}{2}$	23
49F1039	XX15	425P	1	2.60	.....	6	2.33	$22\frac{1}{2}$	$1\frac{23}{64}$x$1\frac{1}{32}$x$3\frac{15}{16}$	$\frac{1}{4}$	.....
49F1040	L6	206	6	.85	1.00	12	.70	9	$\frac{3}{4}$Dx2	$1\frac{1}{2}$ oz.	1611
49F340	PM8	228	1	1.20	1.20	12	1.05	12	$\frac{43}{64}$Dx$1\frac{31}{32}$	$\frac{1}{4}$	1810

PREMIUM GRADE TRANSISTOR RADIO BATTERIES

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Price Broken Pkg.	Price Each In Case Lots: Quantity Per Case	Price Each In Case Lots: Price Each	Volts	Size	Approx. Wt. Lbs.	NEDA No.
49F1041	2MN6	222	12	.75	.85	24	.65	9	$1\frac{1}{32}$x$2\frac{1}{32}$x$1\frac{29}{36}$	$1\frac{1}{2}$ oz.	1604D
49F1042	PM6	.....	6	1.05	1.20	12	.88	9	1Dx$1\frac{15}{16}$	$1\frac{1}{4}$ oz.	1600D

IGNITION AND TELEPHONE BATTERIES

49F1043	.....	735	1	1.15	.....	12	.99	$1\frac{1}{2}$	$2\frac{5}{8}$x$2\frac{5}{8}$x$4\frac{3}{8}$	$1\frac{1}{2}$	900
49F1044	4F2H	W357	1	4.30	.....	4	3.85	3	$3\frac{29}{32}$x$2\frac{11}{16}$x$5\frac{13}{16}$	$2\frac{1}{2}$	901
49F1045	4F4H	706	1	4.85	.....	6	4.34	6	$8\frac{5}{16}$x$2\frac{13}{16}$x$5\frac{7}{8}$	$6\frac{1}{4}$	902
49F1046	4F5H	715	1	5.85	.....	4	5.30	$7\frac{1}{2}$	$7\frac{1}{4}$x$4\frac{1}{16}$x$5\frac{7}{8}$	$7\frac{1}{2}$	903
49F1047	4F6H	716	1	6.65	.....	4	5.97	9	$8\frac{37}{64}$x$4\frac{1}{16}$x$5\frac{7}{8}$	$8\frac{1}{2}$	904
49F1048	6 Ign.	6 Ign.	12	1.13	1.30	12	.....	$1\frac{1}{2}$	$2\frac{5}{8}$Dx$6\frac{5}{8}$	$2\frac{1}{4}$	905
49F1049	6 Ind.	.....	12	1.13	1.30	12	.....	$1\frac{1}{2}$	$2\frac{5}{8}$Dx$6\frac{5}{8}$	$2\frac{1}{4}$	911
49F1050	S461	1461	4	3.98	4.45	4	.....	6	$10\frac{1}{32}$x$2\frac{25}{32}$x$7\frac{19}{32}$	$9\frac{1}{2}$	907
49F1051	6 Tel.	6GL	12	1.13	1.30	12	.....	$1\frac{1}{2}$	$2\frac{5}{8}$Dx$6\frac{5}{8}$	2	906

Industrial Type Batteries BURGESS • EVEREADY

BURGESS AND EVEREADY INDUSTRIAL-TYPE BATTERIES

All the batteries listed below are guaranteed fresh when they leave our stock and carry additional manufacturers' guarantees. Made to high standards and fully inspected, these batteries are of the highest quality. All types listed below have binding post terminals, except where U or K in the type number indicate flat terminals. Similarly, PI denotes plug-in, SC screw type terminals. Equivalent NEDA numbers are included in tables for your convenience.

INDUSTRIAL AND ELECTRONIC "A" BATTERIES

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each	Volts	Size	Approx. Wt. Lbs.	NEDA No.
49F1052	1	935	24	.25	.35	144	.195	1½	1 11/32 x 1 15/16	⅛	14F
49F1053	2FH	711	5	1.06	1.25	5	.....	1½	2 21/32 x 1 3/8 x 4 3/8	½	700
49F1054	4F	742	1	1.35	.....	12	1.15	1½	2 5/32 x 2 5/8 x 4 3/32	1½	4
49F1055	.....	743	1	3.00	.....	6	2.69	1½	4 3/32 x 2 3/4 x 4 1/16	2	5
49F1056	2F2H	W356	5	2.51	2.80	5	.....	3	2 5/8 x 2 5/8 x 4 13/16	1½	703
49F1057	F2BP	W352	6	1.65	1.85	6	.....	3	2 21/32 x 1 3/8 x 4 9/16	1	701
49F1058	432	751	1	3.25	.....	6	2.90	4½	2 x 1 1/16 x 2 21/32	¼	705
49F1059	532	703	1	1.85	.....	10	1.63	4½	2 15/32 x 2 7/32 x 3 1/16	¼	706
49F1060	F4BP	510S	1	1.30	.....	12	1.13	6	2 5/8 x 2 5/8 x 4 3/8	1½	915

INDUSTRIAL AND ELECTRONIC "B"

49F1061	U10	411	1	1.15	.....	6	1.00	15	1 11/32 x 5/8 x 1 29/64	1 oz.	208
49F1062	Y10	504	1	.95	.....	12	.83	15	5/8 x 1 9/32 x 1 3/8	1 oz.	220
49F1063	U15	412	1	1.35	.....	12	1.17	22½	1 1/32 x 5/8 x 2	1 oz.	215
49F1064	Y15	505	1	1.35	.....	12	1.17	22½	5/8 x 1 9/32 x 1 63/64	1 oz.	221
49F1065	4156	763	1	1.85	.....	5	1.61	22½	3 17/32 x 2 1/8 x 2 15/16	1	710
49F1066	5156PI	.....	1	4.63	.....	1	4.63	22½	4 7/64 x 2 3/8 x 2 55/64	1½	721
49F1077	5156SC	778	5	4.63	5.15	5	.....	22½	4 1/8 x 2 17/32 x 3 7/16	1¾	708
49F1078	U20	413	1	1.45	.....	12	1.30	30	1 1/32 x 5/8 x 2 9/16	2 oz.	210
49F1079	Y20	506	1	2.45	.....	6	2.17	30	1 13/64 x 5/8 x 1 27/64	1 oz.	223
49F1080	K10	417	1	1.90	.....	6	1.67	15	1 5/16 x 3 1/32 x 1 9/16	2 oz.	224
49F1081	K15	420	1	2.05	.....	6	1.83	22½	1 5/16 x 3 1/32 x 2 9/32	2 oz.	225
49F1082	K20	430	1	2.45	.....	6	2.17	30	1 5/16 x 1 x 2 13/16	¼	226
49F1083	XX30PI	455P	1	3.40	.....	6	3.05	45	2 21/32 x 1 1/4 x 4 1/32	½	.....
49F1084	Z30NX	W350	5	2.69	3.00	5	.....	45	3 1/32 x 1 7/8 x 4 31/32	1½	711
49F1085	5308	762S	1	4.20	.....	5	3.77	45	4 3/32 x 2 9/16 x 5 7/16	2½	709

INDUSTRIAL AND ELECTRONIC "B" BATTERIES

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each	Volts	Size	Approx. Wt. Lbs.	NEDA No.
49F1086	2308SC	W365F	1	9.65	.....	5	8.72	45	8 3/32 x 2 31/32 x 2 5/8	7¼	723
49F1087	10308PI	W363F	1	9.65	.....	4	8.72	45	8 1/32 x 4 1/16 x 2 5/8	11½	726
49F1088	10308SC	W363P	1	9.65	.....	4	8.72	45	8 1/32 x 4 1/16 x 2 5/8	11½	716
49F1089	U-200	493	1	1.05	.....	3	9.07	300	2¾ x 2 9/32 x 3 29/32	1¼	722
49F1090	B30	484	2	9.15	8.25	6	7.45	45	4 1/16 x 2 17/32 x 5 5/16	2¼	207
49F1091	M30	482	1	3.75	.....	6	3.27	45	3 19/32 x 1 3/4 x 5 1/2	2	202
49F1092	XX30	455	1	2.75	.....	6	2.45	45	2 21/32 x 1 x 3 11/16	½	201
49F1093	Z30	738	1	5.50	.....	6	4.95	45	3 x 2 3/16 x 4 1/8	1¼	205
49F1094	XX69	.....	1	5.40	.....	....	4.86	103½	1 11/32 x 1 11/32 x 1 23/32	1¼	227

RCA

RCA BATTERIES

Stock No.	Type	Unit Pkg.	Volts	NEDA No.	Broken Pack	Unit Pack
49F1095	VS300A	6	9	1600	.75	.68
49F1096	VS300A(B)	1	9	1600	.76	.69
49F1097	VS304	1	9, 13½	1900	1.83	1.66
49F1098	VS305	1	9	1602	1.63	1.48
49F1099	VS306	1	9	1603	1.83	1.66
49F1100	VS322	1	9	1605	1.83	1.66
49F1101	VS323	12	9	1604	.53	.48
49F1102	VS323(B)	1	9	1604	.54	.49
49F1103	VS324	1	4½	1610	1.63	1.48
49F1104	VS327	1	9	1611	.68	.62
49F1105	VS327(B)	1	9	1611	.69	.63
49F1106	VS329	1	12	1810	1.16	1.05
49F1107	VS332	1	12	.....	.75	.68
49F1108	VS334	24	1½	15	.18	.16
49F1109	VS334(B)	4	1½	15	.70	.64
49F1110	VS335	24	1½	14	.21	.19
49F1111	VS335(B)	2	1½	14	.43	.39
49F1112	VS336	48	1½	13	.21	.19
49F1113	VS336(B)	2	1½	13	.43	.39

NEWARK Stocks the World's Most Complete Inventory of Industrial Electronic Components

RECHARGEABLE ALKALINE BATTERIES, CHARGER

MODEL BC-16 CHARGER. Recharges any AA, C and D alkaline rechargeable batteries such as RCA types VS1515, VS1514, and VS1513 (above). Completely recharges batteries in a 14 to 18 hour period. Positive action terminals hold batteries. Size, 9¾x4¾x2¾". 117VAC.

49F1114. NET. Shpg. wt., 1 lb. **$8.95**

Stock No.	Type	Volts	Amp. Hours	Size	Wt. Oz.	Per Pkg./2
49F1115	VS1515	1½	.3	"AA"	1	2.00
49F1116	VS1514	1½	1	"C"	2½	3.00
49F1117	VS1513	1½	2	"D"	5	3.50

BURGESS EVEREADY Batteries

FLASHLIGHT AND LANTERN BATTERIES

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each In Case Lots: Price Each	Volts	Size	Approx. Wt. Lbs.	NEDA No.
49F1118	2	950	50	.220	.245	200	.195	1½	1 11/32Dx2 13/32D	¼	13F
49F1119	210	1150	50	.25	.35	200	.20	1½	1 11/32Dx2 13/32D	¼	13C
49F1120	.....	D99	48	.30	.35	192	.22	1½	1 11/32Dx2 13/32D	¼	813
49F1121	1	935	24	.220	.245	144	.195	1½	1 1/32Dx1 15/16C	2 oz.	19F
49F1122	Z	915	24	.20	.25	144	.125	1½	9/16x1 31/32AA	½	15E
49F1123	7	912	24	.20	.25	72	.13	1½	1 3/32Dx1 3/4AAA	¼ oz.	24F
49F1124	NE	904	6	.10	.15	48	.095	1½	0.445x5Dx1.18	¼	910
49F1125	F4M	509	12	1.13	1.30	12	.....	6	2 5/8x2 5/8x4 13/32	1½	908
49F1126	TW1	731	1	2.55	.....	6	2.30	6	5 3/8x2 7/8x4 15/16	3¼	918
49F1127	TW2	732	1	2.55	.....	6	2.30	12	5 3/8x2 7/8x4 15/16	3¼	926
49F1128	TW1-X	.....	1	2.95	.....	6	2.64	6	5 3/8x2 7/8x4 15/16	3¼	918D
49F1129	4FM	1463	12	4.66	5.15	12	.....	12	10 1/2x7 13/32	1¼	922
49F1130	.....	735	1	1.25	.....	12	1.06	1½	2 5/8x2 5/8x4	1½	900
49F1131	.....	2744N	1	1.30	.....	12	1.13	6	2 21/32x2 21/32x4 1/8	1½	920
49F1132	.....	2780N	1	3.50	.....	8	3.13	12	5 11/32x2 27/32x5 5/32	3½	923
49F1133	.....	520	1	4.85	.....	4	4.34	6	5 13/32x4 21/32x2 21/32	3	930

PHOTO FLASH BATTERIES

49F1134	920	815	24	.25	.35	144	.195	1½	9/16Dx1 31/32AA	¾	15P
49F1135	U15	412	1	1.35	.....	12	1.17	22½	1 1/32x5/8x2	2 oz.	215
49F1136	XX150	489	1	8.50	.....	4	7.67	225	4 11/32x2 11/16x4 3/16	2½	.....
49F1137	.....	492	1	10.25	.....	6	9.25	225	3 9/16x2 29/32x4 29/32	3¼	.....
49F1138	.....	491	1	7.95	.....	6	7.19	240	2 13/32x1 5/16x4½	1	.....
49F1139	.....	479	1	3.35	.....	6	2.98	90	3x1 19/32x5 5/8	½	214
49F1140	M30	482	1	3.65	.....	6	3.27	510	3 19/32x1 3/4x5½	2	202

RECHARGEABLE 1.25-VOLT CELLS AND BATTERIES

Nickel cadmium. Wide temperature range.

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each In Case Lots: Price Each	Solder Lug Terms.	Size	Approx. Wt. Lbs.
49F1141	CD2	B50	1	1.25	.....	10	1.06	No	.610Dx.236	.01
49F1142	.....	B100	1	1.35	.....	6	1.19	No	.988Dx.232	0.3 oz.
49F1143	CD4	B225	1	1.35	.....	10	1.21	No	.988Dx.350	.03
49F1144	CD4L	B225T	1	1.60	.....	10	1.41	Yes	.988Dx.375	.03
49F1145	.....	BH225	1	1.25	.....	6	1.06	No	.988Dx.347	0.5 oz
49F1146	.....	BH500T	1	2.75	.....	6	2.47	No	1.355Dx.380	0.8 oz.
49F1147	CD6(AA)	C450	1	2.40	.....	10	2.14	No	.560Dx1.950	.05
49F1148	CD12L	.....	1	3.45	.....	10	3.10	Yes	1.310Dx.2775	.11
49F1149	.....	CH1.5	1	6.30	.....	6	5.67	No	1.031Dx1.969	3.2 oz.
49F1150	CD10(D)	CH4	1	7.90	.....	10	7.13	No	1.344Dx2.425	.32
49F1151	CD10L(D)	.....	1	8.05	.....	10	7.26	Yes	1.344Dx2.775	.32

NICKEL CADMIUM BATTERIES

Stock No.	Burgess Type	Eveready Type	Volts	Dimensions (In Inches)	Approximate Weight (Pounds)	Net Each
49F1152	CD21	.....	6	1.065Dx1.525	¾	8.40
49F1153	CD22	N66	6	1.065Dx1.975	¾	8.80
49F1154	CD23	.....	6	1.800Dx1.725	1	13.32
49F1155	CD30	N67	6	1½x1½x3 13/16	1	27.45
49F1156	CD24	.....	9.6	1.065Dx2.650	¾	12.67
49F1157	CD25	.....	9.6	1.065Dx3.200	¾	12.80
49F1158	CD27	.....	12	1.065Dx2.925	¾	15.17
49F1159	CD28	.....	12	1.065Dx3.600	¾	16.25
49F1160	CD29	.....	12	1.800Dx3.100	1¼	25.20

EVEREADY BATTERY APPLICATIONS AND ENGINEERING BOOK

Contains the basic data on all Eveready batteries in production. Includes complete line specifications, discharge curves and cross reference information.

49F1161. NET **8.00**

EVEREADY SILVER OXIDE BATTERIES

Offer higher voltage and greater milliwatt-hour ratings than other batteries of same size. Good low temperature characteristics. Low, uniform impedance. Shpg. wt., 1½ oz. *Indicates each price in less than std. pack; †quantity in std. pack; ‡quantity in std. case.

Stock No.	Type	Volts	Size	*Net Each	†	Each Std. Pkg.	‡	Each Std. Case
49F1162	S41	1.5	.455Dx.165	.50	6	.40	60	.33
49F1163	S76	1.5	.445Dx.20	.55	6	.45	60	.38

EVEREADY ALKALINE RECHARGEABLE BATTERIES

Unique rechargeable power source. Uses a new electro-chemical system. Maintenance free, hermetically sealed, will operate in any position. Specifically designed for electronic applications where low initial and low operating cost are of paramount importance. Particularly suited for portable, battery-operated television receivers and portable phonographs. Also ideal for a wide variety of applications such as photoflash, flashlights, hearing aids, and many others. *Indicates each price in less than standard package; †each price in standard package.

Stock No.	Type	Volts	Shpg. Wt. (ozs.)	Size	*Net Each	Qty. Std. Pkg.	†Each Std. Pkg.
49F1164	560	7.5	2.5	2 21/32x1 7/32x7 5/32"	5.85	12	5.29
49F1165	561	15	9.6	8 1/16x2 13/16x7 5/8"	12.45	4	11.29
49F1166	563	4.5	1.5	12 3/64x2 13/16x5 5/8"	3.35	12	3.00
49F1167	564	13.5	8.8	8 5/16x2 13/16x5 5/8"	12.15	4	10.99

ALKALINE BATTERIES

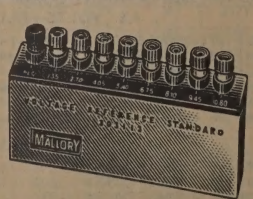
Stock No.	Mallory Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each In Case Lots: Price Each	Volts And/Or Size	Dimensions (Inches)	Approx. Wt. Lbs.	NEDA No.
49F1168	Mn9100	E90	2	.45	.55	24	.39	1.5"N"	29/64Dx1 1/8	0.1	910A
49F1169	Mn1500	E91	24	.45	.55	144	.39	1.5"AA"	17/32Dx1 31/32	1.3	15A
49F1170	Mn2400	E92	12	.45	.55	48	.39	1.5"AAA"	13/32Dx1 3/4	0.3	24A
49F1171	Mn1400	E93	12	.65	.75	72	.52	1.5"C"	63/64Dx1 15/16	1.8	14A
49F1172	.....	E94	12	.65	.75	72	.52	1.5"½D"	1 11/32Dx1 7/32	1.7	927
49F1173	Mn1300	E95	12	.75	.85	72	.65	1.5"D"	1 21/64Dx2 13/32	3.6	13A
49F1174	Mn1306	523	1	1.45	1.65	12	1.27	4.5	21/32Dx2	0.1	1306A

MERCURY BATTERY COMPARISON

Volts	Dimension	Stock No.	Type	Std. Pkg.	* B. P.	† S. P.	Use	Replaces Eveready	Replaces Burgess
1.4	5/8D21/32	49F563	RM1	40	.74	.67	Phys. hndcp.	E1	HG1
1.35	5/8D21/32	49F500	RM1R	40	.90	.82	Electronic	E1N	HG1R
1.35	5/8D21/32	49F564	RM1RT	40	.94	.97	Electronic	.....	.....
1.35	5/8D21/32	49F565	RM1RT2	40	1.01	.92	Electronic	.....	.....
1.35	1Dx21/32	49F501	RM3R	20	1.40	1.27	Electronic	E3	HG3
1.35	1.2Dx21/32	49F502	RM4R	20	1.78	1.62	Electronic	E4	HG4R
1.35	1.2Dx21/32	49F503	RM4RT	20	1.79	1.67	Electronic	.....	.....
1.4	1.2Dx1/2	49F504	RM4Z	24	1.18	1.07	Electronic	.....	.....
1.4	17/32Dx131/32	49F530	ZM9	48	.72	.65	Radio "AA"	.....	.....
1.35	5/8Dx2	49F532	RM12	10	1.29	1.17	Tape Rcrdr.	HG12	HG12
1.35	5/8Dx2	49F505	RM12R	10	1.40	1.27	Tachometer	E12N	HG12R
1.35	5/8Dx2	49F566	RM12RT	10	1.45	1.32	Electronic	.....	.....
1.35	5/8Dx2	49F567	RM12RT2	10	1.51	1.37	Electronic	.....	.....
1.4	1.2Dx23/8	49F423	RM42	10	3.58	3.25	Elec. "D"	E42	HG42
1.35	1.2Dx23/8	49F506	RM42R	10	3.92	3.56	Elec. "D"	E42N	HG42R
1.35	1.2Dx23/8	49F507	RM42RT	10	3.97	3.61	Elec. "D"	.....	.....
1.35	1.2Dx23/8	49F568	RM42RT2	10	4.06	3.66	Elec. "D"	.....	.....
4.05	21/32Dx53/64	49F533	TR113R	10	2.11	1.92	Electronic	E113	H113R
5.4	21/32Dx111/16	49F534	TR114R	10	2.33	2.12	Electronic	.....	.....
6.75	21/32Dx115/16	49F535	TR115R	10	2.68	2.44	Electronic	E115N	.....
11.2	21/32Dx21/32	49F450	TR118	20	3.30	3.00	Medical	.....	.....
8.4	3/4Dx2	49F570	TR126	24	1.84	1.67	Radio	E126	H126
2.8	21/32Dx15/16	49F431	TR132	10	1.25	1.14	Paging	E132	H132
2.7	21/32Dx15/16	49F508	TR132R	10	1.40	1.27	Electronic	E132N	H132R
4.2	21/32Dx2	49F536	TR133	24	1.84	1.67	Radio, Pag.	E133	H133
4.05	21/32Dx2	49F571	TR133R	10	1.78	1.62	Radio, Pag.	E133N	H133R
5.4	21/32Dx29/16	49F510	TR134R	10	2.11	1.92	Electronic	E134N	H134R
6.75	21/32Dx31/4	49F537	TR135R	10	2.51	2.28	Electronic	E135N	H135R
8.1	21/32Dx329/32	49F538	TR136R	10	2.83	2.57	Electronic	E136N	H136R
9.45	21/32Dx419/32	49F435	TR137R	10	3.22	2.93	Electronic	E137R	H137R
8.4	1x119/32x115/16	49F511	TR146X	12	1.40	1.27	Electronic	.....	.....
2.7	15/32Dx11/8	49F539	TR152R	20	1.40	1.27	Radio	E146X	H146X
4.05	15/32Dx111/16	49F540	TR153R	20	1.78	1.62	Electronic	.....	.....
2.7	21/32Dx7/8	49F541	TR162R	10	1.40	1.27	Electronic	.....	.....
4.2	21/32Dx15/16	49F542	TR163	10	2.05	1.86	Electronic	.....	.....
4.05	21/32Dx15/16	49F437	TR163R	10	1.97	1.79	TV Tunor	E163	H163
5.6	21/32Dx13/4	49F544	TR164	24	1.84	1.67	Electronic	.....	.....
5.4	21/32Dx13/4	49F439	TR164R	10	1.97	1.79	Radio	E164	H164
7.0	21/32Dx23/16	49F546	TR165	10	2.40	2.18	Electronic	E164N	H164R
6.75	21/32Dx23/16	49F438	TR165R	10	2.33	2.12	TV Tunor	E165	H165
12.6	21/32Dx361/64	49F426	TR169	10	3.78	3.44	Electronic	.....	.....
7.0	31/64Dx139/32	49F548	TR175	10	1.65	1.50	Electronic	E169	.....
9.8	35/64Dx129/32	49F549	TR177	24	1.84	1.67	Radio	.....	.....
4.2	11/16Dx131/32	49F512	TR233	10	3.09	2.81	Radio	E177	H177
4.05	11/16Dx131/32	49F440	TR233R	10	3.22	2.93	Radio	.....	.....
5.4	1Dx219/32	49F441	TR234	1	.....	2.76	Electronic	E233N	.....
5.6	1Dx219/32	49F424	TR234R	10	3.54	3.22	Electronic	.....	.....
6.75	1Dx31/4	49F527	TR235R	1	.....	3.86	Electronic	E234N	.....
8.1	1Dx33/4	49F442	TR236R	5	4.62	4.20	Electronic	E235N	.....
12.6	1Dx225/64	49F574	TR289	6	3.44	3.13	Electronic	E236N	.....
1.4	19/64Dx9/64	49F425	RM312	60	.26	.24	Radio	E286	.....
1.4	29/64Dx9/64	49F443	RM400	60	.55	.50	CB radio	E289	.....
1.35	29/64Dx9/64	49F513	RM400R	60	.74	.67	Phys. hndcp.	E312	HG312
1.35	29/64Dx9/64	49F445	RM400RT2	60	.79	.72	Phys. hndcp.	E400	HG400
1.4	29/64Dx11/8	49F514	RM401	72	.74	.67	Electronic	E400N	HG400R
1.35	29/64Dx11/8	49F444	RM401R	20	.90	.82	Electronic	.....	.....
14.0	1x117/32x133/32	49F550	RM411	12	2.15	1.95	Radio "N"	E401	HG401
22.4	1x117/32x115/16	49F551	RM412	12	2.86	2.60	Electronic	E401N	HG401R
28.0	1x117/32x21/2	49F451	RM413	12	3.58	3.25	Electronic	.....	.....
42.0	1x117/32x31/2	49F553	RM415	6	5.34	4.85	Electronic	.....	.....
10.7	11/16x35/16	49F452	TR431	6	3.44	3.13	Electronic	.....	.....
1.35	29/64Dx9/16	49F554	RM450R	40	.90	.82	Electronic	.....	.....
1.35	1/2Dx131/32	49F427	RM502R	10	1.25	1.14	Dictation	.....	.....
1.4	1/2Dx17/64	49F519	RM520	60	.19	.17	Electronic	E450	HG450R
1.4	1/2Dx1/8	49F446	RM575	60	.26	.24	Electronic	E502	HG502R
1.35	5/8Dx15/32	49F555	RM601R	10	1.25	1.14	Phys. hndcp.	E520	HG520
1.4	5/8Dx1/4	49F447	RM625	40	.46	.42	Phys. hndcp.	.....	HG575
1.35	5/8Dx1/4	49F556	RM625R	40	.68	.62	Electronic	E601R	HG601R
1.35	5/8Dx1/4	49F520	RM625RT	40	.74	.67	Phys. hndcp.	E625	HG625
1.35	5/8Dx1/4	49F575	RM625RT2	40	.79	.72	Electronic	E625	HG625R
1.4	5/8Dx1/4	49F557	RM630	40	.70	.64	Electronic	.....	.....
1.4	5/8Dx1/4	49F448	RM630R	40	.68	.62	Electronic	.....	.....
1.35	5/8Dx7/16	49F559	RM640	20	.70	.64	Phys. hndcp.	.....	.....
1.4	29/64Dx13/64	49F561	RM675	60	.55	.50	Electronic	.....	.....
1.5	.90Dx.220	49F552	PX825	72	.45	.41	Photo Battery	.....	.....

*Indicates broken package. †Indicates standard package.

VOLTAGE REFERENCE STANDARDS

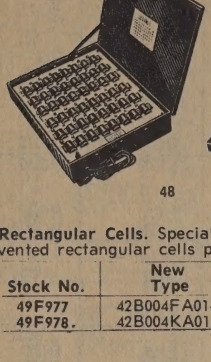


Reference cells designed for laboratory utility as well as efficiency. Voltage stability ±½% rated EMF. Designed to withstand electrical and physical abuse. Voltages range from 1.35 volts to 10.8 volts in increments of 1.35 volts on multi-voltage reference. Voltages calibrated to .001 of a volt. Applicable in calibration of sensitive oscilloscopes, VOM's, VTVM's and temperature measuring bridges. Have internal resistance of ½ to 1 ohm.

- **Stability ±½%**
- **Multi Voltage source**
- **Operates in any position**
- **For Laboratory use**

Model 303113. Multicell reference cells rated from 1.35 to 10.5 volts. D.C.
49F531. NET **29.50**

Batteries and Battery Chargers



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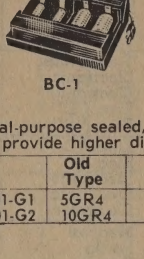


BC-1

BC-1 PERMA-CELL BATTERY CHARGER. Eliminates constant replacing of dead or weak batteries. Works on standard (60 hz AC) household current. Brings battery to peak performance in 15 hrs. Charges 2 or 4 of any of the three nickel cadmium battery types in any combination of pairs. Terminals configuration prevents reverse charging. Spring loaded to assure proper contact. 7 1/8" x5 1/2 x2 1/2" polystyrene case.

BC-48. Charges 1 to 48 size "D" Perma Cell Batteries. Individual battery compartments. Easy bench or wall mounting. Size 25 "Lt.x 12 5/8" Wx4 1/2"L.

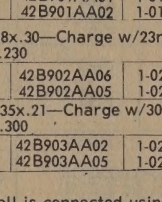
NICKEL CADMIUM BATTERIES. Can be brought to peak performance time and again. Uniform power output for better performance. Always ready when stored in battery.

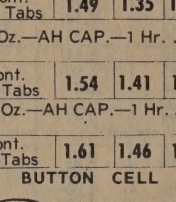
Stk. No.	Type No.	Description	Net
49F990	GC-1	"AA" size Twin Pack	2.49
49F991	GC-2	"C" size Twin Pack	2.79
49F992	GC-3	"D" size Twin Pack	2.79
49F993	BC-1	Battery Charger	7.49
49F988	BC-48	Battery Charger	144.00

Rectangular Cells. Special-purpose sealed, pressure-relieved and vented rectangular cells provide higher discharge capability and permit faster charging rates than the button and cylindrical configurations. For communications equipment, tools.

Stock No.	New Type	Old Type	E.C.C. Charger	Nom Volts	A-H Capacity 10 hr rate	Size Inches LxWxH	Wt. Lbs.	1-9	10-99	100-Up
49F977	42B004FA01-G1	5GR4		6.25	4.4	3.6x2.6x3.0	2.3	64.68	59.29	51.70
49F978	42B004KA01-G2	10GR4	10-400	12.50	4.4	6.9x2.6x3.0	4.5	129.80	118.25	103.40

STANDARD LINE BUTTON CELLS—1.2 VOLTS





Thin sintered plate construction makes this cell ideal for instruments, appliances, photo-flash and all portable devices. Sporting a 1.2 average voltage, these batteries can perform 5000 cycles at discharge depth not exceeding 25% of rated capacity. Will operate in temperatures ranging from —40° to +60°C, with an optimum range of —20° to +40°C. May be stored indefinitely at a range of —60°C to +60°C.

Button Cells. Compact size permits easy stacking to form multiple cell battery configurations with resulting optimum space utilization and power-volume ratio. Particularly suited for low-drain, high capacity applications.

SIZE 90x.21—Charge wv10 ma—Wt. .23 Oz.—AH CAP.—1 Hr. .080—10 Hr. .100

Stk. No.	Type	E.C.C. Charger	Terminal Type	1-9	10-99	100-999
48F155	42B901AA01	1-010	Flat Cont. Solder Tabs	1.49	1.35	1.19
48F156	42B901AA02	1-010				

SIZE .98x.30—Charge w/23ma—Wt. .39 Oz.—AH CAP.—1 Hr. .180—10 Hr. .230

48F157	42B902AA06	1-025	Flat Cont. Solder Tabs	1.54	1.41	1.23
48F158	42B902AA05	1-025				

SIZE 1.35x.21—Charge w/30ma—Wt. .58 Oz.—AH CAP.—1 Hr. .250—10 Hr. .300

48F159	42B903AA02	1-025	Flat Cont. Solder Tabs	1.61	1.46	1.28
48F160	42B903AA05	1-025				

SIZE 1.38x.38—Charge w/55ma—Wt. 1.0 Oz.—1 Hr. .500—10 Hr. .550

GB50

Stk. No.	Type	E.C.C. Charger	Terminal Type	1-9	10-99	100-999
48F161	42B905AA02	1-050	Flat Cont. Solder Tabs	1.79	1.64	1.43
48F162	42B905AA10	1-050				

SIZE 2.00x.34—charge w/100 MA—Wt. 2.25 Oz.—1 Hr. .500—10 Hr. .550.

GB100

48F163	42B908AA02	1-100	Flat Cont. Solder Tabs	3.39	3.10	2.72
48F164	42B908AA05	1-100				

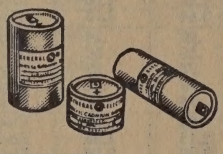
SIZE 2.00x1/461—CHARGE w/175 maj—Wt. 3.50 oz.—1 Hr. 1.60—10 Hr. 1.75

GB200

48F165	42B918AA02	1-200	Flat Cont. Solder Tabs	4.62	4.24	3.70
48F166	42B918AA04	1-200				

BUTTON CELL BATTERIES TUBULAR TYPE

Each cell is connected using welded cup connectors. The outer sleeve is extruded ABS thermoplastic, which offers considerable strength over standard plastic tubing. Flexible solder tabs are supplied as terminals. Button cell batteries are to be charged at C/10 rate maximum.



2.4 VOLTS—ALL SOLDER TABS

Stock No.	Type	Cell Size	E.C.C. Charger	Wt. Oz.	1-9	10-99	100-999
48F167	49B901BD02G1	GB10	2-010	.80	3.40	3.09	2.74
48F168	42B902BD04G1	GB18	2-025	1.30	3.51	3.21	2.81
48F169	42B903BD02G1	GB25	2-025	2.0	3.67	3.34	2.90
48F170	42B905BD02G1	GB50	2-050	2.9	4.40	4.02	3.52
48F171	42B908BD02G1	GB100	2-100	7.1	7.76	7.07	6.25
48F172	42B918BD02G1	GB200	2-150	10.8	10.84	9.74	8.48

3.6 VOLTS—ALL SOLDER TABS

Stock No.	Type	Cell Size	E.C.C. Charger	Wt. Oz.	1-9	10-99	100-999
48F173	42B901CD02G1	GB10	3-010	1.20	5.10	4.64	4.10
48F174	42B902CD04G1	GB18	3-025	1.70	5.27	4.82	4.21
48F175	42B903CD02G1	GB25	3-025	2.50	5.50	5.02	4.36
48F176	42B905CD02G1	GB50	3-050	3.9	6.60	6.22	5.28
48F177	42B908CD02G1	GB100	3-100	9.4	11.64	10.67	9.37
48F178	42B918CD02G1	GB200	3-150	14.3	15.90	14.58	12.73

4.8 VOLTS—ALL SOLDER TABS

48F179	42B901ED02G1	GB10	4-010	1.40	6.80	6.18	5.48
48F180	42B902ED03G1	GB18	4-025	2.2	7.02	6.42	5.61
48F181	42B903ED03G1	GB25	4-025	3.2	7.35	6.69	5.81
48F182	42B905ED06G1	GB50	4-050	5.0	8.80	8.03	7.04
48F183	42B908ED02G1	GB100	4-100	11.6	15.51	14.15	12.50
48F184	42B918ED02G1	GB200	4-150	18.2	21.67	19.47	16.96

6.0 VOLTS—ALL SOLDER TABS

48F185	42B901FD04G1	GB10	5-010	1.60	8.50	7.73	6.83
48F186	42B902FD03G1	GB18	5-025	2.50	8.77	8.03	7.02
48F187	42B903FD02G1	GB5	5-025	3.80	9.17	8.36	7.26
48F188	42B905FD06G1	GB50	5-050	5.90	11.00	10.04	8.80
48F189	42B908FD03G1	GB100	5-100	13.9	19.42	17.77	15.62
48F190	42B918FD02G1	GB200	5-150	22.1	26.51	24.31	21.23

7.2 VOLTS—ALL SOLDER TABS

Stock No.	Type	Cell Size	E.C.C. Charger	Wt. Oz.	1-9	10-99	100-999
48F191	42B901HD03G1	GB10	6-010	1.88	10.21	9.32	8.22
48F192	42B902HD03G1	GB18	6-025	2.94	10.54	9.63	8.42
48F193	42B903HD02G1	GB25	6-025	4.4	11.00	10.03	8.71
48F194	24B905HD10G1	GB50	6-050	6.9	13.20	12.05	10.56
48F195	42B908HD02G1	GB100	6-100	16.1	23.30	21.29	18.70
48F196	42B918JD04G1	GB200	6-150	25.6	37.13	33.99	29.70

8.4 VOLTS—ALL SOLDER TABS

48F197	42B901JD04G1	GB10	7-010	2.16	11.88	10.82	9.57
48F198	42B902JD11G1	GB18	7-025	3.4	12.27	11.22	9.82
48F199	42B903JD07G1	GB25	7-025	5.0	12.82	11.69	10.16
48F200	42B905JD13G1	GB50	7-050	8.0	15.40	14.06	12.32
48F201	42B908JD06G1	GB100	7-100	18.3	27.06	24.86	21.84
48F202	42B908JD04G1	GB200	7-150	29.2	37.13	33.99	29.70

9.6 VOLTS—ALL SOLDER TABS

48F203	42B901JD05G1	GB10	8-010	2.44	13.62	12.32	10.89
48F204	42B902JD12G1	GB18	8-025	3.82	14.03	12.65	11.22
48F205	42B903JD06G1	GB25	8-025	5.60	14.67	13.37	11.61
48F206	42B905JD11G1	GB50	8-050	9.1	17.69	16.06	14.08
48F207	42B908JD07G1	GB100	8-100	20.6	31.08	28.44	24.97
48F208	42B918JD05G1	GB200	8-150	33.7	42.41	38.89	33.94

10.8 VOLTS—ALL SOLDER TABS

48F209	42B901KD04G1	GB10	9-010	2.72	15.29	13.92	12.32
48F210	42B902KD06G1	GB18	9-025	4.26	15.76	14.44	12.86
48F211	42B903KD05G1	GB25	9-025	6.20	16.50	15.07	13.07
48F212	42B905KD07G1	GB50	9-050	10.1	19.80	18.04	15.84
48F213	42B908KD06G1	GB100	9-100	22.9	34.98	32.01	28.11
48F214	42B918KD05G1	GB200	9-150	37.6	47.80	43.78	38.17

12.0 VOLTS—ALL SOLDER TABS

48F215	42B901KD05G1	GB10	10-010	3.0	17.01	15.47	13.66
48F216	42B902KD07G1	GB18	10-025	4.7	17.53	15.47	14.04
48F217	42B903KD06G1	GB25	10-025	6.8	18.35	16.72	14.52
48F218	42B905KD08G1	GB50	10-050	11.2	22.00	20.09	17.60
48F219	42B908KD07G1	GB100	10-100	25.2	38.83	35.53	31.24
48F220	42B918HD02G1	GB200	10-150	41.5	53.02	48.62	42.46

BATTERIES

STANDARD LINE CYLINDRICAL CELLS—1.2 VOLTS

Rechargeable batteries of any voltage may be obtained by connecting G.E.'s cells in series. Example, to obtain 12 volts, ten G.E. 1.2 volt cells would be connected in series.

Cylindrical Cells provides maximum discharge rates and capacity. Suited for cordless consumer and electronic products. General Electric cylindrical cells feature a resealable vent mechanism designed to relieve any harmful or unnecessary pressure build-up

Fig. 1

Fig. 2

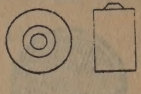


Fig. 3

FLAT CONTACTS

Stk. No.	Type	Old Type	E.C.C. Charger	AH Capacity 1 Hr.	AH Capacity 10 Hr	Charge Current	Fig. No.	Cell Size	Lt. x H. Inches	Wt. Oz.	1-9	10-99	100-999
48F100	42B902AA05	GC-902-2	1-010	.150	.170	15	1	1/3A	.625x.631	.4	2.21	2.02	1.77
48F101	41B903AA02	GC903	1-025	.250	.275	25	1	1/2 AA	.556x1.255	.6	1.83	1.67	1.46
48F102	41B905AA23	GC903-2	1-050	.500	.550	50	1	AA	.554x1.927	1.0	1.43	1.31	1.14
48F103	41B906AA19	GC6-2	1-050	.600	.660	60	1	A	.625x1.940	1.0	1.51	1.38	1.21
48F104	41B001AA95	GC9-3	1-100	1.000	1.200	100	1	3/5C	1.004x1.150	1.6	1.86	1.71	1.49
48F105	41B001AA67-P8	GC10A	1-100	.800	1.000	80	1	Sub C	.875x1.620	1.5	1.64	1.50	1.32
48F106	41B001AA67	GC10-1	1-100	1.000	1.200	100	1	Sub C	.75x1.620	1.5	1.77	1.63	1.42
48F107	41B001AA96	GC11-1	1-100	1.000	1.100	100	1	2/3C	1.004x1.300	1.6	1.96	1.79	1.56
48F108	41B002AA02	. . . .	1-150	1.500	1.800	150	1	C	1.004x1.840	2.3	2.42	2.20	1.94
48F109	41B002AA04	. . . .	1-200	2.000	2.300	200	1	1/2D	1.272x1.420	3.2	3.08	2.82	2.46
48F110	41B004AA31	GC35	1-400	3.500	4.000	350	1	D	1.289x2.320	5.2	5.78	5.28	4.62
48F111	41B004AA32	GC40	1-400	4.000	4.400	400	1	Oval	2.08x1.26x1.66	6.4	6.88	6.28	5.49

SOLDER TABS

48F112	41B902AA06	GC902-1	1-010	.150	.170	15	2	1/3A	.641x.640	.4	2.21	2.02	1.77
48F113	41B903AA03	GC903-1	1-025	.250	.275	25	2	1/2AA	.572x1.255	.6	1.83	1.67	1.46
48F114	41B905AA05	GC5-1	1-050	.500	.550	50	2	AA	.570x1.960	1.0	1.43	1.31	1.14
48F115	41B906AA10G1	GC6-1	1-050	.600	.660	60	2	A	.635x1.940	1.0	1.51	1.38	1.21
48F116	41B001AA99G2	GC9-1	1-100	1.000	1.200	100	2	3/5C	1.004x1.150	1.6	1.86	1.71	1.49
48F117	41B001AA72	GC10-1	1-100	1.000	1.200	100	2	Sub C	.889x1.630	1.5	1.77	1.63	1.42
48F118	41B001AA82G1	GC11-1	1-100	1.000	1.100	100	2	2/3C	1.004x1.300	1.6	1.96	1.79	1.56
48F119	41B002AA37	GC15-1	1-150	1.500	1.800	150	2	C	1.028x1.860	2.4	2.42	2.20	1.94
48F120	41B002AA08	GC20-1	1-200	2.000	2.300	200	2	1/2C	1.302x1.420	3.2	3.08	2.82	2.46
48F121	41B004AA24	GC35-1	1-400	3.500	4.000	350	2	D	1.321x2.320	5.2	5.78	5.28	4.62
48F122	41B004AA39	GC40-1	1-400	4.000	4.400	400	2	Oval	2.14x1.34x1.71	6.4	6.88	6.28	5.49

POSITIVE BUTTONS

48F123	41B905AA26G2	GC5A-2	1-050	.450	.500	45	3	AA	.557x1.969	.75	1.41	1.29	1.13
48F124	41B905AA02	. . . .	1-050	.500	.500	50	3	AA	.566x1.975	1.0	1.43	1.31	1.14
48F125	41B002AA11	. . . .	1-150	1.500	1.800	150	3	C	1.047x1.952	2.4	2.42	2.20	1.94
48F126	41B004AA17	GC35-2	1-400	3.500	4.000	350	3	D	1.324x2.430	5.2	5.78	5.28	4.62

2.14x1.34x1.71

STANDARD LINE CYLINDRICAL CELL BATTERIES TUBULAR TYPE

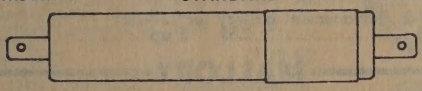


Fig. 1

Fig. 2

Fig. 3

Cell batteries feature the standard characteristics available from basic cells. Batteries constructed using basics as building block. Low resistance intercell connector cups are used for cell to cell connections and flexible solder tabs are provided as terminals. A combination of batteries is suggested. Batteries can be connected by user for specific voltages.

2.4 VOLTS—2 CELLS

Stk. No.	Type	ECC Charger	AH Capacity 1 Hr.	AH Capacity 10 Hr.	Fig. No.	Cell Size	Lt. x Dia. Inches	Wt. Oz.	1-9	10-99	100-999
48F127	41B902BD04-G1	2-010	.150	.170	1	1/3A	1.310x .683	1.2	5.08	4.64	4.06
48F128	41B903BD01-G1	2-025	.250	.275	1	1/2AA	2.541x .618	1.3	4.19	3.83	3.36
48F129	41B905BD03-G1	2-050	.500	.550	1	AA	2.885x .618	3.2	3.25	2.97	2.59
48F130	41B906BD02-G1	2-050	.600	.660	1	A	3.928x .683	4.2	3.42	3.11	2.74
48F131	41B001BD18-G1	2-100	1.0	.120	1	CS	3.313x .959	4.4	4.03	3.70	3.22
48F132	41B002BD02-G1	2-200	2.0	2.30	1	1/2D	2.913x1.377	6.8	7.01	6.40	5.60
48F133	41B004BD13-G1	2-400	3.5	4.00	1	D	4.713x1.377	10.4	13.12	12.00	10.49
48F134	41B004BD14-G1	2-400	4.0	4.40	2	Oval	3.432x2.160x1.360	10.8	15.64	14.30	12.59

3.6 VOLTS—3 CELLS

48F135	41B902CD06-G-1	3-010	.150	.170	1	1/3A	1.963x .683	1.8	7.62	6.96	6.09
48F136	41B903CD02-G1	3-025	.250	.275	1	1/2AA	3.801x .618	2.0	6.29	5.75	5.03
48F137	41B905CD04-G1	3-050	.500	.550	1	AA	5.817x .618	4.8	4.86	4.44	3.87
48F138	41B906CD04-G1	3-050	.600	.660	1	A	5.890x .683	6.4	5.13	4.68	4.10
48F139	41B001CD18-G1	3-100	1.0	1.20	1	CS	4.955x .959	6.5	6.04	5.54	4.83
48F140	41B002CD06-G1	3-200	2.0	2.30	1	1/2D	4.355x1.377	10.2	10.52	9.60	8.39
48F141	41B004CD04-G1	3-400	3.5	4.00	1	D	7.055x1.377	15.6	19.69	18.00	15.75
48F142	41B004CD05-G1	3-400	4.0	4.40	2	Oval	5.121x*	16.0	23.45	21.46	18.76

2.160x1.360x270

4.8 VOLTS—4 CELLS

48F143	41B902ED04-G1	4-010	.150	.170	1	1/3A	2.616x .683	2.4	10.16	9.28	8.13
48F144	41B903ED05-G1	4-025	.250	.275	1	1/2AA	5.061x .618	2.7	8.39	7.67	6.71
48F145	41B001ED18-G1	4-100	1.0	1.20	1	CS	6.597x .959	8.4	8.05	7.39	6.41
48F146	41B002ED08-G1	4-200	2.0	2.30	1	1/2D	5.797x1.377	14.6	14.03	12.80	11.19
48F147	41B004ED09-G1	4-400	3.5	4.00	1	D	9.397x1.377	20.8	26.27	24.02	21.02
48F148	41B004ED10-G1	4-400	4.0	4.40	2	Oval	6.810x*	21.6	31.27	28.59	25.00

2.160x1.360x2.70

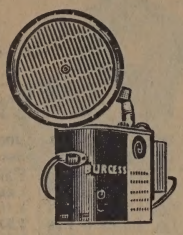
6 VOLTS—5 CELLS

48F149	41B902FD02-G1	5-010	.15	.17	1	1/3A	3.269x .683	3.0	12.71	11.62	10.16
48F150	41B903FD03-G1	5-025	.250	.275	1	1/2AA	6.321x .618	3.4	10.48	9.59	8.39
48F151	41B001FD10-G1	5-100	1.0	1.20	1	CS	8.239x .959	10.4	10.07	9.24	8.04
48F152	41B002FD05-G1	5-200	2.0	2.30	1	1/2D	7.239x1.377	17.0	17.52	16.01	13.98
48F153	41B004FD15-G1	5-400	3.5	4.00	1	D	11.739x1.377	26.0	32.84	31.12	26.27
48F154	41B004FD16-G1	5-400	4.0	4.40	2	Oval	*	27.0	39.09	35.74	31.25

8.499x2.160x1.360

BURGESS

LIFETIME POWER PACK



MODEL TW633E. Automatic relay turns on beam if power fails. Beam spread light over doorways, corridors, stairs, cash registers. Beams swings in any direction. Steel-clad battery gives over 15 hours continuous light; over a year shelf life. Includes mount, bracket and screws.

49F806 NET. **44.47**

SAFARI LIGHT

Safe, bright, economical fluorescent lantern for tents, boats, patios. Battery or AC powered. Requires 2 No. 246 batteries. Size: 4"x7¾"x12¾". With battery. Shpg. wt., 11 lbs.

49F801. ..... **20.95**

49F802. Pkg. of 2 batteries..... 3.83

Replacement lamp for Safari Light.

49F807. F8T5CW. **NET**..... 1.06

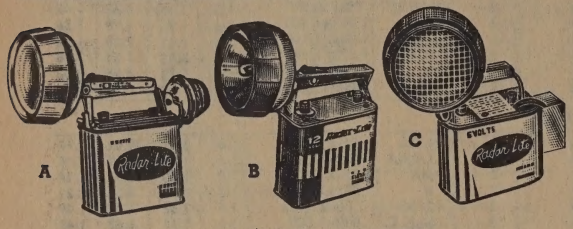


Fig. A—HANDY RADARLITE

Model TW3. 40,000 CP sealed beam headlight unit penetrates a half mile. Automatic red flasher is visible a mile down the highway. Size: 5⅛x27/8x4 15/16". With battery. Shpg. wt., 5¼ lbs.

49F314. 1-5..... 10.90 **6 up**..... 9.90

Model TW4. Not shown. As above, but less red flasher.

49F315. 1-5..... 8.97 **6 up**..... 8.15

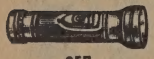
49F316. TW1 battery for above. **1-5**..... 2.53 **6 up**..... 2.30

25F148. Replacement lamp. **NET** 2.55

49F323. TWIX extended life battery. **1-5**..... 2.90 **6 up**..... 2.64

161

163



357

563

263

No. 357.—Enamel finish; chrome trim. Locking on-off switch. Requires two No. 2 cells. Less battery. Shpg. wt., 8 oz.

49F300. 1-35 ..... 1.43 **36 up** 1.30

No. 563. Penlight. Smart chrome pocket-size pen-type case with new push button switch. Requires two No. 7 cells. Less battery. Shipping weight, 2 ounces.

49F241. 1-11..... .94 **12 up**..... .85

No. 663. Heavy duty penlight (Not illus.). Handsome chrome penlight case with push button switch. Requires two No. 2 cells. Less battery. Shipping weight, 3 oz.

49F242. 1-11..... .94 **12 up**..... .85

No. 263. Same as #363 (below), but with permanent Alnico magnet of 15 lbs. gripping force. Less battery. Shpg. wt., 10 oz.

49F349. 1-11..... 1.60 **12 up**..... 1.45

No. 361. Same as 357 (above) except all-chrome finish. Requires two No. 2 cells. Less battery. Shpg. wt., 8 oz.

49F192. 1-47 ..... .71 **48 up** ..... .64

Type 161. Magnet light which adheres to all metal surfaces. Non-breakable brite-glo head, positive action switch, aluminized reflector, and alnico magnet. Shpg. wt., 8 oz. Less battery.

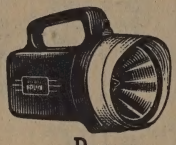
49F299. 1-35 ..... 1.48 **36 up** 1.33

No. 363. Industrial flashlight with steel reinforced reflector. Flexible vinyl head. Replaceable switch. Uses 2 No. 2 cells and PR2 lamp. Less battery. Shpg. wt., 8 ounces.

49F313. 1-11..... 1.39 **12 up**..... 1.26

Type 163. Tuffy flashlight. Non-breakable case, full-size reflector, positive-action switch. Comes in variety of colors. Uses two No. 2 cells. Less battery.

49F338. 1-47..... .81 **48 up**..... .74



D

Fig. D—RUSTPROOF DOLPHIN LANTERN

Model 164. Features an air pocket in head which makes the lantern float when in water. Uses a Burgess Number F4M battery. Comes without batteries. All plastic weatherproof.

49F341. 1-5..... 2.19 **5 up**..... 1.97

Fig. B—POWER FAILURE EMERGENCY LANTERN

Automatic relay turns lamp on the instant AC-power fails. Plug and 6-ft. extension cord connect to any 110 volt, 60 cycle outlet. **40,000 Candlepower, sealed beam. Shpg. wt., 6 lbs.**

Stk. No.	Type	Description	*	†
49F320	TW6E	Flood beam (Lamp No. 4512)	17.93	16.30
49F316	TWI	Replacement battery for above	2.53	2.30
49F323	TW1X	Extended life battery	2.90	2.64

Fig. C—12-VOLT PORTABLE LIGHT

Model TW-12. 12 volt Radar-Lite offers the brightest light possible in a portable light. Combines heavy-duty 12 volt Burgess battery with powerful reflector type lamp. Reflector is made from multi-faceted, vacuum aluminized material. With battery.

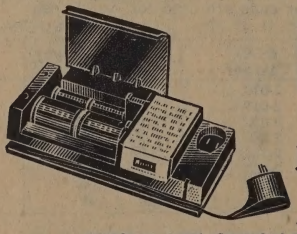
49F322. 1-5..... 8.80 **6 up**..... 8.00

Model TW-2. Replacement battery for TW-12.

49F305. 1-5..... 2.53 **6 up**..... 2.30

MALLORY

BATTERY CHARGER



TYPE BC-15. Mallory Duracell Battery Charger for Mallory Duracell Alkaline batteries. SA-13D, SA-14C and SA-15AA only. Instruction Manual included.

6.00

BATTERIES

Stk. No.	Type	Size	Each
49F497	SA-13D	D	1.17
49F498	SA-14C	C	1.00
49F499	SA-15AA	AA	.65

SPECIAL APPLICATION POWER-PAK BATTERIES

Stk. No.	Type	Application	Volts	*	†
49F593	302465	Geophysical	47.25	24.75	22.50
49F521	302478	Recorder	9.8	7.59	6.90
49F526	302642	Fire Alarm	7.	6.05	5.50
49F595	302651	Electronic	1.35	5.28	4.80
49F594	302702	Geophysical	2.8	4.51	4.10
49F596	302904	Meter	5.4	8.25	7.50
49F597	302905	Test. Equipt.	6.75	9.35	8.50
49F578	303145	Test. Equipt.	8.4	7.43	6.75
49F528	303314	Phone Radio	16.8	11.77	10.70

*Broken pack †Standard pack

EMERGENCY FLASHLIGHT

Type RS11B. Ideal storage flashlight for use in hospitals, schools, boats. Holds power until activated, even 10 years from now. High quality polished chrome reflector for brilliant light. Heavy duty 3 position switch.

49F220. NET 5.99

10 YEAR RESERVE DURACELL "D" BATTERIES

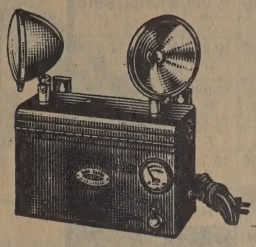
Type AR13DB2. Batteries that hold their full power in reserve until activated. These unique batteries are ideal for emergency storage in: Hospitals, Schools, Industry, Boats, Auto, Home, C.D. Shelters. Fits RS11B above.

49F221. NET 4.99

BIG BEAM

AUXILIARY EMERGENCY LIGHT

Model 2-75. Emergency Lighting System. Constructed of 20-gauge steel with acid-resistant enamel finish and full length piano-type hinged top. Built-in wall-mounting brackets, two snap catches for cover, and two wire, SJ type cord and plug. Equipped with heavy duty relay, voltmeter, neon indicator. Each lighting head illuminates 2,500 sq. ft. 5 hours continuously. U.L. Listed. Size: 7⅜ x 11¾ x 4 7/16". Overall ht.: 14⅜". **Less battery.**



Stk. No.	Model	1-5	6 Up
49F860	2.75	32.95	29.65

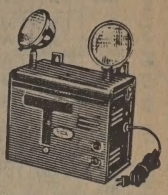
Batteries for above (1 Req'd.)

48F756. Ev. 751 1-3 .....5.40 4-Up 4.86
49F253. Burg. 4F5H 1-3 .....5.35 4-Up 4.86

ECONOMY TRICKLE CHARGE LIGHT

Uses Lead Acid Battery

Model 2T30. Trickle charger restores battery to full capacity after each outage. Observation ports for inspection of hydrometer indicating discs and water level in cells. Unit uses 2 SJ type cord and plug. 2 silicon full wave rectifiers, heavy duty relay. Type 330 6 volt plastic jar lead acid battery of 30 amp hr. capacity. U.L. listed with battery. Listed. 9¼ x 12 x 6". Overall height: 15½".

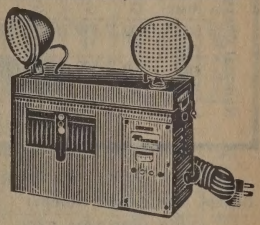


Stock No.	Model	1-2	3-Up
49F850	2T30	96.75	91.90

• NEW EMERGENCY LIGHT

Model 256L100. Fully automatic. Illiminates 10,000 sq. ft. for 16½ hours. Sealed beam par 46 flood lamps, fully adjustable, 3 colored hydrometer indicating discs show state of charge. Supplied with 100 amp. hr. lead acid battery. 7 year warranty. Amber power supply light. Red and Green charge indicator lights. Momentary test switch to check unit operation. Gray spray baked enamel finish.

- **Solid State Switching**
- **Fully Automatic**
- **No Relays**
- **Constant Reading Voltmeter**

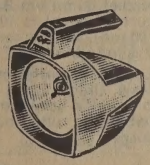


Stk. No.	Model	1-2	3-Up
49F863	2S6L100	207.09	196.74

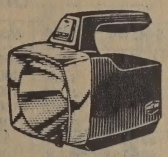
EVEREADY LIGHTS

RECHARGEABLE LANTERN

Type 3400. 1 amp sealed beam provides a bright light of 13,000 candlepower. Lantern comes with its own cord, and can be operated in home, car, or boat. Powered by "Eveready" Nickel Cadmium Batteries. Can be recharged from any standard AC household outlet. Guaranteed—listed by Underwriters Laboratories. Shpg. wt.: pkg. of 2—11 lbs.
48F900. NET **23.97**

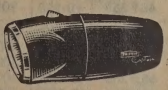


Type 3112. "Commander" rechargeable lantern. Contains powerful, high quality, nickel cadmium batteries. More than one and three-quarter hours of continuous, bright light per charge. Self-contained electrical cord for recharging. Can be recharged in any 120V AC outlet.
48F908. NET **11.97**



RECHARABEABLE FLASHLIGHTS

Type 3300. Over 1 hour of dependable light per charge. Batteries: nickel cadmium. Bulb: PR-3. Recharges from any standard AC household outlet. Light equals a standard 3 cell flashlight. A 4 volt power pack. Guaranteed: listed by Underwriters' Laboratories.
48F897. 1-5 .....9.87 6-Up 8.97



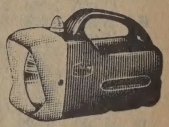
Type 6200. Compact adaption of 6300. Finish: Frost blue/Oyster white. Bulb: PR-2.
48F906. 1-5 .....5.25 6-Up 4.77

TYPE 308CT

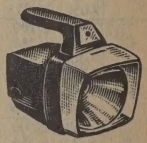
Combination spotlight-continuity tested. High quality tool for professionals. Shpg. wt. ⅔ lb.
48F903. 1-11 .....4.57 12-Up 4.15

ALL-AMERICAN LANTERNS

Type 108A. Waterproof switches and wiring. "Cord-ahide" construction—lightweight. Resists oils, greases, most chemicals, temp. extremes. Easy-to-hold large handle. In colors of red.
48F896. 1-11 .....2.92 12-Up 2.65



Type 112. Lantern features a unique "Power Cartridge" using 5 size "D" batteries. Powerful long distance beam. Rugged Cordahide polyethylene construction. Unbreakable lens. Non-tarnishing reflector. Resists oils. Quite capable of withstanding temperature extremes of all kinds. Uses PR-12 bulb.
48F907. 1-11 .....2.20 12-Up 1.99



EVEREADY UTILITY LIGHT

Type 330. Resists oils, most chemicals and withstands temperature extremes. Has insulated case, non-breakable lens and built-in bulb protector. Shpg. wt. 1 lb.
48F764. Type 330. 1-23 .....77 24-Up 70
48F778. Type 337. As above, w/magnet.
1-23 .....1.03 12-Up 94

FLASH LIGHTS FOR INDUSTRY

TYPE 1251

Impervious to water, gasoline, alcohol, temperature extremes; Bureau of Mines and U.L. listed. Shpg. wt ⅔ lb.
48F901. 1-11 ..... 2.12 12-Up 1.93

TYPE 1259

As above, but approved by Bureau of Mines and U.L. listed for use in hazardous locations. Shpg. wt. ⅔ lb.
48F902. 1-11 .....3.01 12-Up 2.74

NEWARK speeds your project by off-the-shelf supply of over 70,000 items in current demands.
Save time and money. Place one purchase order to NEWARK.
QUANTITY PRICES. COMPETITIVE WITH THE MANUFACTURER.

Battery Chargers and Power Packs

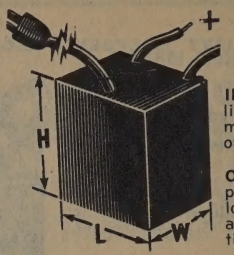
E. C. C. Battery Chargers

NICKEL-CADMIUM BATTERIES; NO. OF 1.2 VOLT CELLS

Nominal Charge Rate With 115 VAC, 60 Cycle Input

	1	2	3	4	5	6	7	8	9	10	11	12
10 ma	1-010 A	2-010 A	3-010 A	4-010 A	5-010 A	6-010 A	7-010 B	8-010 B	9-010 B	10-010 C	11-010 C	12-010 C
25 ma	1-025 A	2-025 A	3-025 A	4-025 B	5-025 B	6-025 B	7-025 C	8-025 C	9-025 C	10-025 D	11-025 D	12-025 D
150 ma	1-050 B	2-050 B	3-050 B	5-050 C	5-050 C	6-050 C	7-050 D	8-050 D	9-050 D	10-050 E	11-050 E	12-050 E
100 ma	1-100 C	2-100 C	3-100 C	4-100 D	5-100 D	6-100 D	7-100 E	8-100 E	9-100 E	10-100 F	11-100 F	12-100 F
150 ma	1-150 D	2-150 D	3-150 D	4-150 E	5-150 E	6-150 E	7-150 F	8-150 F	9-150 F	10-150 G	11-150 G	12-150 G
200 ma	1-200 E	2-200 E	3-200 E	4-200 F	5-200 F	6-200 F	7-200 G	8-200 G	9-200 G	10-200 H	11-200 H	12-200 H
250 ma	1-250 F	2-250 F	3-250 F	4-250 G	5-250 G	6-250 G	7-250 H	8-250 H	9-250 H	10-250 I	11-250 I	12-250 I
300 ma	1-300 G	2-300 G	3-300 G	4-300 H	5-300 H	6-300 H	7-300 I	8-300 I	9-300 I	10-300 J	11-300 J	12-300 J
400 ma	1-400 H	2-440 H	3-400 H	4-400 I	5-400 I	6-400 I	7-400 J	8-400 J	9-400 J	10-400 K	11-400 K	12-400 K
500 ma	1-500 I	2-500 I	3-500 I	4-500 J	5-500 J	6-500 J	7-500 K	8-500 K	9-500 K	10-500 L	11-500 L	12-500 L
					6 V.					12 V.		

LEAD ACID BATTERIES VOLTAGE



INPUT: UL approved line cord; 48" minimum free length, color cream white.

OUTPUT: UL approved lead wire. 10" long, ends stripped and tinned, red positive, black negative.

SIZE CHART

L	W	H	Shpg. Wt.
1⅜"	1 3/16"	2 1/16"	10 oz.
1¾"	1¾"	2¼"	1 lb.
2⅝"	2⅝"	2⅝"	2 lb.

BATTERY CHARGERS

For Nickel Cadmium and Lead Acid Batteries. Manufactured by the world's largest manufacturer of battery chargers, Electronic Components Corporation. Each battery charger includes an isolation transformer tested at 2000 V RMS and is completely potted, eliminating any possibility of shock, even if accidentally immersed in water. Extremely economical, costs less than the components if purchased separately. Charges cells in series with half wave rectification. Output leads are stripped and tinned; appropriate battery clips, connecters, and alligator clips are listed elsewhere in this catalog.

Nickel-Cadmium Batteries: Manufacturers recommend a charging current equal to 10% of the battery's capacity (1 ah battery, use 100 ma). Such a current will never damage the battery, even after it is fully charged. Full charge takes 14 to 16 hours.

Lead Acid Batteries: Follow battery manufacturers' recommendations. Unless using an extremely small trickle charging current, it is usually necessary to remove the charger once the lead acid battery is fully charged. Charging time determined by charging current.

ECC BATTERY CHARGER PRICE LIST

Group	ECC Part Number	1-9	10-24	25-49	50-99	100-499
A	1-010, 1-025, 2-010, 2-025, 3-010, 3-025, 4-010, 5-010, 6-010	4.50	3.60	2.88	2.30	1.84
B	1-050, 2-050, 3-050, 4-025, 5-025, 6-025, 7-010, 8-010, 9-010	4.90	3.92	3.14	2.51	2.01
C	1-100, 2-100, 3-100, 4-050, 5-050, 6-050, 7-025, 8-025, 9-025, 10-010, 11-010, 12-010	5.30	4.24	3.40	2.72	2.18
D	1-150, 2-150, 3-150, 4-100, 5-100, 6-100, 7-050, 8-050, 9-050, 10-025, 11-025	5.70	4.56	3.66	2.93	2.34
E	1-200, 2-200, 3-200, 4-150, 5-150, 6-150, 7-100, 8-100, 9-100, 10-050, 11-050, 12-050	6.10	4.88	3.92	3.14	2.51
F	1-250, 2-250, 3-250, 4-200, 5-200, 6-200, 7-150, 8-150, 9-150, 10-100, 11-100, 12-100	6.50	5.20	4.18	3.34	2.67
G	1-300, 2-300, 3-300, 4-250, 5-250, 6-250, 7-200, 8-200, 9-200, 10-150, 11-150, 12-150	6.90	5.52	4.44	3.55	2.84
H	1-400, 2-400, 3-400, 4-300, 5-300, 6-300, 7-250, 8-250, 9-250, 10-200, 11-200, 12-200	7.30	5.84	4.70	3.76	3.01
I	1-500, 2-500, 3-500, 4-400, 5-400, 6-400, 7-300, 8-300, 9-300, 10-250, 11-250, 12-250	7.70	6.16	4.96	3.97	3.18
J	4-500, 5-500, 6-500, 7-400, 8-400, 9-400, 10-300, 11-300, 12-300	8.10	6.48	5.22	4.18	3.34
K	7-500, 8-500, 9-500, 10-400, 11-400, 12-400,	8.50	6.80	5.48	4.38	3.50
L	110-500, 11-500, 12-500	8.90	7.12	5.74	4.58	3.66

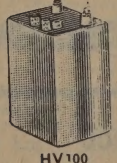
CHARGERS IN STOCK

Stk. No.	Type	Ma	Cells	1-9	10-24	25-49	50-99	100-499
66F350	2-100	100	2	5.30	4.24	3.40	2.72	2.18
66F351	3-100	100	3	5.30	4.24	3.40	2.72	2.18
66F352	4-100	100	4	5.70	4.56	3.66	2.93	2.34
66F353	5-100	100	5	5.70	4.56	3.66	2.93	2.34
66F354	10-025	25	10	5.70	4.56	3.66	2.93	2.34
66F355	10-150	50	10	6.10	4.88	3.92	3.14	2.51
66F356	10-100	100	10	6.50	5.20	4.18	3.34	2.67
66F357	2-400	400	2	7.30	5.84	4.70	3.76	3.01
66F358	3-400	400	3	7.30	5.84	4.70	3.76	3.01
66F359	10-200	200	10	7.30	5.84	4.70	3.76	3.01
66F360	4-400	400	4	7.70	6.16	4.96	3.97	3.18
66F361	5-400	400	5	7.70	6.16	4.96	3.97	3.18
66F362	10-300	300	10	8.10	6.48	5.22	4.18	3.34
66F363	10-400	400	10	8.50	6.80	5.48	4.38	3.50
66F364	10-500	500	10	8.90	7.12	5.74	4.58	3.66

Other E.C.C. Chargers, 2 Weeks Delivery

SEE KEYSTONE PAGE FOR BATTERY HOLDERS AND CLIPS.

PLASTIC CAPACITORS, INC.


HV100

HV150

HV200

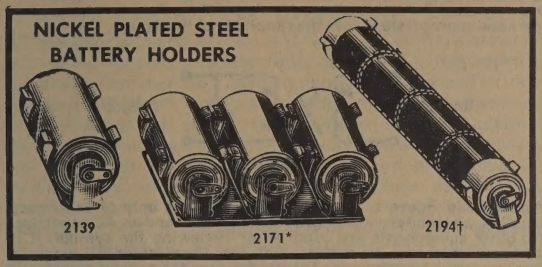
Stk. No	Type	KV	Ma	Size	Wt. Lbs.	NET
19F3683	HV300-152M	0-30	1.5	3¾x4 9/16x7½	11	173.00
19F3684	HV300-502M	0-30	5	4 11/16x6x8½	22	195.00
19F3685	HV500-152M	0-50	1.5	4 11/16x6x8½	18	228.00
19F3686	HV500-502M	0-50	5	5⅝x7⅜x12⅛	40	244.00
19F3687	HV750-152M	0-75	1.5	5⅝x7⅜x12⅛	45	428.00
19F1288	HV200-152M	0-20	1.5	3¾x4 9/16x5⅞	9	108.85
19F1289	HV200-502M	0-20	5	3¾x4 9/16x8	12	136.00

HIGH VOLTAGE D.C. POWER PACKS

Hermetically sealed, oil filled, hot-tinned or lead coated plate steel container with enamel coating. 118 volt 60 Hz input. Output operation from zero to rated voltage by adjusting input. All units have positive or negative polarity. Long life rectifiers requiring no warm-up for rectifier filaments. May be mounted in any position. Max ambient 85°C. Supplied with footed brackets.

Stk. No.	Type	KV	Ma	Size	Wt. Lbs.	NET
19F3674	HV10-152M	0-1	1.5	3¾x1¾x3⅜	1	57.25
19F3673	HV10-103M	0-1	10	3¾x2¼x3⅜	2	60.00
19F3675	HV20-152M	0-2	1.5	3¾x1¾x3⅜	1	58.00
19F1285	HV20-502M	0-2	5	3¾x2¼x3⅜	2½	58.00
19F3677	HV25-103M	0-2.5	10	3¾x2¼x3¾	3	74.00
19F3676	HV50-152M	0-5	1.5	3¾x2¼x3⅜	2	60.50
19F1286	HV50-502M	0-5	5	3¾x2¼x3¾	3¼	72.80
19F3678	HV50-103M	0-5	10	3¾x4 9/16x5⅞	11	95.00
19F3679	HV100-152M	0-10	1.5	3¾x3 5/16x4½	4	80.00
19F1287	HV100-502M	0-10	5	3¾x4 9/16x5⅞	8⅛	101.05
19F3680	HV100-103M	0-10	10	3¾x4 9/16x8	12	130.00
19F3681	HV150-152M	0-15	1.5	3¾x3 5/16x5½	5	106.50
19F3682	HV150-502M	0-15	5	3¾x4 9/16x6⅛	11	114.50

Keystone Battery Holders



STANDARDIZED ALL STEEL BATTERY HOLDERS

Ideal for Nickel-Cadmium Alkaline, mercury, and carbon zinc cells. Made of SAE 1065. Carbon Steel to Mil Spec. 17919, heat treated to spring temper and nickel plated .0002 thick. Stainless steel eyelet, moisture proof vulcoid washers, and a coated copper solder lug compose the contact assembly. 2 mounting holes**. Side by side clips mounted on phenolic 1/16" thick MIL Spec. 3115B. End to end† insulating tubes furnished.

PENCELL HOLDERS—ALL CONTACTS INSULATED

All Batteries listed below fit all sizes of Type No's.	Stock No.	Type	Cells	1-19	20-99	100-249
Eveready: E9, E12, E91, E133, E502, N46, 515, 915, 1015, BA58 Burgess: Z, HG9, CD6, 9R, HG12R, H133, HG502R 920,930	35F1550	2139	1	.33	.29	.26
	35F1551	2140*	2**	.50	.47	.40
	35F1552	2171*	3**	.77	.72	.61
	35F1553	2182*	4**	.88	.83	.72
	35F1554	2189†	2	.44	.42	.37
	35F1555	2191†	3	.50	.44	.42
	35F1556	2194†	4	.61	.56	.52

"C" CELL HOLDERS

Burgess: 1, P6, 120 130, H233, 302599 Eveready: E93, 226, E233, 635, 935, 1035, BA42	35F1557	2173	1	.39	.36	.32
	35F1558	2174*	2**	.66	.65	.59
	35F1559	2187*	3**	.88	.83	.77
	35F1560	2188*	4**	1.16	1.05	.94
	35F1561	2185†	2	.55	.54	.48
	35F1562	2195†	3	.61	.56	.52
	35F1563	2198†	4	.66	.63	.58

"D" CELL HOLDERS

Burgess: 2, 2R, CD7, 210, 230 Eveready: BA30, E42, N56, E95, D99, A100, 950, 1050.	35F1564	2175	1	.39	.36	.32
	35F1565	2176*	2**	.66	.65	.58
	35F1566	2190*	3**	.94	.88	.83
	35F1567	2192*	4**	1.16	1.05	.94
	35F1568	2186†	2	.55	.54	.48
	35F1569	2199†	3	.66	.62	.56
	35F1570	2162†	4	.72	.68	.61

SPACE SAVER BATTERY CLIPS

Corrosion resistant nickel plated clips with stainless steel contacts. Available with insulated contact or dimple. Clips Carbon Steel, SAE 1065 per mil-S-17919 #4. Contact eyelets stainless steel.

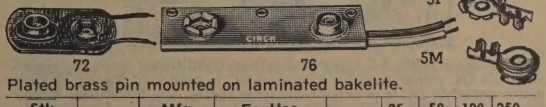
Stock No.	Type	A Dia. Min.-Max.	Steel Thick.	For Cells	1-19	20-99	100-240
35F1572	86	.875 to 1.125	.020	C	.09	.08	.075
35F1573	87	.875 to 1.125	.020	C	.12	.11	.10
35F1574	88	1.187 to 1.350	.020	D	.13	.12	.105
35F1575	89	1.187 to 1.350	.020	D	.10	.09	.08
35F1576	99	.531 to .650	.015	AA	.05	.04	.036
35F1577	100	.531 to .650	.015	AA	.09	.08	.07

BATTERY AND COMPONENT HOLDERS

Clips for secure mounting of round or square battery cells electronic components. Aluminum clips # per QQ-A-362. Seel‡ like above.

35F1578	79	.650 to 1.280	.015†	T146X	.07	.06	.05
35F1579	91	.531 to .656	.020#	AA	.07	.05	.04
35F1571	93	.875 to 1.125	.025#	C	.07	.06	.05
35F1594	94	1.187 to 1.375	.032#	D	.08	.07	.06

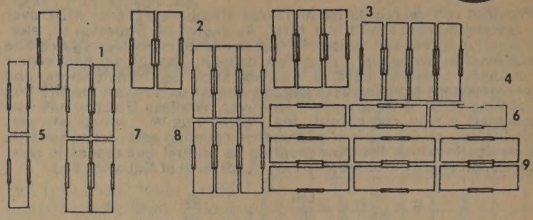
BATTERY PLUGS



Plated brass pin mounted on laminated bakelite.

Stk. No.	Type	Mfg. No.	For Use With	1-24	25-49	50-99	100-249	250-499
39F839	5M	52384	67½ "B"	.12	.11	.10	.09	.08
39F840	5F	52383	67½ "B"	.12	.11	.10	.09	.08
35F1681	72*	. . .	45 "B"	.41	.25	.22	.19	.04
35F1683	74*	. . .	67½ "B"	.40	.24	.21	.18	.16
35F1684	77*	. . .	90 "B"	.41	.25	.22	.19	.18
35F1682	76*	. . .	67½ "B"	.40	.24	.21	.18	.16

*Manufactured by Keystone.



ALUMINUM BATTERY HOLDERS

Copper lugs are cadmium plated. Fibre insulators moisture proofed. Frame and clip made of 2020-ST4 Aluminum. Custom built holders provided to the customer upon special order. Buyer must call Keystone engineering service directly.

MINIATURE CELL HOLDERS

All Batteries listed below fit all sizes of Type No's.	Stock No.	Type	Cell	Fig.	1-19	20-99	100-Up
Burgess: 7 Eveready: 912	35F1585	137	1	1	.25	.22	.20
	35F1586	138	2	2	.42	.37	.33
	35F1587	169	3	3	.61	.56	.52
	35F1588	170	4	4	.70	.63	.56

PENCELL HOLDERS

Burgess: CD6, 9R, Z, HG9, HG12R, H133, HG502R, 920, 930 Eveready: E9, E12, E91, E133, 333, E502, 515, 915, 1015, N46	35F1589	139	1	1	.25	.22	.20
	35F1590	140	2	2	.40	.35	.32
	35F1591	171	3	3	.55	.50	.44
	35F1592	182	4	4	.70	.63	.56
	35F1593	189	2	5	.50	.40	.36
	35F1595	192	4	7	.70	.59	.56
	35F1596	193	6	8	1.02	.89	.83

"C" CELL HOLDERS

Burgess: 1, P6, 120, 130, H233, 302599 Eveready: 226, E233, 635, 935, 1035, E93	35F1597	173	1	1	.33	.29	.26
	35F1598	174	2	2	.40	.35	.32
	35F1599	187	3	3	.65	.62	.55
	35F1600	185	2	5	.50	.40	.36
	35F1602	196	4	7	.70	.59	.56
	35F1603	197	6	8	1.02	.89	.83

"D" CELL HOLDERS

Burgess: 2, 2R, CD7, 210, 230 Eveready: E42, N56, E95, D99, A100, 950, 1050	35F1604	175	1	1	.33	.29	.26
	35F1605	176	2	2	.40	.35	.32
	35F1606	190	3	3	.72	.68	.61
	35F1607	186	2	5	.51	.41	.37
	35F1609	200	4	7	.72	.61	.57
	35F1610	201	6	8	1.05	.94	.86
	35F1611	205	6	9	.95	.85	.78

1½ VOLT CELL HOLDERS

Burgess: N Eveready: E340, 904	35F1612	154	1	1	.23	.22	.18
	35F1613	155	2	2	.39	.35	.33

4½ VOLT CELL HOLDERS

Eveready: 333	35F1617	139	1	1	.25	.22	.20

9 VOLT CELL HOLDERS

Eveready: 206	35F1618	139A	1	1	.29	.26	.23
Burg.: 2U6; Ever.: 216	35F1619	203P	1	. .	.48	.40	.33

15 VOLT CELL HOLDERS

Burg.: U10; Ever.: 411	35F1622	161	1	1	.33	.29	.26
#161 mounts vertical	35F1623	166	1	1	.33	.29	.26
#166 mounts horiz.	35F1624	167	2	2	.42	.37	.33
Burgess: Y10	35F1625	225	1	1	.21	.20	.18
Eveready: 504	35F1626	226	2	2	.35	.32	.30

22½ VOLT CELL HOLDERS

Eveready: 420	35F1628	168	1	1	.33	.29	.36
	35F1629	177	1	1	.33	.29	.36
Burg.: U15; Ever.: 412	35F1630	178	2	2	.42	.37	.33
	35F1631	139A	1	1	.29	.26	.23
Burg.: Y15; Ever.: 505							

30 VOLT CELL HOLDERS

Burgess: U20	35F1637	183	1	1	.33	.29	.26
Eveready: 413	35F1638	184	2	2	.42	.37	.33

ECONOMY BATTERY HOLDERS

Stk. No.	Type	For Cells	1-19	20-90	100-240
35F1635	212	AA	.16	.14	.13
35F1636	213	C	.18	.16	.14
35F1639	214	D	.20	.17	.15

SPRING TEMPER STEEL AND NICKEL PLATED CLIPS

Stock No.	Type	Mtg. Hole	For Cells	1-9	20-99	100-Up
35F1627	206	.128	AA	.04	.03	2.10/C
35F1632	207	.128	C	.05	.04	2.10/C
35F1633	208	.128	D	.07	.06	5.00/C
35F1634	47	.156	D	.05	.04	3.00/C

Voltage Regulators & Paraformer™

PARAFORMER™— A NEW CONCEPT IN A.C. POWER CONDITIONING

Provides voltage regulation and noise attenuation of over 50DB over a frequency range of 0 to 1 MHz. As shown by Equation #1, electromotive force, and hence the transfer of electrical energy can be achieved in two ways: (1) by flux coupling, or (2). by parametric coupling. Existing passive devices such as transformers and ferroresonant transformers depend almost exclusively on the flux coupling term of Equation #1. However, Wanlass Electric has now invented a new component, the Paraformer™ , which operates exclusively on the basis of parametric coupling and consequently is a device in which the flux coupling or mutual inductance is zero. (Thus, all energy is passed by the i dL/dt term of Equation #1.)

$$E = \frac{d}{dt}(Li) = \underbrace{\frac{Ldi}{dt}}_{\text{Flux Coupling Term}} + \underbrace{\frac{i\,dL}{dt}}_{\text{Parametric Coupling Term}}$$

The advantages are listed below in Table 1.

TABLE 1

	Transformer	Ferroresonant Transformer	Paraformer
Line voltage regulation	None	±1%	±½%
Line filtering (noise)	No	Slight	Over 50 db
Load filtering (noise)	No	Sight	Over 50 db
Overload protection	No	Partial	Yes
Low line protection	None	None	Yes

As noted from Table 1, the Paraformer™ is inherently a line voltage regulator and line power filter. In fact, the Paraformer's most useful property appears to be its ability to prevent line voltage fluctuations from reaching the load. As will be noted from the above table, such fluctuations (noise, distortions, etc.) are atenuated by over 50 db for frequencies from a few cycles per second up to 1 megacycle per second.
Designed specifically for OEM applications. 60 & 400 Hz in ratings from 60VA to 1000 VA.

	60Hz	400 Hz
A.C. Input:	115VAC±10% (Nominal, 10, 60Hz (50-150VAC)	115VAC ±10% (Nominal) 10, 400Hz (50-150VAC)
A.C. Output: Regulation:	117VAC, 60Hz, 1 Phase ±0.5% Line; ±2.0% Load	117VAC, 400Hz, 1 Phase ±1% Line; ±2.5% Load

Having noted the outstanding advantages of the Paraformer ™, it is perhaps appropriate to note the simplicity of the device.

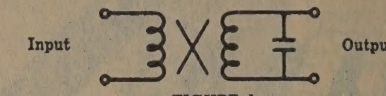


FIGURE 1

As shown in Fgure 1, the Paraformer consists only of a primary winding, a secondary winding, a magnetic core and an AC capacitor. No other components are used. After reviewing the symbol, it is perhaps important to restate that the Paraformer™ is not a ferroresonant transformer. The mechanism for energy transfer is entirely different and most of the basic characteristics are entirely different.

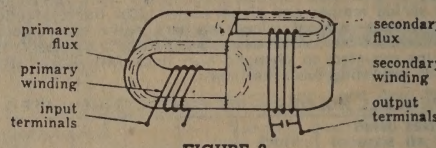
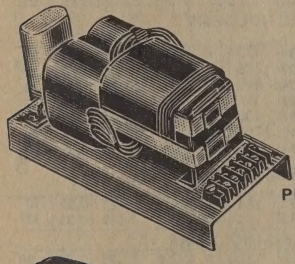
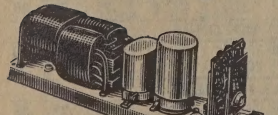


FIGURE 2

Note that the geometry is such that the primary flux does not link the secondary winding and that the secondary flux does not link the primary winding. (Accordingly, the classical flux coupling is zero). However, note that the primary flux does modulate the reluctance associated with the secondary flux and hence the primary does modulate the inductance of the secondary. This modulatign can be achieved only by transferring electrical power from the primary to the secondary. This power in turn sustains the secondary oscillations and delivers power to the load. It is this unique parametric power transfer mechanism that makes the Paraformer™ a revolutionary new component.


PEC-60


P60-7.51C-5

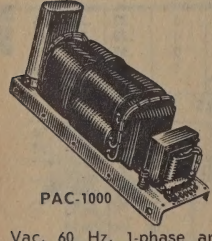
60Hz UNITS

Stock No.	Type	Power Rating	Dimensions H.xW.xL.	Wt. Lbs.	1-9	10-24	25-49	50-99
99F1364	PEC-60	60-VA	3½x4x6½"	10	95.00	90.25	85.50	80.75
99F1365	PEC-150	150VA	5½x4⅝x14⅛"	21	150.00	142.50	135.00	127.50
99F1366	PEC-500	500VA	7x5⅞x17"	50	225.00	213.75	202.50	191.25
99F1367	PEC-1000	1000VA	7x8x20"	85	425.00	401.75	382.50	361.30

"PIC" PARAFORMER DC POWER SUPPLIES

Designed with newly invented parametric power transfer principle Wanlass P-IC power supplies operate from an AC input of 105 to 125 volts single phase, 60 cycle and provide DC outputs as shown in the table below. Regulation for line is ±0.02% and for load ±2 mV; ripple is less than 300 microvolts rms and voltage is adjustable ±5%. Units have automatic overload and short circuit protection and overvoltage crowbar is available as an option at 20.00 additional. The "HP" versions of the "PIC" line have specifications identical to the "PIC" units except that line regulation is ±0.01%, load regulation is less than 1 millivolt and ripple is less than 100 microvolts rms. Shipping weights: P60 IC Units 16 lbs P120 IC Units 27 lbs

Stock No.	Model No.	Rating	Dimensions	1-9	10-24	25-49	50-99
99F1378	P60-7.51C-5	5V @ 7.5A	17"Lx4.5"Wx5.88"H	195.00	185.25	175.50	165.75
99F1379	P60-51C-12	12V @ 5A	17"Lx4.5"Wx5.88"H	195.00	185.25	175.50	165.75
99F1380	P60-2.51C-24	24V @ 2.5A	17"Lx4.5"Wx5.88"H	195.00	185.25	175.50	165.75
99F1381	P120-151C-5	5V @ 15A	17"Lx5"Wx9.7"H	240.00	228.00	216.00	204.00
99F1382	P120-101C-12	12V @ 10A	17"Lx5"Wx9.7"H	240.00	228.00	216.00	204.00
99F1383	P120-51C-24	24V @ 5A	17"Lx5"Wx9.7"H	240.00	228.00	216.00	204.00

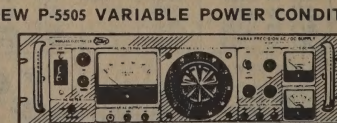

PAC-1000

PHASAC™ SINGLE TO THREE PHASE CONVERTER

1 kVA static single to three phase converter with all passive Parax® components utilizing Paraformer™ inherent phase shift phenomenon. For use in applications where static conversion from single to three phase is necessary, use PAC-1000 for 60 Hz and PAC4-1000 for 400 Hz Input. 105-125 Vac, 60 Hz, 1-phase and output is 3-phase, 120 Vac line to neutral, 208 Vac line to line and 240 Vac at 1 KVA (333 VA per phase). Output connection is 4 wire wye or 3 wire delta. Size is 7" H. x 5⅞" W. x 17" L. maximum and weight is 50 lbs.

Stk. No.	Type	1-9	10-24	25-49	50-99
99F1390	PAC-1000	365.00	346.75	328.50	310.25
99F1391	PAC4-1000	375.00	356.25	337.50	318.75

• NEW P-5505 VARIABLE POWER CONDITIONER



Combines variable AC regulated power conditioner with regulated variable DC power supply. Variable AC is standard Parax circuit, while variable DC is precise transistor-series-regulator with Parax filtering advantages. Used in testing high line and low line limits, as well as providing DC range of voltages for testing IC's. Input voltages-(Fixed AC Power 105-125 VAC, 1 Phase Nominal) Variable AC power (50-150 VAC) DC power (50-150 VAC). Output voltages: Fixed AC Power 118 VAC. Variable AC power 0-140 VAC. DC power 0-8 VDC. Noise attenuation 50 db (to 1 MHz) for Fixed AC and variable AC power. Output capacity Fixed AC and Variable AC power 500 in VA. 0-15 Amp. for DC power. Size 5¼"H x 19"W x 19"D. Wt. 80 lbs.
99F1343 NET **875.00**

Wanlass Clip-AC Voltage Regulation

WANLASS CLIP-AC

CLIP-AC REGULATOR PRINCIPLE

AC regulator is logical successor to ferroresonant transformer for bulk of AC regulation requirements up to 1KVA. Regulation is achieved by symmetrically clipping (dissipating) peaks of incident sinusoidal waveform. Unretouched scope photograph reproduced in Fig. 1 shows that except for these peaks, output waveform is identical to input waveform. Fig. 2 shows in block diagram form how regulation is achieved. Output voltage is continuously monitored by sensor which uses zener diode as reference. Associated control circuitry in turn adjusts clipping level of pass transistor in order to maintain desired output. Economy of design has been realized by using a floated reference and a diode bridge to make it possible for same pass transistor to be used on both halves of AC cycle. SCR shown in block diagram is used to accommodate short duration surge currents such as those encountered in charging capacitors, starting motors, or starting lamp loads. Under such conditions, bias resistor triggers SCR and excessive current surge is by-passed around pass transistor. Should these excessive current conditions persist, input fuse would be blown, thereby protecting unit. Under Normal operating conditions SCR is inoperative.

Function	Clip-AC Principle	Ferroresonant Principle
Input Frequency	47-420 Hz Typical	Single Frequency
Line Regulation	0.1-1% Typical	Cannot be modified
Load Regulation	Load Compensation 1% Typical	No Compensation (5-7% Typical)
Power Factor	No Problem	Shifts Output V Apprec.
Phase Shift	None	Apprec.-Load Depen.
Response Time	10-50 ua-sec Typical	25,000 usec Typical
Cost, Size,. Weight	50% less Typical	Weight-Iron Expense-Copper

- **LINE REGULATION TYPICALLY 0.1 TO 1%**
- **RESPONSE TIME 10 TO 15 MICROSECONDS**
- **INPUT FREQUENCY TYPICALLY 47 TO 420 Hz**

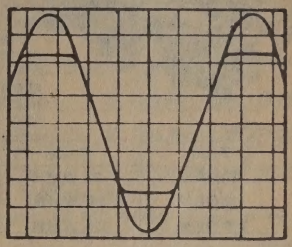
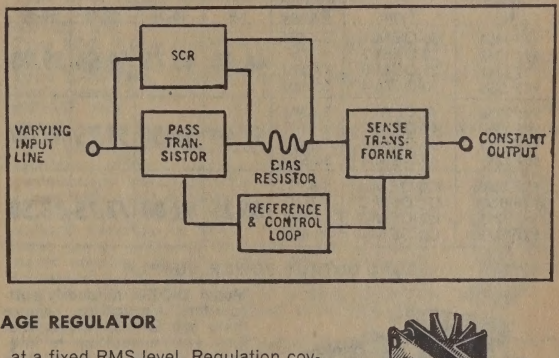


Fig. 1. CLIP-AC Input Trace Superimposed Over Output Trace.

NOTE: Peak clipping of Output Waveform.

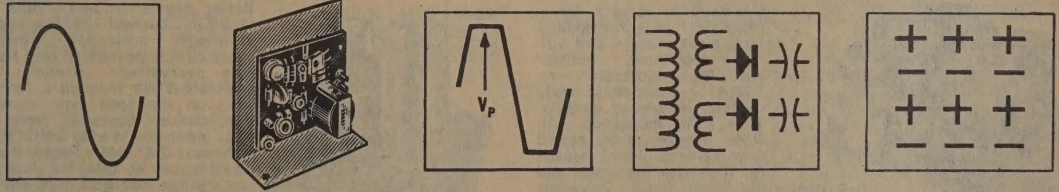


AC TRUE RMS VOLTAGE REGULATOR

Both a line and load regulator. Regulation is achieved through a unique clipping circuit which senses RMS and clips output voltage at a fixed RMS level. Regulation covers 100-130 V input, 47-420 Hz. Line and Load regulation ±0.5%. ±0.5% power factor regulation from +0.7 to −0.7. No phase shift. Response time 10 to 50 ua-sec. Ambient operating temperature: 0 to 50°C. Temperature coefficient .0.025% per degree C. Ideally suited for photo-optical applications where light intensity must be held constant, in addition to any other application where RMS regulated power is required.

Stk. No.	Type	Watts	Dimen. 27.00	Wt. Lbs.	1-9	10-24	25-49	50-99
99F1394	C3003	30	4x3x2	1.5	39.00	37.00	35.00	33.00
99F1395	C3006	60	4x4x3	2.5	46.00	43.75	41.50	39.00
99F1396	C3012	120	4x4x3	3.2	51.00	48.50	46.00	43.50
99F1397	C3025	250	10x6x6	6.5	89.50	85.00	80.50	76.00
99F1398	C3050	500	11x6x7	10.25	125.00	118.75	112.00	106.00
99F1399	C3100	1000	16x6x7	17.5	210.00	199.50	189.00	178.50

"DO YOUR OWN THING"—BUILD YOUR OWN LINE REGULATED DC POWER SUPPLY WITH THE NEW WANLASS MODEL CVR-120 CLIP-AC PEAK REGULATOR



100-130 V. 47-420 Hz 1 Phase A.C.

Model CVR-120

V_P=135 V

Transformer rectifier filter for 1 or more DC outputs

1 or more line regulated DC outputs

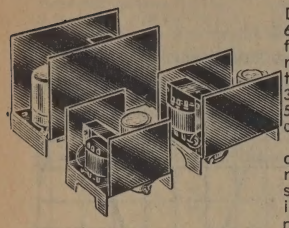
- **Adjustable Output Voltage**
- **Size and Weight—120 Watts of Regulated Power For 10 oz.**
- **Frequency Insensitive—No Variation of Output Voltage with Varying Line Frequency**
- **Line and Load Regulation—Precision Unattainable with Ferro-Resonant Transformers**

The CVR-120 is a CLIP-AC™ type peak clipping AC regulator, designed specifically for use as the regulating component for your D.C. power supply designs. By symmetrically clipping the peaks of the unregulated input voltage, a constant peak to peak output waveform is produced. This voltage can then be transformed into a variety of regulated output voltages through the use of an appropriate transformer. Rectification and passive filtering of these resultant voltages will then produce regulated D.C. output voltages. Type of voltage regulation (peak). Regulation technique peak clipping. Type of reference (Zener Diode). Input 100-130 VAC 47-420 Hz. Output 135 volts peak (270 volts peak-to-peak). Power capability 120 VA. Line regulation (±10% line variation); (1.0%). Load regulation (0 to full load). (1.0%). Power factor regulation (+0.7 to −0.7): (1.0%). Phase shift-none. Response time 10-50 μsec. Temperature coefficient: 0.025% per degree C. Ambient temperature: 0-40°C (higher with derating). Dimensions 4"W x 4½"H x 2½"D. Weight 10 oz.

Stk. No.	Type	1-9	10-24	25-49	50-99
99F1512	CVR-120	26.00	25.00	24.00	21.75

Wanlass Power Supplies

REGULATED D.C. POWER SUPPLIES

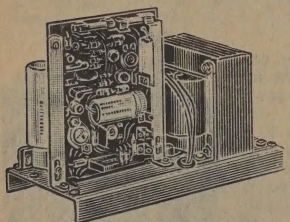


D.C. power supplies in ratings of 30, 60, or 120 watts by means of transformer taps and a voltage adjustment potentiometer facilities selection of any output voltage between 3.6 and 60 Vdc A.C. input: 105-125V, 57-63 Hz, 1 phase (47-440 Hx with derating). Regulation: ±1% for ±10% line changes ±1% for no load or for full load. Ripple: 0.1% +10 mV RMS. Protection: Automatic short circuit protections. Grounding: Floating output; either + or — may be grounded.

Type	Power	Size	Shpg. Wt.
30-OEM	30 Watts	5x5x5".	5 lbs.
60-OEM	60 Watts	7x5x7".	7 lbs.
120-OEM	120 Watts	7x5x10".	12 lbs.

Stock No.	Type	Voltage Range	1-9	10-24	25-49	50-99
99F1352	30-OEM-1	3.6-9V.				
99F1353	30-OEM-2	9-17V.	46.00	43.75	41.50	39.00
99F1354	30-OEM-3	17-30V.				
99F1355	30-OEM-4	30-60V.				
99F1356	60-OEM-1	3.6-9V.				
99F1357	61-OEM-2	9-17V.	57.50	54.50	51.75	49.00
99F1358	60-OEM-3	17-30V.				
99F1359	60-OEM-4	30-60V.				
99F1360	120-OEM-1	3.6-9V.				
99F1361	120-OEM-2	9-17V.	86.25	82.00	77.75	73.50
99F1362	120-OEM-3	17-30V.				
99F1363	120-OEM-4	30-60V.				

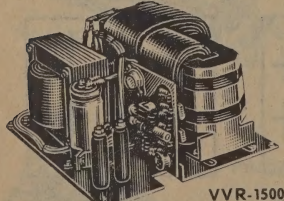
DUAL OUTPUT POWER SUPPLY



Model D-OEM-1. Ideally suited for application where there are lamps, relays, motors, etc. in addition to integrated circuits or transistors requiring a separate 5-Vdc source of well regulated power. Input power: 100-130 Vac, 1-phase 47-63 Hz. Output: 24 Vdc at 2 amps and 5 Vdc at 1 amp. Regulation for 24 Vdc: ±1% line and 1½% no load to full load; ±0.1% and ±1% ½ to full load on 5 Vdc output. Response time: 2 millisecond. Ripple: 150 millivolt peak to peak for 24 Vdc and 10 millivolt peak to peak for 5 Vdc. 5 Vdc includes an overvoltage crowbar for IC applications and has a temperature coefficient .05% C. Size: 5¾" H x 8¼"L x 4" W. Weight: 9 lbs. maximum.

Stk. No.	Model	1-9	10-24	25-49	50-99
99F1451	D-OEM-1	109.00	103.50	98.00	92.52

VARIABLE INDUCTOR STATIC VOLTAGE REGULATOR



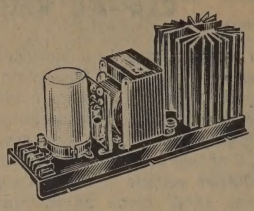
VVR-1500

Designed to replace ferroresonant type constant voltage transformers and silicon controlled rectifier type AC Regulators. —no SCR's or other solid state devices in power circuits. True RMS regulation with RMS sensor and closed loop control. Ideal source for high starting loads and all linear loads. Produces no spikes or conducted RFI. AC input: 105-130 volts, 47-63 Hz. 1 phase. AC output: 120 volts RMS—1.5 KVA (Maximum 1.8 KVA at 80% duty cycle.) Regulation: line—±1% for 105 to 130 V. line change. Load—±1% for 400 W. to 1500 W. load change (±1% or no load to full load with optional ballast inductor). Inherent short circuit protection. Inherently suppresses 200 volts transients protecting both regulator and load being powered. Oper. temp.: 0°C to 55 C up to 85°C (with 200 CFM of forced air cooling). Efficiency: Over 90% at full load. Size: 10" w. x 10" l. x 4.5" h. Wt. 32 lbs.

Stk. No.	Type	Watts	Inductive Load Amps	Motor Load HP	1-9	10-24
99F1351	VVR-1500	1500	1.8-3.6	½ to ⅙	172.50	164.00
99F1344	VVR-1501	1500	3.6-5.4	⅙ to ¼	172.50	164.00
99F1345	VVR-1502	2000	5.3-8.0	¼ to ½	172.50	164.00
99F1346	BI-1500 Ballast Inductor for VVR-1500				25.00	23.75

ALL SILICON SOLID STATE DC POWER SUPPLIES

"IC" - DC POWER SUPPLIES



Designed specifically for IC, OP-AMP, and MOS applications. Provides a very sensible solution to system DC powering of integrated circuits, operational amplifiers and MOS circuits. Operating from an AC input of 100 to 130 volts. 47 to 63 Hz. single phase, units are available in ratings from 3.6 to 60 volts and 1 to 25 amperes. Output voltage: adjustable, a minimum of +5% from the nominal output. Registration accuracy for "IC" ±0.25% for line and +0.25% for load. Ripple: 5 millivolts RMS maximum with recovery time of 50 to 100 microseconds. Standard features including "foldback" current limiting and remote sensing. *Maximum output current.

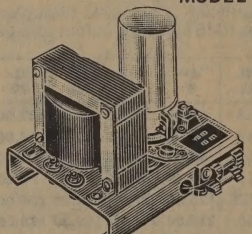
SIZE AND WEIGHT CHART

60-IC	11.5"L x 5.2"W x 6.0"H maximum	11 lbs.
120-IC	15.5"L x 5.2"W x 6.3"H maximum	16 lbs.
200-IC	17.0"L x 6.2"W x 8.0"H maximum	27 lbs.

Stk. No.	Type	Output Voltage	Output Max. Watt.	1-9	10-24	25-49	50-99
99F1453	60-IC-1	3.6-6.3	7.5A*	125.00	118.75	112.50	106.50
99F1455	60-IC-2	12-15-18	60	125.00	118.75	112.50	106.50
99F1457	60-IC-3	24-28-36	60	125.00	118.75	112.50	106.50
99F1459	60-IC-4	48-60	60	125.00	118.75	112.50	106.50
99F1461	120-IC-1	3.6-6.3	15A*	170.00	161.50	153.00	144.50
99F1463	120-IC-2	12-15-18	120	170.00	161.50	153.00	144.50
99F1465	120-IC-3	24-28-36	120	170.00	161.50	153.00	144.50
99F1467	120-IC-4	48-60	120	170.00	161.50	153.00	144.50
99F1469	200-IC-1	3.6-6.3	25A*	225.00	213.50	202.50	191.50
99F1471	200-IC-2	12-15-18	200	225.00	213.50	202.50	191.50
99F1473	200-IC-3	24-28-36	200	225.00	213.50	202.50	191.50
99F1475	200-IC-4	48-60	200	225.00	213.50	202.50	191.50

Optional overvoltage protection crowbar for use with any of above units.
99F1481 ..... **20.00**

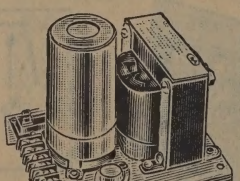
MODEL C214-OEM



Specially designed for driving relays, solenoids, motors and other surge type loads. Provides a D.C. output of 28 volts at 2.5 amperes from 115/230V. ±10% 60 Hz. 1 phase A.C. input. Regulation: ±2% for line and ±2% for load while ripple is 0.1% RMS +10mV. Operating temperature: 0-40°C. Unit can be used up to 70°C with derating. Dimensions: 5.5" High x 5" Wide x 6" Long. Weight is 7 pounds.

Stk. No.	Model	1-9	10-24	25-49	50-99
99F1452	C214-OEM	46.00	43.50	41.50	39.00

MARK III—PRECISION REGULATED ECONOMY DC POWER SUPPLIES



Better regulation and ripple plus "built-in" current limiting and overvoltage protection. Includes short circuit protection and adjustable overvoltage crowbar. Input and output are through a terminal strip on the open type construction chasis. Operates from any A.C. input of 115+230 volts ±10%. 1-phase, 47-63 Hz. Regulation of ±0.1% or 10 mV for line and ±0.1% for load and .01% RMS or 1 mV ripple. D.C. output voltage is adjustable ±2% from nominal output. Finished with clear anodize. Dimensions: 5.5"H x 6"L x 5"W. Weight is 6 pounds.

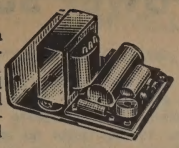
Stk. No.	Model	D.C. Output	1-9	10-24	25-49	50-99
99F1477	III-OEM5-5	5V@5A	89.50	85.00	80.50	76.00
99F1496	III-OEM6-5	6V@5A	89.50	85.00	80.50	76.00
99F1478	III-OEM12-5	12V@5A	89.50	85.00	80.50	76.00
99F1497	III-OEM15-4	15V@4A	89.50	85.00	80.50	76.00
99F1498	III-OEM18-3	18V@3A	89.50	85.00	80.50	76.00
99F1479	III-OEM24-2.5	24V@2.5A	89.50	85.00	80.50	76.00
99F1499	III-OEM5-10*	5V@10A	137.50	130.60	123.75	116.85
99F1510	III-OEM12-10*	12V@10A	137.50	130.60	123.75	116.85
99F1511	III-OEM24-5*	24V@5A	137.50	130.60	123.75	116.85

*12"x5"x6.5" Wt. 10 lbs.

Wanlass Power Supplies

WANLASS POWER

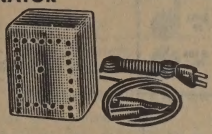
O.E.M. POWER SUPPLY



Super economy all purpose 20 W. all silicon semiconductor solid state D.C. power supply. Operates from 115 V. ±10% A.C. 1 phase, 60 Hz. Regulated ±1% for line and load, filtered to 1% RMS ripple and protected by automatic recovery current, limiting overload and short circuit protection. Self cooled —4" w. x 3" d. x 4½" h.

Stk. No.	Type	Output V.	1-9	10 24	25-49	50-99
99F1486	DPS-1	5/5V. @ 3.0A.	24.95	23.70	22.50	21.25
99F1487	DPS-2	12/15V. @ 1.5A	24.95	23.70	22.50	21.25
99F1488	DPS-3	24V. @ 1.0A	24.95	23.70	22.50	21.25
99F1489	DPS-4	180/220V. @ 0.1A	36.00	34.20	32.40	30.60
99F1513	DPS-5	5V. @ 1.5A	19.95	18.95	17.95	16.95
99F1514	DPS-6	12V. @ .75A	19.95	18.95	17.95	16.95
99F1515	DPS-7	24V. @ .40A	19.95	18.95	17.95	16.95

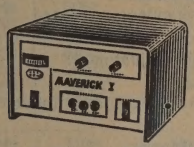
SOLID STATE ELIMINATOR



The "Eliminator" all silicon solid state 12 V. D.C. Model BE-12. Specially protected against inadvertent overloads, dead short circuits! Operates from 115 V. ±10%, 1 phase, 60 Hz A.C.—ideal for driving all 12 V. devices including auto radios, stereo's, tape decks and cassettes, Regulated and filtered. Includes U.L. approved 2 wire cord and ground plug for A.C. Input and output leads with alligator clips to D.C. load.

Stk. No.	Type	Output V.	1-9	10-24	25-49	50-99
99F1490	BE-12	12V. @ 2.0A.	14.95	14.25	13.50	12.75

MAVERICK I & II



Maverick I

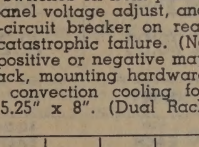
Maverick II

Regulated economy variable bench and dual rack mount D.C. Power supplies designed especially for integrated circuit, MOS/FET and operational amplifier circuit loads. Available in two different models, one providing 0 to 7 volts at 5 amps and the other a dual output of 0-18 volts at 1.25 amps each. A.C. Input: 105-125 volts, 1 phase, 47-63 Hz. D.C. Output: Mav 1 0-7 V @ 0.5A. Mav 11 (#1) 0-18 V @ 0-1.25A (#2) 0-18 V @ 0-1.25A. Regulation: ±0.1% or 5 Mv for line and ±0.1% or 5 Mv for load. Ripple: 0.01% or 1 Mv RMS maximum. Output Impedance features: 10 Milliohms maximum from DC-1 KC, Adjustable automatic current limiting for overload and short circuit conditions.

Adjustable from 0-110% current. Remote sensing with auto-revert to local in the case of a disconnected or broken sense lead. 5 Ft. 3-wire input cord with grounded plug, front and rear output terminals, on-off and meter selector switches on front panel. Combination voltmeter/ammeter, front panel voltage adjust, and front panel current limit adjust. Reset-circuit breaker on rear panel for AC input protection against catastrophic failure. (No fuse to replace) Floating output either positive or negative may be grounded. Dual rack mount ½ of rack, mounting hardware is furnished with each unit. Natural convection cooling for 0-45°C operating temperature. 8.5" x 5.25" x 8". (Dual Rack Mount: 19" x 5.25" x 8". Wt., 9 lbs.

Stk. No.	Type	Output V.	1-9	10-24	25-49	50-99
99F1491	1PD-275	2-7 V @ 0-5A	89.00	84.50	80.00	75.50
99F1492	D1PD-2181	Dual 2-18 @ 1.25A	125.00	118.75	112.50	106 25

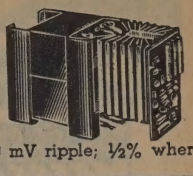
OVP-2 FUSE HOLDER



OEM type OVP fuse holder for DPS and OEM DC power supplies, on any device 5 amps or less. DC voltage protection can be used on power distribution systems to protect voltage sensitive loads such as IC or MOSFETS.

Stock No.	Type	Rating Volts/Amps	1-9	10-24	25-49	50-99
99F1516	OVP-2-53	5 V. 3A				
99F1517	OVP-2-55	5 V. 5A				
99F1518	OVP-2-62	6 V. 2A				
99F1519	OVP-2-65	6 V. 5A				
99F1520	OVP-2-105	10 V. 5A				
99F1521	OVP-2-122	12 V. 2A				
99F1522	OVP-2-125	12 V. 5A	9.00	8.50	8.00	7.50
99F1523	OVP-2-152	15 V. 2A				
99F1524	OVP-2-154	15 V. 4A				
99F1525	OVP-2-183	18 V. 3A				
99F1526	OVP-2-241	24 V. 1A				
99F1527	OVP-2-242	24 V. 2.5A				
99F1528	OVP-2-282	28 V. 5A				

BRUTE I, II, III



SCR (silicon controlled rectifier) regulated DC power supplies. High current, Low Cost DC Power Supplies utilizing phase control principal with ±0.2% or 50 mV line and load regulation. DC output voltage adjustable either 5-50 volts or 2-25 volts (reconnectable) at 300, 600 or 12000 wats. Operate from 150-130/210-260 volts. 1 phase, 47-63 Hz. AC—frequency insensitive. 1% RMS 500 mV ripple; ½% where optional ripple reduction kit is employed.

Stk. No.	Type	Volts DC	Output Amps	H"xW"xD"	Wt. Lbs.	1-9	10-24	25-49
99F1493	I	5-50/ 2/25	6/ 12	5x8x11.5	20	148.00	141.00	133.00
99F1494	II	5-50/ 2/25	12/ 24	6.75x8x11.5	30	195.00	185.00	176.00
99F1495	III	5-50/ 2/25	25/ 50	8x14x14	50	315.00	299.00	284.00

OPTIONAL EQUIPMENT

Type K-1. Ten turn potentiometer kit for vernier (fine) voltage adjust.
99F1529. NET 20.00

Type K2-1. Ripple reduction kit for models Brute I and II (Reduces ripple 50%).
99F1530. NET 25.00

Type K2-2. Ripple reduction kit for model Brute III.
99F1531. NET 49.50

Type K-3-OVP-1. Universal over voltage protection device for Brute power supplies.
99F1532. NET 52.00

● *NEW* LOW-COST PARAFLUXER™ AC VOLTAGE REGULATOR

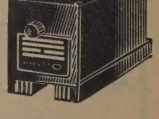
New Wanlass-Paraformer™ power conditioning technique offers a voltage regulator of superior performance characteristics for unit size, combined with small dimensions and low initial cost. Provides line voltage regulation of ±1% for ±10% voltage variation in line voltage. Also, incorporates use of magnetic coupling to provide automatic starting characteristics and considerably increased power handling capability for a given size of unit. *Digit in type number indicates power rating. †Indicates input volts; ‡indicates output volts.

SPECIFICATIONS

Type Regulator: Alternating Current—RMS Regulated
Frequency: 60 Hz
Line Regulation: ±1% RMS for ±10% variation above nominal line voltage
Load Regulation: ±1% RMS typical zero to full load
Power Factor at Rated Restive Load: .95 typical
Efficiency: 80% to 95% typical at nominal conditions depending upon size of unit
Ambient Temperature: 40°C

Stock No.	Type PF	†	‡	Wt. (Lbs.)	1-9	10-24	25-49	50-99
99F1535	*60	95-130	117	6	25.75	24.46	23.18	21.89
99F1536	*120	95-130	117	9	34.50	32.76	31.05	29.33
99F1537	*250	95-130	117	15	51.00	48.45	45.90	43.35
99F1538	*500	95-130	117	22	79.75	75.76	71.78	67.79
99F1539	*1000	95-130	117	34	124.50	118.28	112.05	105.83
99F1540	*2500	95-130/ 190-260	117/ 254	55	265.00	251.75	238.50	225.25
99F1541	*5000	95-130/ 190-260	117/ 254	160	509.00	483.55	458.10	432.65
99F1542	*10000	95-130/ 190-260	117/ 254	310	984.00	934.80	885.60	836.40

PARASWITCHER™ SWITCHING TYPE DC POWER SUPPLY



High performance 50kHz switching power supply incorporating the unique Wanlass Paraformer™ to provide noise and transient free DC power for use in all applications. Provides high density power (2 watts/cubic inch) at high overall efficiency (over 70%). Unique protective features inherent in the unit include overvoltage protection, under-voltage protection and overload protection.

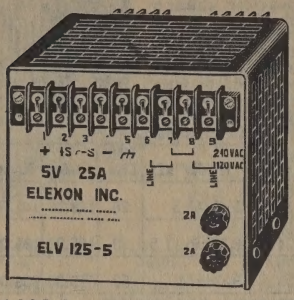
SPECIFICATIONS

Output Voltage: 5 volts with ±10% adjustability
Output Current: 10 amps
Regulation Line: ±0.2%
Regulation for 10% to full load: ±0.2%
Ripple: 10 millivolts RMS
Input: 160 volts DC ±10%
Size: 3"x4"x2"

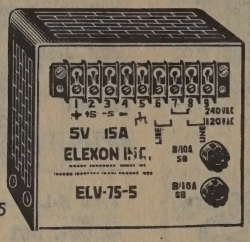
Stock No.	Mfr's Type	Output Volts	Output Amps	Input VDC	NET EACH
99F1543	PS5-10	5	10	160	150.00
99F1544	Bolt-On Finned Heat Sink for PS5-10				10.00

ELEXON New Solid-State Power Supplies by

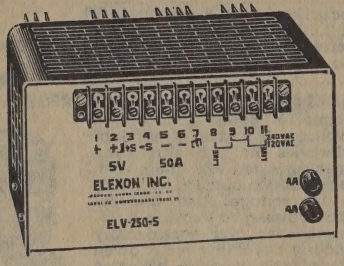
COMPUTER GRADE ELV SERIES POWER SUPPLIES



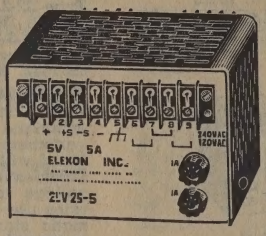
ELV 125-5



ELV 75-5



ELV 250-5



ELV 25-5

SPECIFICATIONS:

Input Voltage:
120/240 VAC, 10%, single phase, 47 to 420 Hz.

Output Regulation:
.1% for line variation of 10%.
.1% for 0 to full load.
Noise ahd ripple less than .1%.
Short circuit protection.
Adjustable overvoltage crowbar.

Output Voltage Adjustment:
2% at full load.
10% with appropriate current reduction.

Temperature Range:
0-55°C ambient operating temperature; no additional heat sinking required.

New computer grade all-silicon solid-state DC power supply. Has integrated circuit regulators for precision regulation. Fully enclosed, ventilated black and gold anodized aluminum case. Power connections made by means of barrier strip terminals. Standard features include short circuit protection; adjustable overvoltage crowbar protection; and remote voltage sensing. Floating output permits either positive or negative terminal to be grounded. Input Voltage: 120 or 240 VAC, ±10%, single phase, 47 to 420 Hz. Output Regulation: .1% for line variation of ±10%; .1% for 0 to full load. Noise and Ripple: less than .1% Output Voltage Adjustment: ±2% at full load; ±10% with appropriate current reduction. Temperature Range: 0-55°C ambient operating; no additional cooling required.

ELV-25 POWER SUPPLY

Stock No.	Mfr's Type	Dimensions (Inches)	Volts	Amps	1-9 EACH	10-24 EACH	25-49 EACH	50-99 EACH
62F2873	ELV-25-5	4x5½x6½	5	5	76.00	72.20	68.40	64.60
62F2874	ELV-25-12	4x5½x6½	12	3				
62F2875	ELV-25-18	4x5½x6½	18	2				
62F2876	ELV-25-24	4x5½x6½	24	1.5				

ELV-75 POWER SUPPLY

Stock No.	Mfr's Type	Dimensions (Inches)	Volts	Amps	1-9 EACH	10-24 EACH	25-49 EACH	50-99 EACH
62F2877	ELV-75-5	5⅛x5¾x8	5	5	100.00	95.00	90.00	85.00
62F2878	ELV-75-12	5⅛x5¾x8	12	3				
62F2879	ELV-75-18	5⅛x5¾x8	18	2				
62F2880	ELV-75-24	5⅛x5¾x8	24	1.5				

ELV-125 POWER SUPPLY

Stock No.	Mfr's Type	Dimensions	Volts	Amps	1-9 EACH	10-24 EACH	25-49 EACH	50-99 EACH
62F2881	ELV-125-5	6x6½x11	5	5	158.00	150.00	142.00	134.30
62F2882	ELV-125-12	6x6½x11	12	3				
62F2883	ELV-125-18	6x6½x11	18	2				
62F2884	ELV-125-24	6x6½x11	24	1.5				

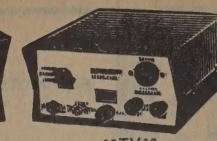
ELV-250 POWER SUPPLY

Stock No.	Mfr's Type	Dimensions	Volts	Amps	1-9 EACH	10-24 EACH	25-49 EACH	50-99 EACH
62F2885	ELV-250-5	6x10½x11	5	5	200.00	195.00	190.00	185.00
62F2886	ELV-250-12	6x10½x11	12	3				
62F2887	ELV-250-18	6x10½x11	18	2				
62F2888	ELV-250-24	6x10½x11	24	1.5				

Newark OffersYou the Very Latest Precision Components, at Competitive Prices, for a Wide Variety of Sophisticated Industrial Applications.

CORNELL DUBILIER

12ESW25


12TV12

AC BATTERY DRIVEN INVERTER POWER SUPPLIES

Changes DC to 115VAC at 60 Hz. Operates electrical appliances. Take 20% overload on ¼-duty cycle. Features remote control jack, voltage selector, on/off switch and replaceable fuse for overload protection. Frequency tolerance of ½cps on items rated 100 watts and up 2cps on lower power units. CAUTION: avoid applications such as compressors, which have heavy starting load characteristics.

POWERCON INVERTERS—SINE WAVE OUTPUT

For all voltage and/or wave-form sensitive loads like TV, radio, phono, Hi-Fi, recording, counting, testing and warning devices. Features automatic load regulation: 15% input change alters output only 5% Operates loads with any power factor of 25% or more. Maintains output voltage of 110-120 VAC. Ideal for small motor-driven appliances (less than 1/10/hp), flourescent lights: only inverter widely approved by TV set manufacturers for operation of portable sets. Filtered for quiet output. Heavy duty vibrators only. Two-tone gray baked enamel finish and integral holes provided.

Stock No.	Mfr's. Type	Typical Applications	Input VDC	Watts Cont.	Watts Int.	Size, inches	Wt. Lbs.	1-9	10-Up
66F219	12DSW10	Portable TV, small appliances	12	100	125	10⅜x9⅞x5½	22	88.06	68.74
66F222	12ESW25	Any B&W TV, entertainment appl.	12	250	300	12¼x9⅞x5½	26	117.51	91.73

POWERCON INVERTERS—SQUARE WAVE OUTPUT

Economy AC power at nominal ratings. Use with power factor of 70% and up. Linear voltage regulation (1%:1%). Two-tone gray baked enamel finish and integral finger holes provided, except (*) one color, less finger holes, supplied with cigarette lighter cord.

Stock No.	Mfr's Type	Typical Applications	Input VDC	Watts Cont.	Watts Int.	Size, Inches	Wt. Lbs.	1-9	10-Up
66F207	12SP2A*	Shaver only, intermittent duty	12	....	20	3⅞x2⅞x2¾	2	14.46	14.46
66F224	12A4*	dcitation machines, small phonos	12	40	60	6¼x4⅛x3⅜	6	25.48	19.89
66F208	12B8	radio, port. tape recorders	12	80	100	8¾x7⅝x3⅞	12	39.84	31.00
66F220	12TV12	spl. design/portable TV	12	120	140	8¾x7⅝x3⅞	16	42.95	33.52
66F210	12D15	tools, business machines	12	150	175	10⅜x9⅞x5½	26	73.00	56.99
66F211	12D22	camping trailer, truck	12	220	250	10⅜x9⅞x5½	31	90.50	70.65
66F213	110B15	For small vessels, apartment	110	150	175	8¾x7⅝x3⅞	13	55.00	42.93
66F214	110D25	houses, emergency power	110	250	300	10⅜x9⅞x5½	26	69.00	53.85

REPLACEMENT VIBRATORS FOR ABOVE

Stk. No.	Type	Repl. For	1-24	25-49	50-Up
48F077	6665	6L6,12D6,12L8	5.86	5.82	4.16
48F087	6567	6H10, 6SH15	6.51	5.82	4.62
48F088	12VB6H	12S10	15.52	10.91	8.90

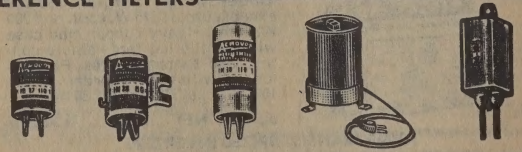
Stk. No.	Mfg. No.	Repl. For	1-24	25-49	50-Up
48F089	12VD6H	12H15, 12SH20	24.13	16.97	13.83
48F084	110VB6H	110S15, 22F025, 110H25	15.52	10.91	8.90
48F085	110VC6H	110SH40, 110H35	24.68	17.35	14.14

ACCESSORY KITS FOR POWERCON INVERTERS

MK Mounting Kits: Complete with instructions; wt., 2½ lbs.
RK Remote Control Kit: Dashboard or post mount. Switch, dual AC socket, 12' control cord to Powercon, pilot light. Wt. 1 lb.

Stk. No.	Type	For Powercon Types	1-9	10-Up
66F225	MK3544-4	12B8, 12B10, 12TV12	3.60	2.81
66F226	MK3544-5	All other 12-volt	3.90	3.04
66F227	RK112	Except 2A4,12SP2A,110v	10.81	8.44

AEROVOX INTERFERENCE FILTERS


IN-27 IN-28 IN-30 IN-42 IN-105

Type IN-27. Inexpensive filter to be placed between set and outlet when interference is slight. Also used on appliances causing low intensity interference. Eliminates noise on house wiring and power lines. Size, 1⅜x1½". Shpg. Wt., 5 oz.
48F031. NET **1.80**

Type IN-28. Use where ground is at distance from point of application. Size, 1⅜x2". Shpg. wt., 8 oz.
48F032. NET **2.40**

Type IN-30. Provides additional filtering action and inductance. Effective in heavier interference. Plug between set and receptacle or preferably between noisy appliance and receptacle. Size, 1⅜x3". Shpg. wt., 7 oz.
48F033. NET **3.00**

Type IN-42. Overcomes serious causes of interference. Plugs into electric outlet. Interfering device plugs into receptable of filter. Size, 2½x3¾". Rated at 6 amps for 110-220 volts AC. Shipping wt., 1 lb.
48F034. NET **9.00**

Type IN-105. Low-Impedance delta connected capacitor for fluorescent light fixture in bathtub case, Size 1¾"x1"x1¾".
48F008. NET **1.35**

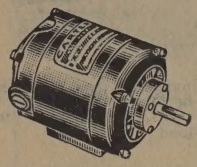
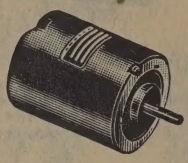
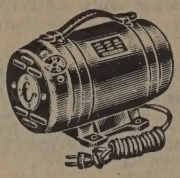
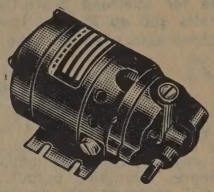
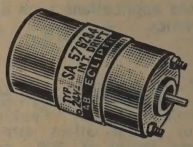
Type IN-106. Best filter for fluorescents. Blanced network. Especially suited for radio and TV salesrooms. One unit per fixture in series where power leads enter. Metal container with 4 stranded wire leads. Rating: 125V AC or DC; 2.6 amps. Size: 1⅞x3x1⅜".
48F009 NET **3.30**

MAKE NEWARK YOUR DEPENDABLE SOURCE FOR ALL ELECTRONIC PARTS & EQUIPMENT

Whether ordering in quantity for production, or in small lots for special projects, make NEWARK your headquarters for electronic supplies—Get the exact part you need from an inventory of over 70,000 items.

CARTER MOTORS

FHP MOTORS—CONVERTERS—GEARMOTORS—TACH—GENERATORS—FREQUENCY CHANGERS

CLASSIC AND REGENT MOTORS

Universal AD/DC type 12V to 230 VDC, up to 1 HP. Sealed ball bearings. High quality construction. For machine tool drives, pumps, etc. DC shunt types ideal for SCR motor controllers, lab-stirrers and variable speed applications. Base, face, or flange mount.

DC TO AC ROTARY CONVERTERS

Dependable power for industrial service. Sealed ball bearings. 20 to 2000 watt output. 12 to 250 VDC input models. Ideal power for marine and industrial 2-way radio.

Special models for emergency standby service to 750 watt output operate from batteries, start automatically should AC power fail. Shuts off when AC restored. For hospital and school paging systems, utilities, etc.

CLASSIC AND REGENT GEARMOTORS

Universal and DC shunt models from 1 to 750 RPM shaft speed at torques up to 30 in. lbs. Continuous duty. Sealed ball bearings, high quality construction.

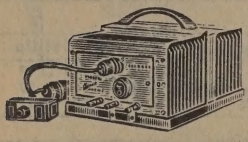
PM DC TACH GENERATORS

Ecliptic and classic models from 2.5 to 60V per 1000 RPM. High quality, ball bearing construction. 1% linearity. Reliable feed back reference voltage for precise speed control.

WRITE FOR CATALOGS AND PRICE LIST

TERADO

DUAL CONTINENTAL TRANSISTORIZED INVERTERS



Model 50-202. Converts 12 VDC to 100 VAC, 60 Hz. Output 550 watts continuous and 600 watts intermittent. Features a variable AC outlet. Frequency stable within ½ cycle with changing input and load. Filtered for use with tape recorders. Complete with remote control and battery cables. Heavy copper clad case with ventilating fan. Size: 10¼"x13"x7¼". Shipping weight, 60 lbs.

66F300. NET 327.74

CONTINENTAL TRANSISTORIZED INVERTERS

Model 50-191. Similar to 50-202 except output: 275 W. cont. and 300 W. inter. Heavy copper clad case with ventilating fan, remote control, and battery cables. Filtered for use with tape recorders. Size: 10¾"x6"x6". Shpg. wt., 30 lbs.

66F301. NET 158.40

ATLAS TRANSISTORIZED INVERTERS

Model 50-200. Similar to Model 50-202 except 175 W. cont. to 200 W. inter. Size: 10¾"x6"x6". Shpg. wt., 21 lbs.

66F302. NET 116.50

GEMINI TRANSISTORIZED INVERTERS

Model 50-128. Converts 12 VDC to 110 VAC 60 hz. for equipment not sensitive to frequency change; lights, electric blankets, TV, etc. Capacity of 450 watts cont. and 500 inter. Complete with 12 ft. battery cables. (Not recommended for refrigerators with compressor.) Size: 12½"x6"x6". Shpg. wt., 20 lbs.

66F303. NET 97.17

GALAXY TRANSISTORIZED INVERTER

Model 50-205. Converts 12 VDC to 110 VDC. Capacity of 175 watts continuous and 200 intermittent. Adjustable voltage and frequency. Heavy copper clad case. Size: 10¾"x6"x6". Shpg. wt., 9½ lbs.

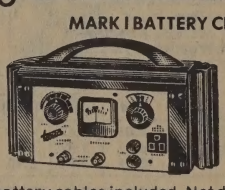
66F305. NET 51.50

SUPER VIBRATOR TYPE

Model 50-127. Converts 12 VDC to 110 VAC. Output: 75 W. cont. and 100 W. inter. 60 Hz. Easy installation into cigarette lighter of car. AC receptacle in front of case. Sealed brown baked enamel steel case. Size: 3½"6½"x4". Shpg. wt., 8 lbs.

66F307. NET 42.50

MARK I BATTERY CHARGER AND INVERTER



Model 50-131. Converts 12 VDC to 117 VAC. Can be used to charge battery at 20 amps, 10 amps or low trickle. For cars, mobile homes, boats, buses or to operate appliances, lights, tools. Capacity is 450 to 500 watts. Size: 12½x6x6". Shpg. wt. 21 lbs.

Battery cables included. Not designed for freq. sensitive equipment.

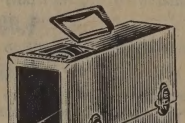
66F315 NET 108.50

MARK II BATTERY CHARGER AND INVERTER

Model 50-132. Same specifications as 50-131 above except capacity is 275 to 300 watts.

66F316 NET 89.50

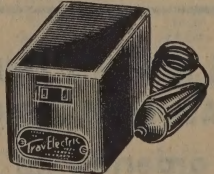
"TRAV-ELECTRIC" PORTABLE POWER SUPPLY



Model 50-160. Operates anything using 117 VAC, 60 hz from 25 amps. Rechargeable wet storage battery enclosed. Capacity of 125 watts continuous and 175 intermittent. Frequency stable within ½ hz with load change. Plugs into AC outlet or car cigarette lighter to recharge the battery. Charger has automatic overcharge protection. Meter shows charge rate and hours of anticipated output. Package silent electric power with self-contained power supply. Charger operates on AC, tapers from 6 to 0 Amps. Copper clad steel case. Size: 12" x 5½" x 8".

66F310. NET 78.79

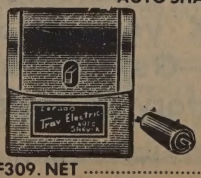
SENIOR VIBRATOR TYPE



Model 50-116. Converts 12 VDC to 110 VAC, 60 hz. Output: 30 watts continuous and 50 watts intermittent. Simple to install into cigarette lighter. Sealed brown baked enamel aluminum case. Size: 2½" x 4½" x 2¼". Shpg. wt., 3 lbs.

66F308. NET 20.16

AUTO SHAVER VIBRATOR TYPE



Model 50-103. Operates all electric shavers from a 12 VDC battery. AC output: 15-20 watts. Poly-ethylene non-breakable case. Simply plug into cigarette lighter. Size: 3 "x2¼"x4¼". Shpg. wt., 2 lbs.

66F309. NET 11.85

Power Supplies and Battery Chargers

ELECTRO DC POWER SUPPLIES

Electro's power supplies offer DC output up to 1000 watts. Filtering is adequate for requirements from critical transistor circuitry to applications permitting up to 5% ripple.

Models GFL, GFLR used for designing and testing appliances, telephone circuits, relays and solenoids. Models D-612T, H, EC-1 and EC-2 recommended for servicing auto and portable radios, also popular for school labs and industrial research. Models NFB and NFBR for R/D, industrial power; City of Los Angeles approved. NFBR Federal Stock No. 6130-853-3172. Models EFB, EFBR also City of Los Angeles approved; EFB Federal Stock No. 6130-957-1450. Models PS-30, PS-50 ideal for thermo-electric cooling or other high-current 12V applications. PS-1000 series for high power at 32, 55 or 125V.

Model 3301 especially designed for school labs offers DC and AC outputs, meters, terminals. Circuit breakers on input and output for overload and circuit protection. Features: Attractive enamel finish on steel; adjustable output voltage; clearly marked controls; easy-to-read volt and amp meters; isolated output terminals, instructions; one year warranty. Input—117 VAC 50/60 Hz.

(*) No. Load to Full Load. (†) Output volts change for each amp of output current change. (††) All 2% accuracy, except General Purpose Units, 5%. (‡) 19" rack mounting version.

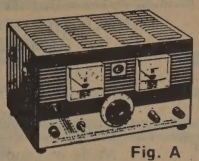


Fig. A

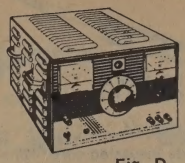


Fig. D

Fig. G

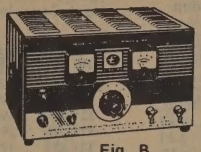


Fig. B

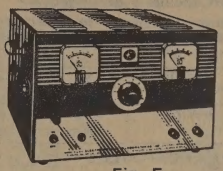


Fig. E

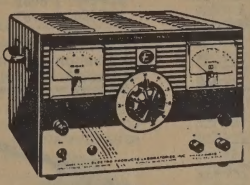


Fig. C

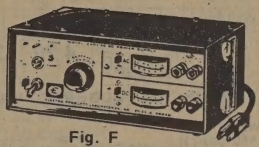


Fig. F

Fig. H

INDUSTRIAL

Stock No.	Model	Voltage Output	Amps. Output.	Fig.	Load Reg.* (V/A)†	Max. Ripple%	Meters††	DC Imped., Ohms*	Size (HxWxD) inches	Weight lbs.	NET
66F272	EF	0-28	0-5	A	0.9(1-5A)	1	0-50V,0-6A	0.9(1-5A)			
		0-14	0-5		0.6(1-5A)	1		0.6(1-5A)	7x12x8½	25	125.00
66F145	EFB	0-32	0-4	A	1.25	0.1	0-40/20V,	1.25			
		0-16	0-8		1.0	0.1	0-10A	1.0	7x12x8½	36	175.00
		0-16	0-8			0.5	0-150V,0-5A	1.5	9¾x14¼x14¼	88	320.00
66F624	GFL	0-125	0-5	C	1.5	0.75	0-50V,0-25A	0.4	9¾x14¼x14¼	84	300.00
66F118	NFB	0-32	0-15	C	0.4	0.5	0-75V,0-15A	0.8	9¾x14¼x14¼	70	325.00
66F260	PS-5	0-55	0-10	C	0.8	0.75	0-50V,0-50A	0.2	9¾x14¼x19¼	103	425.00
66F277	PS-1000-32	0-32	0-30	D	0.2	Less than 1%	0-150V,0-10A	1.0	9¾x14¼x18¼	120	425.00
66F456	PS-1000-125	0-125	0-8A	D	1.0						

GENERAL PURPOSE

66F119	D-612T	0-16	0-10	B	0.44(3-10A)	0.5@5A	0-20V, 0-10A	0.44(3-10A)			
		0-8	0-10		0.3(3-10A)	2@10A		0.3(3-10A)	7x12x8½	22	89.50
66F120	H	12(adjust.)	0-10	B	0.23(3-10A)	5	0-20V, 0-30A	0.23(3-10A)			
		6(adj.)	0-20		0.15(3-20A)	5		0.15(3-20A)	7x12x8½	30	125.00
66F262	EC-1	12(adj.)	0-5	H	1.4	0.5	None	1.4	10¾x4⅜6x6½	12	44.50
66F261	EC-2	0-16	0-5	G	1.8	0.5	0-20V/10A	1.8	10¾x4⅜6x6½	11	64.50
66F147	PS-30	12(adj.)	0-30	E	0.12(6-30A)	1	0-20V, 0-50A	0.27	9¾x14¼x14¼	68	225.00
66F457	3301	0-16DC	0-3A	F	1.8(1-3A)	0.5%	0-20V/0-5ADC	2.4DC	9¾x14¼x19¼		
		0-20AC					0-20V/0-5ADC	0.5AC	4¾x10¾x6½	11	115.00

SCHAUER BATTERY CHARGERS

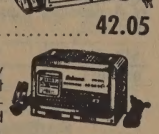
●AUTOMATIC MODEL TB-6012 CHARGER

12 volt, 6 ampere. Connected to a 12 volt battery. Automatically turns on again as additional charge is required. High density, full wave Selenium rectifiers, automatic circuit breaker protection. Equipped with heavy duty DC leads, 6" long with alligator clips, 6" of AC input cord. Size 9⅛" x 5⅛" x 5⅞". Weight: 9¼ lbs.

66F239. NET 42.05

MODEL A-6612

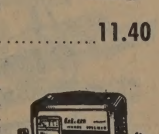
4-amp charger for 6 and 12v batteries. Battery recharges in 5 to 15 hrs. Automatic circuit breaker, selector switch, numeral dial ammeter. Case: steel, gold colored finish. Brushed aluminum and maroon front panel trim. Size: 7¼x4½x5". Wt., 5¼ lbs.



66F282. NET 11.40

MODEL B-6612

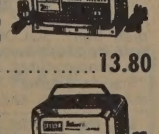
6-amp charger. Charges 6 and 12v batteries. Recharges average battery in 4 to 9 hrs. Equipped with an automatic circuit breaker, selector switch, and an accurate, numeral dial ammeter. Case is steel with gold colored finish and two-tone brushed aluminum and maroon front panel trim. Size: 9⅜"x6"x6½". Wt. 8 lbs.



66F281. NET 13.80

MODEL C-6612

10-amp. charger. Recharges aver. 6 or 12v. battery in 2 to 6 hrs. Has automatic circuit breaker, selector switch, numberal dial ammeter. Case same as B6612. Size: 9⅜x6"x6½". Wt., 11 lbs.



66F280. NET 18.05

AUTOMATIC MODEL BR-312 CHARGER

12 volt, 6 ampere charger charges battery, automatically shuts itself off. Then automatically turns on again as battery requires additional charge. For batteries of boats, cars and other unattended equipment. Has accurate numeral dial ammeter. 9⅜"x6x6½. Weight: 8½ lbs.

66F283. BR-312. NET 26.55

●AUTOMATIC MODEL CR-312 CHARGER

12 volt, 10 ampere similar to Model BR-312 except that it has 2/3 greater charging capacity for faster charging. Turns on and off automatically as the battery requires charging. 9⅜" x 6" x 6½". Weight 11½ lbs.

66F238. NET 26.90

MODEL H612C

1¼ amp. charger. A combination 6 and 12 volt charger. Ideal for car, motorcycle, boat and lawn mower batteries. Selenium rectifier, automatic circuit breaker, 6 or 12 volt selector switch. Rugged steel case with handsome red finish. Dimensions are 4¼x4⅜x4¾".

66F159. NET 7.15

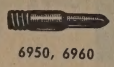
MODEL K412

An economical charger for 12-volt batteries. A small, efficient, and low-priced unit for charging 12 volt batteries at a three ampere rate.

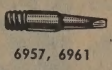
66F160. NET 8.80

Ungar® "Princess" Soldering & De-Soldering

PRINCESS COMPLETE UNIT


6950, 6960

HANDLE AND CORD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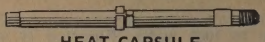
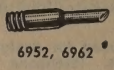

HEAT CAPSULE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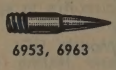

6953, 6963

HANDLES

Model 6902. Polyvinyl chloride insulated cord. 120 V AC/DC. 5" L x ½" dia. Wt. 3 oz.

Model 6903. Same except cord is 22 gauge flexible stranded w/molded NEMA plug. Capsule is grounded.

Model 6911. "Mini" cool-grip designed to fit Princess handles. Provides light, comfortable grip and reduces fingertip temperature by as much as 25-30°.

Stk. No.	Type	Handles	1-9	10-49	50-Up
32F899	6902	2-Wire	3.43	2.99	2.64
32F898	6903	3-Wire	4.57	3.97	3.51
35F3071	6911	. . . . .	.97	.87	.77

HEAT CAPSULES

For 120 Volts AC/DC operation. Heating section threaded to accept series of ⅛" "Princess" soldering Nibs. Length: 2¾". Ship. wt. 2 oz.

Stk. No.	Type	Watts	Temp.	1-9	10-49	50-Up
32F896	6910	10	550- 650°F	4.20	3.65	3.23
32F897	6915	15	700- 800°F			
32F894	6918	18	900-1000°F			

ASSEMBLED PRINCESS SOLDERING IRON

Includes: 6902 handle, 6910 10 watt heat capsules, 6950 pencil nib, 6951 screwdriver nib, 6952 spade nib. Shpg. wt. 14 oz.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F885	6975	Assembled	8.45	7.55	6.45

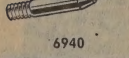
DE-SOLDERETTE

- Vacuum tip
- Replaceable tip
- 18-Watt Heat Capsule
- Ungarized white coating

Model 6992. 18-watt heat capsule delivers a 600 F tip temperature for fast, safe de-soldering of I.C.'s chips and microminiature modules. Sticking or clogging of molten solder is eliminated by a white coating inside and out of collector body. The replacement tip is stainless steel lined - prevents clogging aperture of .033. Vacuum at tip is rated at 5.5 ounces per square inch. Includes "Princess" handle, check valve, arm and bulb, tip, heat capsule, and clip.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F880	6992	De-solderette	16.42	14.28	12.63
33F034	7812	Tip .033"	1.17	.96	.88

DE-SOLDERING TIPS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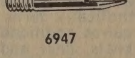

6947

Stk. No.	Type	Description	1-9	10-49	50-Up
35F3052	6940	Tip-flat pack leads	2.30	1.90	1.77
35F3053	6941	Tip-flat packs			
35F3054	6942	Tip-in-line IC's			
35F3055	6943	Tip- "To" .600" dia.	2.18	1.90	1.70
35F3056	6944	Tip- "To" .500" dia.			
35F3057	6945	Tip- "To" .375" dia.			
35F3058	6946	Tip- "To-- .280" dia.			
35F3059	6947	Lead straightener	1.83	1.59	1.41

IRON HOLDER—SPONGE

"Princess" soldering iron holder has plastic case with metal cage and split sponge. Shipping weight: 3 oz.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F883	6990	Holder	3.25	2.91	2.64
32F882	6991	Sponge	.49	.44	.40

Model 7075. Heavy duty soldering iron. Ideal for home, workshop, projects and repairs. Has replaceable tip and heating unit; cool clean grip. 56½ watts. UL listed and guaranteed.

Model 7929. Soldering kit has replaceable copper tip #113, includes a thermal wire stripper. 27 watts, 120 V AC/DC. UL listed and guaranteed.

Stk. No.	Type	Description	1-9	10-49	50-Up
35F3068	7075	Soldering iron	6.50	5.85	5.20
35F3069	7929	Soldering kit	3.90	3.55	3.15

SOLDERING NIBS

Made of copper alloy; also available in iron clad and gold plated (24K.) Four types of soldering nibs threaded(⅛")to fit "princess" Heat Capsules.

Stk. No.	Type	Shape	Size	Plated	1-9	10-49	50-Up
32F893	6950	Pencil	.68x⅛"	Copper	.42	.36	.32
32F892	6951	Screw dr.	.68x⅛"	Copper	.42	.36	.32
32F891	6952	Spade	.61x⅛"	Copper	.42	.36	.32
32F890	6953	Point	.61x⅛"	Copper	.77	.67	.59
32F889	6960	Pencil	.62x⅛"	Gold	.72	.62	.55
32F888	6961	Screw dr.	.62x⅛"	Gold	.72	.62	.55
32F887	6962	Spade	.62x⅛"	Gold	.72	.62	.55
32F886	6963	Point	.61x⅛"	Gold	1.40	1.22	1.08

Also for use with Standard Line Tiplets: PL-331, PL-332, PL-333, PL-338, PL-340, 7154, 7155, and 7062. Pg. 613.

PRINCESS SOLDERING IRON

Includes: 6902 handle, 6910 10 watt heat capsule, 6951 screwdriver nib, 6990 "Princess" soldering iron holder equipped with 6991 re-fill sponge, 6950 pencil nib, 6952 spade nib. Shpg. wt. 1 lb.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F884	6900	Station	11.95	10.35	9.20

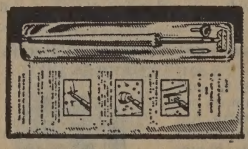
IC EXTRACTORS

- Fast Release
- Push-Button Simplicity
- Eliminates damaged leads

Dual in-line IC extractors. Unique spring loaded action locks on. Instantly releases up to 16 pin dual in-line IC's. Eliminates damaged leads, circuit destruction, burned fingers. For use w/Ungar's 6942 & the 7000. Type 6983 is a TO-5 extractor.

Stk. No.	Type	1-9	10-49	50-Up
35F3060	6982	1.77	1.56	1.41
35F3067	6983	2.00	1.75	1.55

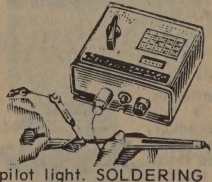
6939 DE-SOLDERING KIT



A complete De-Soldering kit containing lightweight 3 wire grounded pencil handle with full length, extra flexible insulated cord; ideally suited for 1/32" or under. 15 watt heat capsule (UL listed). 3 tips - 6945 for most transistor pads- .375" diameter, iron clad, nickel plated. 6947 Slotted lead straightener- melts and straightens bent tabs and leads. Nickel plated 6942 included in kit. Any of 8 desolder tips listed fit Princess 6939 and Ungar 535, 1235 and 4035.

Stk. No.	Type	1-9	10-49	50-Up
35F3051	6939	14.80	13.00	11.30

PRINCESS LOW VOLTAGE SOLDERING SYSTEM

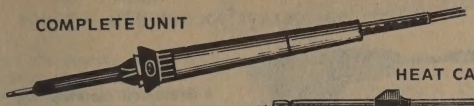


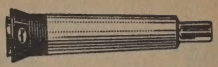
Complete soldering system includes transformer, handle, heat capsule, plus three tips. TRANSFORMER: Completely isolated 12-volt system provides maximum thermal recovery for production soldering. Case is grounded with 3-wire cord and NEMA plug. U/L Listed. Input, 120V AC, 60 Hz. Output, 1.3 amps, 10 VAC, 60 Hz. Bayonet 3-amp fuse and pilot light. SOLDERING PENCIL: Heat resistant nylon handle with flexible vinyl cord and 4-pin connector. Heat capsule provides tip temperatures 400°F to 900°F; rated 18 watts at 12V AC Tips: "Standard Line" Ungar ⅛" tiplets and Princess soldering nibs may be used; cadmium copper or iron clad.

Stk. No.	Type	Description	1-9	10-49	50-Up
33F047	6970	Complete Station	31.65	27.50	24.35
33F049	6973	Replacement Handle	5.23	4.55	4.03
33F048	6971	Replacement Capsule	5.23	4.55	4.03

"Imperial Line" Soldering Equipment

Ungar





IMPERIAL® HANDLES

Diameter at grip-0.8". Length 4.7" (including heat sink) Turquoise colored. Rated at 115 volts AC-DC, less cord set. Shpg. Wt. 1 oz.

Stk. No.	Type	Cord Set	1-9	10-99	100-Up
32F900	6100-1	None	1.72	1.39	1.29
32F903	6102-1	2 wire	2.50	2.03	1.88
32F906	6103-1	3 wire	3.67	2.97	2.75

IMPERIAL HEAT CARTRIDGES

Made of a temperature resistance stainless steel body and copper alloy heat collector. Threaded end of the collector is designed and engineered to provide maximum heat transfer. All cartridges fit the IMPERIAL PERMA-COOL handle and can be changed at the bench with easy slip-in, twist-lock action. Use on tight, high-density circuitry requiring precision tip temperatures and extreme care in soldering. Ideal for heavy-duty plant service maintenance but light enough for fatigue-free production line use.

Stock No.	Type	Heat Range	Dia.	Watts	Weight	1-9	10-49	50-Up
32F914	6202	600-800F.	0.363"	25	1.1 oz.	4.63	3.76	3.48
32F913	6201	650-850F	0.363"	30	1.1 oz.	4.63	3.76	3.48
32F912	6200	750-950F	0.363"	40	1.1 oz.	4.63	3.76	3.48
32F966	6203	850-1150F	0.363"	60	1.1 oz.	5.32	4.31	3.99

100 WATT CARTRIDGE AND TIPS

Type 6500. Iron Clad, Gold Plated; fits 100 W. Heat Cartridge.
Type 6520. A heavy-Duty thread-on soldering tip in a multi-use chisel. For type 6207 Heavy-Duty Cartridge only. Provides maximum area and heat transfer for large connections.

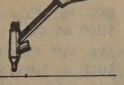
Stk. No.	Type	Descrip.	Dimensions	1-9	10-99	100-Up
33F040	6500	Chisel	L. —8½"	2.83	2.30	2.13
33F968	6207	Cartridge	1½" x ½"	7.10	5.76	5.33
33F969	6520	Chisel	½" x 1½"	1.45	1.18	1.09

IMPERIAL DE-SOLDERING ATTACHMENT WITH TIP

6825. Attach, fits listed Imperial heat cartridges

Stk. No.	Type	Descrip.	1-5	6-11	12-Up
33F041	6825	Attachment & tip	10.70	8.70	8.00

Stk. No.	Type	Descrip.	1-9	10-49	50-Up
33F036	7806	Repl. Tip	.83	.68	.63
33F034	7812	Repl. Tip	1.17	.96	.88
33F035	7813	Repl. Tip	.83	.68	.63

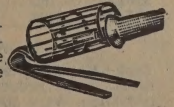


MODEL 6601 SOLDER IRON

Complete iron. Consists of 6100-5 handle; 6102-5 2 wire cord; 6207-100 watt heat cartridge; 6520 heavy duty soldering tip. Heat cartridge rated 115v. AC-DC. UL approved.

Stk. No.	Type	1-5	6-11	12-Up
32F978	6601	12.50	10.15	9.40

IMPERIAL® "SAFETY-GUARD" HOLDER



Type 6800. Avoids handle damage while protecting operators against hot tip burns. Attaches quickly to the top of underside of the work bench. Black with special gold cage guard.

Stk. No.	Type	1-9	10-49	50-Up
32F957	6800	2.12	1.72	1.59

You Can Depend on NEWARK

for Complete Stocks

Lowest Prices — Fastest Service

MINI-TIPS FOR 25, 30, 40, 60 WATT CARTRIDGE

Designed for multileads, joints and microminiature connections. Material: —Iron Clad, Gold Plated (24 kt); except (*)—Tellurium Copper. Av. shpg. wt., 3 oz.

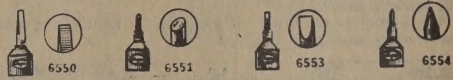
Stock No.	Type	Shape	Size	1-9	10-49	50-Up
32F915	6304	Mic-chisel	3/64 x ½"	1.20	.97	.90
32F916	6305	Micro-spade	3/64 x ½"	1.20	.97	.90
32F917	*6212	Pencil	⅛ x ¾"	.53	.43	.40
32F918	6313	Pencil	⅛ x ¾"	1.20	.97	.90
32F920	6316	Pencil Offset	⅛ x ¾"	1.20	.97	.90
32F921	*6318	Long Taper Chisel	⅛ x ¾"	.53	.43	.40
39F922	6319	Long Taper Chisel	⅛ x ¾"	1.20	.97	.90
39F923	*6324	Long Taper Pyr.	⅛ x ¾"	.53	.43	.40
39F924	6325	Long Taper Pyr.	⅛ x ¾"	1.20	.97	.90
32F926	6331	Screwdriver	⅛ x ¾"	1.20	.97	.90
32F927	6333	X-long Screwdriver	⅛ x ¾"	1.20	.97	.90
32F929	6336	Spade	⅛ x ¾"	1.20	.97	.90
32F931	6366	Long Taper Chisel	3/16 x ¾"	1.42	1.15	1.06
32F935	6372	Screwdriver	3/16 x ¾"	1.42	1.15	1.06
32F942	6390	Screwdriver	3/16 x 1½"	1.45	1.18	1.09
32F948	6424	Long Taper Pyramid	⅛ x ¾"	1.45	1.18	1.09
32F952	6474	Long Taper Chisel	3/32 x ¾"	1.67	1.35	1.25
32F959	6481	Tap. Screwdriver	¾ x 3/32"	1.20	.97	.90
32F960	6482	Micro-Spade Stepped	3/32 x 1 1/16"	1.20	.97	.90
33F042	*6368	Long Taper Pyr.	¾ x .187	.65	.53	.49
33F043	6373	Slotted	¾ x .187	1.20	.97	.90
33F044	*6473	Long Taper Chisel	¾ x .375	.65	.53	.49

PRECISION POINT TIPS

Tips will meet most exacting demands. For matrix soldering and micromodule assembly. Precision ground and honed to ultra-fine dim. Type 6391. Tellurium Copper; Type 6392, Tellurium Copper, Iron Clad, Gold Plated (24 kt.).

Stk. No.	Type	Dimensions	1-9	10-99	100-Up
33F045	6391	.770x.125	.85	.69	.64
33F046	6392	.770x.135	1.67	1.35	1.25

15-WATT CARTRIDGE AND TIPS



Cartridge: 614-743°F. .312" dia. 6⅞" length. Wt.: .89 oz. Tips: Tellurium copper, iron clad, 24 kt. gold plated.

Stk. No.	Type	Descrip.	Dimensions	1-9	10-99	100-Up
32F961	6206	Cartridge	L. —6⅞"	4.63	3.76	3.48
32F962	6550	Screwdriver	.040x .40			
32F963	6551	Spade	.050x .40	1.40	1.14	1.05
32F964	6553	Chisel	.050x .40			
32F965	6554	Pencil	.050x .40			

40-WATT ALL-PURPOSE SOLDERING IRON

Model 6010. Features the most popular IMPERIAL components used in production, development and service. Consist of one type 6100 handle, one type 6102 two-wire cord, one type 6200 40-watt heat cartridge. Delivers 750°F to 950°F tip temperature. Comes with three multi-purpose MINI-TIP thread-on soldering tips.

Stk. No.	Type	1-5	6-11	12-Up
32F971	6010	9.00	7.30	6.75

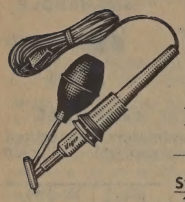
KLEEN-TIP SPONGE, TRAY AND REFILL

Specially processed Kleen-Tip sponge for removing oxidation and excess solder from tips. Assures proper heat flow and solder wetting. Other materials used for this purpose cause contamination or destroy plating.

Stock No.	Type	Description	1-9	10-49	50-Up
33F683	400	Sponge and tray	1.22	1.00	.91
33F684	455	Refill sponge	.48	.40	.36

Ungar® Standard Soldering Equipment

HOT-VAC PRINTED CIRCUIT DESOLDERING AND CLEANING TOOL



Model 7800. Safe, 3-fingered desoldering. De-solders 50% faster. . .reduce P. C. repair. Special coating prevents soldering from sticking to tip. May be used on heat shrinkable tubing.

Stock No.	Type	1-5	6-11	12-up
32F974	7800	12.95	10.65	9.70

HOT-VAC REPLACEMENT TIPS

Stock No.	Type	HOLE DIA.	1-9	10-49	50-Up
33F036	7806	.057"	.83	.68	.63
33F034	7812	.033"	1.17	.96	.88
33F035	7813	.069"	.83	.68	.63

Model 7805. Vacuum action lifts solder from board. Ungar's de-soldering bulb with a TFE* tip for safe, easy removal of components from printed circuit boards.
High heat resistant *fluorocarbon material used in the tip will not scratch or damage delicate PC boards. Tip is easily removed for cleaning solder from the bulb. Use it with either IMPERIAL or STANDARD line soldering irons.

Stock No.	Type	1-9	10-49	50-Up
32F975	7805	1.37	1.12	1.03

DE-SOLDERING KIT REPAIRS PRINTED CIRCUITS

Model 270. Complete seven piece De-Soldering kit containing desoldering tiplets, ⅜" Cup, ¾" Cup, 1" Cup and 9-, 7-, and 5-pin tube sockets. Slotted 1x3/16" tiplet: Slot opening, 0.040". Super Hi-Heat Unit, 47½ W. delivers 600 to 850 F. Handle has extra-flexible vinyl-insulated cord. Shipping weight, 1 lb. Metal case for convenient storage.

Stock No.	Type	1-5	6-11	12-up
33F097	270	8.60	7.05	6.45

HOT KNIFE

Model 4025. Cuts through epoxy coatings on P.C. boards. Also cuts plastic films, trims flash from rubber and plastic molded products. Hot-Knife can be used in either 776 or 777 handle. Includes 47½ w. heating unit with collet closure. Has a replaceable blade. Can be used with X-Acto blades Nos. 10, 11, 12, 14, 16, and 17. Blade temperature is 500°F.
NO. 7930. Complete hot knife kit includes 777 handle and 4025 hot knife.

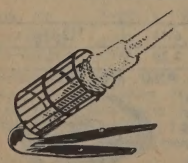
Stock No.	Type	1-9	10-49	50-up
32F881	4025	3.90	3.21	2.93
35F3070	7930	5.75	5.20	4.60

TECHNICIANS SOLDERING KIT

Model 7070. Incorporates Model 1237 heating unit with No. 777 light polypropylene handle. Unit supplies 37½ watts, 750°F to 800°F for medium to heavy-duty soldering. Handle features special cooling grip for ease and comfort while unit is in operation. Three interchangeable tips pencil, chisel, and pyramid that feature thread on threads for quick change. 2½ lbs.

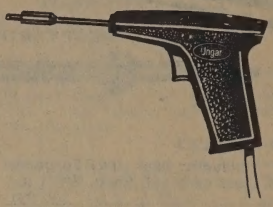
Stk. No.	Type	1-5	6-11	12-Up
32F972	7070	5.50	4.95	4.40

SOLDERING IRON HOLDER



Model 8000. A low-cost, ruggedly built soldering iron holder designed to assure safer and efficient production soldering!
Provides the exclusive double safety guard design that (1) fully protects the operator against accidental "hot tip" burns, and (2) protects the iron against breakage. Keeps the soldering iron cradled safely and securely...ready for easy, instant use! Built for day-in, day-out production line use, the heavy duty holder attaches quickly to top, side, or underside of bench. Shpg. wt. 1 lb.
33F687 NET. 2.12

SOLIDSTATE SOLDER GUN



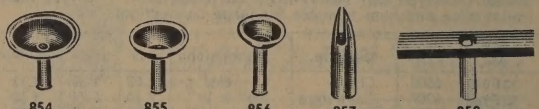
- Grounded Isolated Tip
- Lightweight - 502
- Dual Heat Selector Switch
- Power Indicator Lamp

Model 6760. Solid-state soldering gun for professional radio-TV service repairmen, "do-it-yourself" home craftsmen, and lab technicians actively working on projects in electronic research and development. Offers protection against damaging sensitive integrated circuits and delicate field effect transistors while soldering connections because the soldering tip is electrically isolated from the heating element providing an electrically inert tip. Today's technician will find this gun a must to complete his tool kit. Solid-state circuitry completely replaced old-fashioned heaby transformer to assure weight (5 oz., less cord). With 3 different thread-on tips available (order extra replacement tips below) that handle high-density circuitry soldering and gives superior heat transfer for heavy-duty uses. Features neon "on" indicator light; Hi/Lo switch for selecting 900°F or 500°F. Temperatures; fast 11-second trigger-activated warmup time. For 110-120 V, 60 Hz AC. Shpg. wt., 1 lb.

Stock No.	Part No.	Description	1-3	4-11	12 & Up
35F3061	6760	Solder Gun	10.95	9.95	8.95
35F3063	6751	Heat Cartridge Tips	4.90	4.45	3.95
35F3064	6755	Long Chisel	.40	.36	.33
35F3065	6753	Short Chisel	.40	.36	.33
35F3066	6754	Pyramid	.40	.36	.33

DESOLDERING TIPS

Use with 4045 heating unit only.



854 855 856 857 858

These special tips will help you remove components faster and easier than regular soldering tips. Desoldering tips avoid radiation, lug breaking, shorting and printed board rupturing.

854- 1" Cup tip. Melts solder on all 1" diameter components, such as eight and nine pin tube sockets.

855- ¾" Cup tip. Melts solder on all ¾" diameter components, such as octal and seven pin tube sockets.

856- ⅝" Cup tip. Melts solder on all ⅝" diameter components, such as tube sockets and I-F can leads.

857- Slotted tip. 1" x 3/16"; slot opening .040. Straightens tube tabs, melts and removes excess solder on wire connections.

858. Bar tip 1½" x ⅜". Melts solder on all multiple straight line network components.

Stk. No.	Type	Style	1-9	10-49	50-Up
33F098	857	Slotted			
33F634	856	Cup ⅝"			
33F635	855	Cup ¾"	.90	.74	.68
33F636	854	Cup 1"			
33F638	858	Bar			

ANTI-SEIZE LUBRICANT

Type 8001. Designed for use on metals operating at high temperatures. Helps reduce seizure and resultant tip and heating unit breakage. Wt. 4 ounces.

Stk. No.	Type	1-9	10-49	50-Up
33F688	8001	.70	.58	.53

NEWARK CAN FILL YOUR TOOL NEEDS—

Large Selection of Soldering Devices, Solder, and Production Line Tools—Refer to following pages

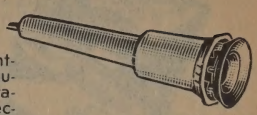
Ungar®

766 UNGAR SOLDER PENCIL

Type 776 Handle. Used on all major electronic production lines because of its double economy: Initial low cost and economical maintenance. Spring spocket holds heating unit firmly. Thermal and electrical insulation. Stainless steel heat deflector. Thermostabilized phenolic polyvinyl insulated cord. Can be used with any Ungar Standard Line thread in heating units. 7" long. U.L. listed. Shpg. wt. 5 oz.

Stk. No.	Type	Watts	1-9	10-49	50-Up
33F071	776	47½	1.87	1.53	1.40

TYPE 777 CLEAN ROOM SOLDERING HANDLE

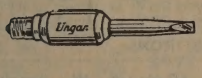


Clean room grip. Comfortable lightweight, fatigue free design of popular 776 handle. Features a heat stabilized poly-propylene grip, convection cooled, easy to the touch. Perfect balance, stainless steel heat deflector, extra flexible cord. Complete line of soldering tips, heating units, thread in and thread-on soldering tips used with the 776 handle also fit this blue pastel handle.

Stk. No.	Type	1-9	10-49	50-Up
33F030	777	1.87	1.53	1.40

INTERCHANGEABLE SOLDERING AND INTEGRAL HEATING UNITS

CHISEL TIP, LONG PAPER

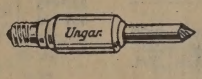


4033
1233
533

#533 is rated 27W #1233 is 37½W to 44W; and #4033 is 47½W 56½W. Tip temperature 750°F to 1000°F. 110V., AC-DC. Tellurium copper, or iron clad silver plated.

Stk. No.	Model	1-9	10-49	50-Up
33F086	4033	3.38	2.78	2.54
33F646	1233	2.35	2.10	1.85
33F647	533	1.62	1.33	1.21

PYRAMID TIP



4036
1236
536

536 is rated 23½ to 27W—1236 37½ to 44W. #4036 at 47½ to 56½W. Tip temperature is 850°F to 1200°F. 110V., AC-DC. #1236 is solid armco iron silver plated.

Stk. No.	Model	1-9	10-49	50-Up
33F081	4036	3.34	2.78	2.54
33F078	1236	2.35	2.10	1.85
33F072	536	1.62	1.33	1.21

CHISEL TIP, SHORT TAPER

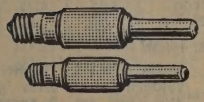
4039
1239
539

#539 is rated at 23½W to 27W, #1239 at 37½W to 44W, #4039 is 47½W to 56½W. Tip temperature range of 850°F to 1000°F. 110V., AC-DC. Made of tellurium copper.

Stk. No.	Model	1-9	10-49	50-Up
33F647	533	1.62	1.33	1.21
33F072	536	1.62	1.33	1.21
33F076	539	1.62	1.33	1.21

INTERCHANGEABLE HEATING UNITS & TIPS

1/8" TAP THREAD IN HEATING UNITS

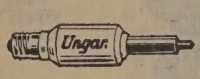


4035
1235
535

110V., Ac-DC. Hi-temp steel body 1/8" tap. For all series 300 thread in tiplets. #535 is rated 23½w to 27n, #1235 is 37½ to 44w, #4035 at 47½w to 56½.

Stk. No.	Model	1-9	10-49	50-Up
33F089	4035	3.38	2.78	2.54
33F085	1235	2.35	2.10	1.85
33F081	535	1.62	1.33	1.21

1/4" THREAD ON

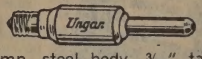


4037
1237
537

110V., AC-DC. Hi-temp steel body, 1/8" tap. For all series #100 thread-on tips #537 is rated 23½W to 27W, #1237 at 37½W to 44W, #4037 is 47½W to 56½W.

Stk. No.	Model	1-9	10-49	50-Up
33F085	1235	2.35	2.10	1.85
33F677	4037	3.38	2.78	2.54
33F678	1237	2.35	2.10	1.85
32F977	537	1.88	1.55	1.41

3/16" TAP



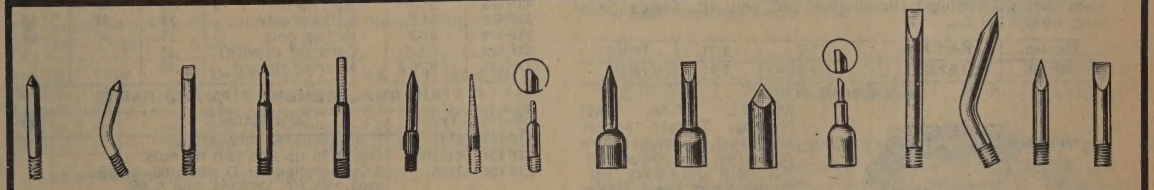
4045

Hi temp. steel body, 3/16" tap for all series 800 thread-in tiplets. Rated 47½ W to 56½ W.

Stk. No.	Model	1-9	10-49	50-Up
33F029	4045	3.38	2.78	2.54

This Heating Unit Also For Use With Unger Standard Desoldering Tips-Page 588

TIPLETS FOR STANDARD IRONS



All tiplets are iron clad, cadmium copper, and silver plated.

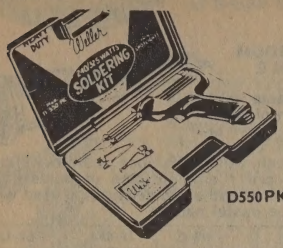
Stk. No.	Type	Description	Lgth. x Dia. x Pt.	Size	1-9	10-49	50-Up
33F093	PL331	Pencil	.870 x .135 x .015	1/8"	.65	.53	.49
33F094	PL332	Offset Pencil	.970 x .135 x .015	1/8"	.65	.53	.49
33F095	PL333	Chisel	.870 x .135 x .135	1/8"	.65	.53	.49
33F083	PL332	Offset Pencil	.970 x .135 x .005	1/8"	.27	.22	.20
33F084	PL333	Chisel	.870 x .125 x .125	1/8"	.27	.22	.20
33F689	7154	Pencil	.870 x .135 x .015	1/8"	.65	.53	.49
33F690	7155	Chisel	.870 x .135 x .068	1/8"	.65	.53	.49
33F037	7012	Copper Point	.770 x .125 x .005	1/8"	.65	.53	.49
33F686	PL338	Needle	.930 x .135 x .050	1/8"	.65	.53	.49
33F685	PL340	Micro Needle	.562 x .135 x .054	1/8"	.65	.53	.49
33F679	PL111	Pencil	.750 x .132 x .015	1/4"	.85	.70	.64
33F680	PL111	Pencil	.750 x .125 x .005	1/4"	.43	.36	.33

Size column tells what heating unit is used.

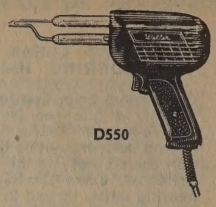
Stk. No.	Type	Description	Lgth: x Dia. x Pt.	Size	1-9	10-49	50-Up
33F681	PL113	Chisel	.750 x .135 x .135	1/4"	.85	.70	.64
33F682	PL113	Chisel	.750 x .125 x .125	1/4"	.43	.36	.33
33F693	PL116	Pyramid	1.060 x .322 x .015	1/4"	.85	.70	.64
33F691	PL116	Pyramid	1.060 x .312 x .005	1/4"	.43	.36	.33
33F692	PL114	Micro Spade	.530 x .135 x .056	1/4"	.85	.70	.64
33F641	PL833	Long Chisel	1.750 x .195 x .195	3/16"	1.07	.88	.80
33F099	PL834	Tip	1.750 x .195 x .199	3/16"	1.07	.88	.80
33F642	PL823	Pyramid	1.000 x .195 x .017	3/16"	.75	.62	.56
33F643	PL823	Pyramid	1.000 x .187 x .005	3/16"	.32	.26	.24
33F644	PL824	Long Chisel	1.000 x .195 x .199	3/16"	.75	.62	.56
33F645	PL824	Long Chisel	1.0000 x .187 x .187	3/16"	.32	.26	.24
33F038	7072	Iron Clad Pt.	.770 x .125 x .005	1/8"	1.22	1.00	.91

Weller Soldering Tools

A DIVISION OF COOPER INDUSTRIES, INC.



D550PK



D550

SOLDERING KIT

MODEL D-550PK. Equipped with heavy duty, dual heat 240/325 watt gun. Kit contains soldering tip, smoothing tip, cutting tip, tip changing wrench. Ample supply of all purpose 60/40 Rosin Coresolder U.L. Listed Shipping weight 5 LBS.

Stk. No.	Part No.	1-2	3-11	12-Up
33F132	D550PK	14.15	12.75	11.30

D SERIES SOLDERING GUNS

Guns give instant heat with no waste. Dual switch from high to low. Exclusive tip-grip. Eliminates resistance. Dual spotlights on both models. Replaceable tips UL Listed Shps. Wt. 3¾ LBS.

HEAVY DUTY

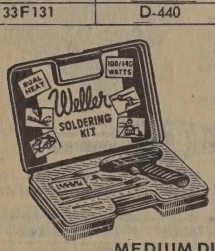
Dual heat 240/325 watts. Twin spotlight illumination U.L. listed Shpg. Wt. 3½ lbs.

Stk.	Part No.	1-2	3-11	12-Up
33F129	D-550	11.65	10.45	9.30

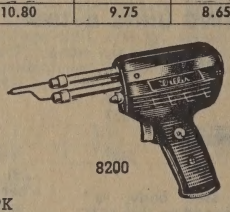
STANDARD

Dual heat. 145/210 watts. Twin spotlight illumination. U.L. listed. Shpg. Wt. 3¾ lbs.

Stk.	Part No.	1-2	3-11	12-Up
33F131	D-440	10.80	9.75	8.65



8200PK



8200

MEDIUM DUTY SOLDERING KITS

Kit includes: Three copper long life soldering tips, tipchanging wrench, flux brush, soldering aid, and all purpose solder. Contains 100/140 watt soldering gun U.L. Listed Shipping weight 3 LBS.

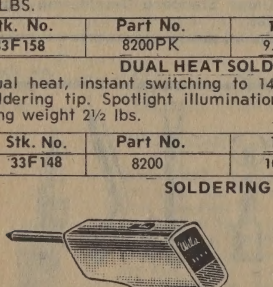
Stk. No.	Part No.	1-2	3-11	12-Up
33F158	8200PK	9.60	8.65	7.65

DUAL HEAT SOLDERING GUN

Dual heat, instant switching to 140 or 100 watts. Pure copper soldering tip. Spotlight illumination. AC only UL Listed. Shipping weight 2½ lbs.

Stk. No.	Part No.	1-2	3-11	12-Up
33F148	8200	10.95	9.95	8.95

SOLDERING TOOL



MODEL GT-7A. Fast heating. Trigger action. Exclusive temperature controlled powerhead. For light and heavy soldering. Long reach stainless steel barrel. Convenient ejector facilitates quick changing of powerheads. Includes 3/16" chisel point, 700°F, 150 watt. Ideal for service repairs, PC boards, Models and Hobbies. U.L. Listed. Weight 7 ounces.

Stock No.	Type	1-2	3-11	12-Up
35F2560	GT-7A	10.95	9.95	8.95

MODEL GT-6B. Controlled Soldering tool with #6B, 1/8" conical point, 600°F. 150 watt.

Stock No.	Type	1-2	3-11	12-Up
35F2561	GT-6B	10.95	9.95	8.95

REPLACEMENT POWERHEADS

MODEL 7A. Powerhead 3/16" chisel point, 700°F.
35F2562. NET 7.45
MODEL 6B. Powerhead, 1/8" conical point, 600° F.
35F2563. NET 7.45

"MARKSMAN" SOLDERING IRON

Model SP-23K. Includes soldering iron, three different pretinned nickel-plated copper tips, soldering-aid tool, 5 ft. 60/40 rosin core solder, and instructions for soldering. Pencil type, feather weight, soldering iron with removable tip. Plastic handle remains cool. Develops up to 750° F. Long reach stainless steel barrel. U.L. Listed. Iron wt. 1/3 lbs. Kit wt. 3/8 lbs.

Stock No.	Type	Description	1-11	12-47	48-Up
33F183	SP-23K	Kit	4.15	3.75	3.35
33F801	SP-23	Iron Only	2.75	2.50	2.20

TIPS FOR SP-23 SOLDERING IRON
2 PER CARD

Stock No.	Type E	Description	1-11	12-49	50-Up
33F993	MT-1	Cone Shaped	.65	.59	.52
33F994	MT-2	Screwdriver			
33F995	MT-3	Chisel			
33F996	MT-4	Spade			

SOLDERING IRONS
PENCIL TYPE

SP-40. 40 W. pencil type soldering iron. 1/4" dia. plated copper tip. 2 per card. U.L. Listed. Wt. 4 oz.

Stock No.	Type	Description	1-11	12-47	48-Up
33F802	SP-40	40 Watt Iron	3.65	3.30	2.95
33F997	MT-10	1/4" Chisel Tip	.90	.80	.72

HEAVY DUTY

SP-80. 80 W. heavy duty pencil type soldering iron. 3/8" dia. Plated copper tip. U.L. Listed. Wt. 4 oz.

Stock No.	Type	Description	1-11	12-47	48-Up
33F803	SP-80	80 Watt Iron	4.55	4.15	3.65
33F998	MT-20	3/8" Chisel Tip	.90	.80	.72

PENCIL IRON

Model W-PS. Light weight soldering iron with 1/16" tip and cord set. 3 screwdriver-shape tip sizes with premium plating; plastic handle. 25 watts at 115 V; 7 7/8" long, 7/16" D. Max. temp 860°F. U.L. listed Wt., 1¾ oz.

Stock No.	Part No.	1-11	12-49	50-Up
33F175	W-PS	4.95	4.45	3.95

ACCESSORIES FOR MODEL W-PS

Stock No.	Part No.	Description	1-11	12-49	50-Up
33F176	St-1	1/16" tip only	.75	.67	.60
33F177	St-2	3/32" tip only	.75	.67	.60
33F178	St-3	1/8" tip only	.75	.67	.60
33F180	CS-2	Cord set (2-wire)	.65	.....	.....
33F181	KN-3	Knurled tip nut	.15	.....	.....

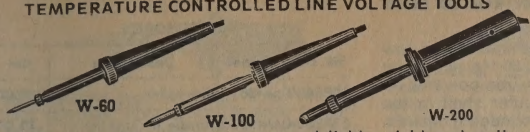
GUN REPLACEMENT TIPS AND PARTS

Stk. No.	Type	Description	Net
33F149	8125	Plated Tip for 8200, 8100B	
33F139	8125N	One 8125 tip and two tip nuts	
33F124	7135	2 Copper tips for D-440, 8100, 8100B, 8200, WS-100, WD-135, and S-400	
33F140	7135N	One 7135 tip and 2 tip nuts	
33F125	7250	Copper tip for D-550, 825A, WS-200, WR-250, S-500	
33F141	7250N	One 7250 tip and 2 tip nuts	.79
33F135	6110	Cutting tip for D-440, 8100, 8200, 8100B WS-100, WD-135, S-400 (with tip nuts)	
33F136	6120	Smoothing tip for D-440, 8100, 8200, 8100B, WS-100, WD-135, S-400 w/tip nuts	
33F137	6130	Cutting tip for D-550, 8250A, WS-200, WD-250, S-500 (with tip nuts)	
33F138	6140	Smoothing tips for D-550, 825A, WS-200, WD-250, S-500 w/tip nuts	
33F127	7300	2 copper tip for S-107, D-207	
33F162	7323	Switch for single-heat models	
33F163	7324	Switch for all dual-heat models	.80
33F392	7409	Cord set (all models)	
33F396	725R8200	Right housing for 8200	
33F397	726L8200	Left housing for 8200	
33F166	725R440	Right housing for D-440	1.10
33F167	726L440	Left housing for D-440	
33F168	725R550	Right housing for D-550	
33F169	726L550	Left housing for D-550	

Production-Soldering Tools Weller

A DIVISION OF COOPER INDUSTRIES, INC.

TEMPERATURE CONTROLLED LINE VOLTAGE TOOLS



TYPE W-60. High energy reserve and light weight makes it an outstanding performer on any production line. Covers a 15 to 100 watt spectrum. For high idle rate situations, select lower temperature tips for optimum tip and tool life. Includes 800°F., 1/8 inch screw driver tip. 60W, 120V. Length 7½ inches. U.L. Listed. Weighs only 2½ ounces.

TYPE W-100. For medium duty work; this tool covers a range of 50 to 150 watts, yet holds the weight burden to a minimum. For direct line voltage operations. Supplied with 800°F., screwdriver tip. 100W, 120V. Length 8¼". U.L. Listed wt. 3½ oz.

Type W-200. Ideal for heavy-duty work where the bulk of other tools makes operations clumsy. This 150-200 watt tool is lighter than many 135 watt tools. Comes with 8000°F, 7/16 inch chisel tip. 9½ inches long. U.L. Listed. Weighs just 10 oz.

Type W60-3. Same as W60 except 3 wire cord. **35F3320**
Type W100-3. Same as W100 except 3 wire cord. **35F3330**
Type W200-3. Same as W200 except 3 wire cord. **35F3333**

Stock No.	Type	1-11	12-47	48-Up
33F348	W60	11.60	10.50	9.30
33F349	W100	14.55	13.15	11.65
33F350	W200	20.20	18.25	16.15

W-30 W-60 Replacement tips (Screwdriver type)

600°F Stk. No.	700°F Stk. No.	800°F Stk. No.	Type	Size	1-24	25-99	100-Up
35F2564	35F2565	35F2566	CT5A	1/16"	.95	.85	.75
35F2567	35F2568	35F2569	CT5B	3/32"			
35F2570	35F2571	35F2572	CT5C	1/8"			
35F2573	35F2574	35F2575	CT5D	3/16"			
35F2576	35F2577	35F2578	CT5E	1/4"			

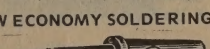
W-50 W100 Replacement tips (Screw driver type)

600°F Stk. No.	700° Stk. No.	800°F Stk. No.	Type	Size	1-24	25-49	50-Up
35F2579	35F2580	35F2581	CT6C	1/8"	1.65	1.50	1.35
35F2582	35F2583	35F2584	CT6D	3/16"			
35F2585	35F2586	35F2587	CT6E	1/4"			
35F2588	35F3331	35F3332	CT6F	3/8"			

W-200 Replacement tips

600°F Stk. No.	700°F Stk. No.	800°F Stk. No.	Description	Type	1-14	15-49	50-Up
35F2589	35F2590	35F2591	1/4" screwdvr.	CT2E	2.50	2.25	2.00
35F2592	35F2593	35F2594	3/16" screwdvr.	CT2F			
35F2595	35F2596	35F2597	7/16" chisel	CT2G			
35F2598	35F2599	35F3303	1/2" chisel	CT2H			

• NEW ECONOMY SOLDERING IRONS

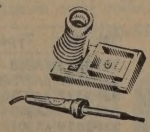


Non-controlled utility, line voltage irons for lowest initial cost. For 120V. 50/60HZ. * 2 wire ** 3 wire

Stk. No.	Type	Description	1-5	6-11	12-47	48-Up
33F1152	W30	*1/4" 30W. Screwdriver	8.25	7.55	6.65	6.00
33F1153	W30-3	**1/4" 30W. Screwdriver	9.10	8.30	7.30	6.60
33F1154	W50	*3/8" 50W. Screwdriver	9.90	9.05	8.00	7.20
33F1155	W50-3	**3/8" 50W. Screwdriver	10.90	9.95	8.75	7.90

BENCH AND SIDE RAIL SOLDERING TOOL STANDS

Designed to extend life of output tools. Bench stands have heavy non-sliding cast bases with sponge receptacle and non-sinking spring stand funnel. Side rail stands comprised of spring and funnel only. For bench, wall and side rail mounting. For irons with barrel diameters U. L.


Bench Stand

Side Rail Stand

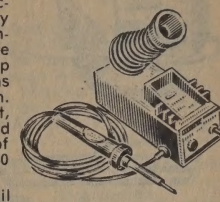
BENCH STAND

Stk. No.	TYPE	DESCRIPTION	1-11	12-47	48-Up
35F3347	PH60	For W60&W30 15/32"	4.90	4.45	3.95
35F3345	PH100	For W100&W50 19/32"	5 90	5.35	4.70

SIDE RAIL STAND

Stk. No.	TYPE	DESCRIPTION	1-11	12-47	48-Up
35F3348	SFA1	For TCP1 3/8"	1.50	1.35	1.20
35F3349	SFA60	For W60&W30 15/32"	1.50	1.35	1.20
35F3350	SFA100	For W100 & W50 19/32"	2.15	1.95	1.75

TEMPERATURE CONTROLLED "LOW VOLTAGE" SOLDERING STATION WITH ENERGY RESERVE



MODEL W-TCP-L 15-100 watt spectrum eliminates need to stock many other tools of various wattages. Interchangeable tips give you choice of 500°, 600°, 700°, 800°F. tip idling temperature. Pencil weighs only 1¾ oz., for ease of operation. Extremely flexible, light weight, burn-proof silicone rubber cord leads to pencil. Of wide variety of tips. 3-wire cord. 60W, 120V, 50/60 cycles. W-TCPL. Shpg. wt. 4 lbs.

MODEL TCP-1, soldering pencil only. For 24 volt operation. Includes 700°F., 3/16" screwdriver tip. Other tips available with heat spectrum of 500°, 600°, 700° and 800°F. Shpg. wt. 1 lb.

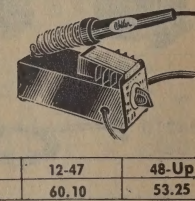
MODEL PU-1, power unit only. Includes soldering pencil stand, sponge and built-in sponge holder. 24 volt secondary, 60 watts, 120 volts, 50/60 cycles. Shpg. wt. 3 lbs.

Stk. No.	Type	Description	1-11	12-23	24-Up
35F3309	W-TCPL	With Switch & Light	27.70	24.95	22.20
35F2521	W-TCP	Without switch & Light	24.05	21.75	19.30
35F2522	TCP-1	Soldering Pencil Only	12.30	11.10	9.85
35F2520	PU-1	Power Unit	8.55	7.55	6.85

TEMPERATURE SENSING TIPS

Stock Numbers 600°F	700°F	800°F	Description	Style	1-24	25-99	100-Up
35F2525	35F2526	35F2527	1/16" Scrwdvr	PTA	.95	.85	.75
35F2529	35F2530	35F2531	3/32" Scrwdvr	PTB			
35F2533	35F2534	35F2535	1/8" Scrwdvr	PTC			
35F2537	35F2538	35F2539	3/16" Scrwdvr	PTD			
35F2541	35F2542	35F2543	1/32" Scrwdvr	PTH			
35F2545	35F2546	35F2547	3/64" Scrwdvr	PTK			
35F2549	35F2550	35F2551	5/64" Scrwdvr	PTL			
35F2553	35F2554	35F2555	3/32" Spade	PTBB			
35F2557	35F2558	35F2559	1/8" Spade	PTCC			
35F3311	35F3312	35F3357	1/16" Spade	PTAA			
35F3351	35F3352	35F3353	3/16" Spade	PTCC			
35F3354	35F3355	35F3356	1/32" Conical	PTP			
35F3358	35F3359	35F3360	1/32" Conical	PTF			
35F3361	35F3362	35F3363	15/64" Scrwdvr	PTE			
35F3313	35F3314	35F3364	1/8" Scrwdvr	PTM			

TEMPERATURE CONTROLLED SOLDERING PENCIL



MODEL W-TCP2. Soldering pencil for use with solders with melting points below 300° F. Continuously variable range of tip temperatures, 200- 450° F., may be set on the stepless control dial. Shipping weight 4 lbs.

Stk. No.	Type	1-11	12-47	48-Up
35F2523	W-TCP2	66.50	60.10	53.25

MINIATURE SOLDERING STATION

For micro soldering applications. Has low voltage isolation transformer with 3/5 oz. pencil. Power unit has on/off switch, red indicator light and non-sinking stand. All furnished with 1/8" chisel tip. 3-wire cord, 120V. 50/60Hz. 20W. U.L. listed. Wt. 2-1/4 lb.

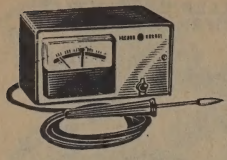
Stk. No.	Type	Description	1-11	12-23	24-Up
35F3365	W-MCP	650°F	33.10	29.95	26.55
35F3366	W-MCP	550°F			
35F3367	W-MCP	750°F			

REPLACEABLE TIPS

Stk. No.	Type	Description	1-24	25-99	100-Up
35F3368	MP2C	1/32" chisel tip	.95	.85	.75
35F3369	MP3C	3/64" chisel tip			
35F3400	MP5C	5/64" chisel tip			
35F3401	MP8C	1/8" chisel tip			
33F1170	MP1MP	.010 pt.			
33F1171	MP2S	1/32" spade			
33F1172	MP3S	3/64" spade			

General Electric Soldering Equipment

NEW TEMPERATURE CONTROLLED IRON
MODEL 6A490



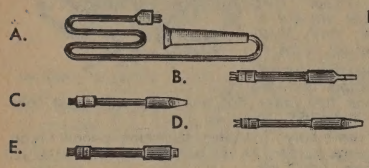
Soldering iron and all control circuits operate on low voltage and are isolated from 120 VAC 60 Hz. supply by an isolating transformer. The soldering iron operates on 24 volts, with the iron-clad tip and outer shell in the circuit. The tip may be electrically grounded if desired. Replacement accessories available in adjacent listing.

35 F 190. Net..... **250.00**

ACCESSORIES

Stk. No.	Type	Description	Net
35F3603	6A488	Controller	230.00
35F3604	6A492G2	Handle & Cord Set	12.00
35F3605	6A492G3	3/16" Chisel Tip & Heater	12.00
35F3606	6A491	1/8" Chisel Tip & Heater	12.00

PENLINE-120 INDUSTRIAL SOLDERING PENCILS



Features Calrod heater in tip for fast heating and tip temp. recovery speed. Heat concentrated at tip to reduce chances of damaging insulation. Calorizing eliminates oxide build-up on tip body and threads and prevents tip freezing on holder. One iron can handle many jobs by changing tip or tip heater assembly.

HANDLE AND CORD SETS

Stk. No.	Type	Fig.	Description	1-4	5 Up
32F851	6D400	A	Two Conductor	3.85	2.89
32F852	6D400G2	A	3 Conductor with NEMA standard Plug	5.20	3.90

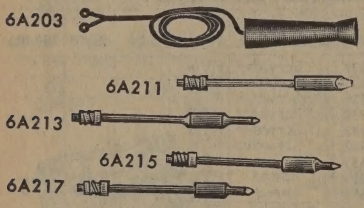
INTEGRAL TIP AND HEATER ASSEMBLIES—IRONCLAD

Stk. No.	Type	Fig.	Watts	Description	1-4	5 Up
32F853	6D410	B	30	3/16" Chisel Tip	6.10	4.58
32F854	6D411	C	30	3/32" Chisel Tip	6.20	4.65
32F855	6D412	D	45	3/8" Chisel Tip	6.30	4.73

HEATER ASSEMBLY FOR USE WITH SCREW-ON TIPS

Stk. No.	Type	Fig.	Watts	Description	1-4	5 Up
32F856	6D413	E	40	Heater Assembly	5.20	3.90
35F3607	6D414	E	30	Heater Assembly	5.20	3.90
35F3608	6D415	E	25	Heater Assembly	5.20	3.90

"MIDGET" 6-VOLT SOLDERING IRONS



Small, light wt. irons. The heater inserted farther into the tip improves initial heat-up and provides faster recuperation from joint to joint. Iron clad tips provide long life with minimum maintenance costs. Screw-in feature of tip and heater assembly assures positive contact and serves to hold the tip and heater firmly in the handle. Tip and heater replacement takes only a few seconds. Longer life and greater safety due to low voltage supplied by transformers. Transformers available in two types as listed on the right. All Irons 6 volt 25 watts. UL approved. Shpg. wt., 3 oz. **Note:** For complete iron, order 6A203. Handle plus Tip and Heater Assembly of your choice.

HANDLE AND CORD ASSEMBLY

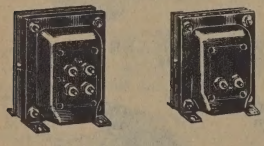
Stk. No.	Type	Description	1-5	6-Up
33F445	6A203	Handle & Cord	4.70	3.53

TIP AND HEATER ASSEMBLIES

33F404	6A211	1/4" Chisel	5.25	3.94
33F405	6A213	1/8" Cone	5.25	3.94
33F406	6A215	3/16" Pyramid	5.25	3.94
33F407	6A217	3/16" Chisel	5.25	3.94
35F3609	6A211G31	3/8" Chisel 45W.	5.25	3.94
33F439	6A221	Htr. Ass'y.*	5.25	3.94

*25 watt heater assembly for use with 6D series screw-on tips listed above.

115-V TRANSFORMERS FOR "MIDGET" SOLDERING IRONS

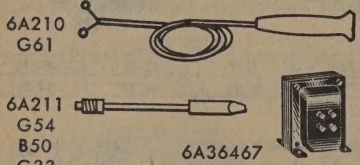


Specially designed, 115-volt transformers available in two types. Single-tap transformer is for use where only one soldering heat is required. Four-tap transformer gives wide range of heats from (26 to 15 watts) for close temperature control of tips.

Model 6A362G2. Single tap transformer.
33F408. 1-5 Each..... **8.90**
6-Up Each..... 6.68

Model 6A364G2. Four tap transformer.
33F409. 1-5 Each..... **11.90**
6-Up Each..... 8.93

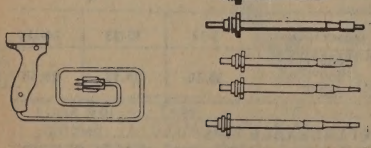
MIGHTY MIDGET, 12 VOLTS



These units are excellent for applications which require medium-duty repetitive production soldering where up to 200 watts are normally required. These light weight 7-ounce units use a midget-style heating unit and will do the work of irons twice as heavy. For high heat storage capacity and rapid recovery a high-wattage low voltage heating unit is used in a large-diameter tip. Handle comes with a two conductor coiled cord which extends to 6 feet with eyelets for transformer connection.

Stk. No.	Type	Description	1-4	5 Up
35F3610	6A210G61	Handle & Cord	10.20	7.65
35F3611	6A211G54	60W. 1/2" Chisel	5.80	4.35
35F3612	6A211G50	80W. 1/2" Chisel	5.80	4.35
35F3613	6A211G33	100W. 1/2" Chisel	5.80	4.35
35F3614	6A364G7	4 Tap Transf.	20.70	15.53

LIGHTWEIGHT & PISTOL HANDLE



Lightweight 6 ounce handles with contoured rubber handle. Use threaded heating units for easy replacement, threaded tips are also available. Pistol-grip handles increase handling ease and improve visual access to work. Internal sliding contacts permit rotation of heater unit so tip face can be positioned easily. Accepts same tip and heater units as Lightweight Iron. 120VAC.

Stk. No.	Type	Handle & Heater	1-5	6 Up
35F3615	6A303	Pistol, 3 Wire	11.00	8.25
35F3616	6A273G62	Light Wt. 2 Wire	9.35	7.01
35F3617	6A273G63	Light Wt. 3 Wire	10.90	8.18
35F3618	6A300	60W. 1/4" Chisel	9.00	6.75
35F3619	6A301	60W. 3/16" Pyramid	9.00	6.75
35F3620	6A301G4	60W. 3/16" Chisel	9.00	6.75
35F3621	6A304	40W. 2 3/4" Shank	7.80	5.85
35F3622	6A301G7	60W. 4" Shank	8.60	6.45

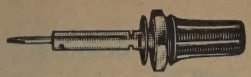
INTERCHANGEABLE THREADED IRONCLAD TIPS

Stk. No.	Type	Diam. & Shape	1-4	5 Up
32F868	6D4P20	3/64" Cone	1.85	1.39
32F866	6D4P16	3/64" Pyramid	1.85	1.39
35F3623	6D4P21	1/16" Chisel	1.85	1.39
32F858	6D4P2	3/32" Spade	1.85	1.39
32F860	6D4P6	3/32" Chisel	1.85	1.39
32F864	6D4P8	5/32" Chisel	1.85	1.39

Stk. No.	Type	Diam. & Shape	1-4	5 Up
35F3624	6D4P22	1/8" Chisel	1.85	1.39
32F862	6D4P4	5/32" Spade	1.85	1.39
32F870	6D4P10	7/32" Chisel	1.85	1.39
32F872	6D4P14	7/32" Long Chis.	2.00	1.50
32F874	6D4P12	3/16" Chisel	1.85	1.39
32F876	6D4P18	3/8" Pyramid	1.85	1.39

Soldering Irons American Beauty

LITTLE DANDY 3108 20-WATT IRON

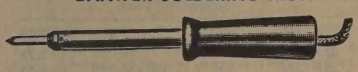


All-new iron features quick heat—solders in 2 minutes. Plug-in tip changes in seconds. Has cool handling aerated finger grip. With super flexible cord, ⅛-inch screwdriver shaped tip. Wt., ½ lb.
36F110. NET **5.15**

PARAGON CLAD TIPS FOR 3108 ABOVE

Stk. No.	Type	Description	NET
35F111	501	⅛" Blunt Chisel	
35F112	502	⅛" Screwdriver	
35F113	271	3/32" Screwdriver	
35F114	503	1/16" Turned Chisel	
35F115	505	⅛" Blunt Diamond	1.35
35F116	507	1/16" Turned Screwdrvr.	
35F117	509	⅛" Short Cone	
35F118	510	⅛" Long Cone	
35F119	511	⅛" Angle Point	
35F120	512	1/16" Turned Angle Pt.	

MODEL 3118 30-WATT LIGHTWEIGHT BANTAM SOLDERING IRON



Small, light, quick heating, with removable tip for TV, radio, etc. Stainless steel case insures against heat loss, keeps handle cool. Compression wound, mica-insulated nickel-chromed heating element. Non-kink, flexible cord. For 110-120 VAC. 9¼" length. With stand and ⅛" diamond tip. Shpg. wt., ¾ lb.
33F022. NET **6.35**

PARAGON CLAD TIPS FOR 3118 ABOVE

Stk. No.	Type	Description	NET
35F121	108C	⅛" Chisel	
35F122	108D	⅛" Diamond	1.35
35F123	174	⅛" Screwdriver	

MODEL 3125 60-WATT SOLDERING IRON

Lightweight, high quality production type soldering iron for a wide variety of uses. Safety flare on handle protects operator. ¼" nickel-plated diamond tip. 12¼" long. Shpg. wt., 1 lb.
32F980. NET **8.00**

"LITTLE DANDY" 3110 25-WATT IRON

Model 3110. Light weight, easy handling iron for production use. Tenite® finger grip. Lexan handle wipes "white room" clean. 3/16" nickel plated screwdriver tip supplied. Shpg. wt., ½ lb.
32F987. NET **4.70**

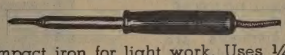
PARAGON CLAD TIPS FOR 3110 ABOVE

Stk. No.	Type	Tips Clad.	Price
32F988	602	3/16 Chisel	
32F989	603	Trnd. Blunt Chisel	
32F990	604	1/16 Trnd. Chisel	
32F991	605	⅛ Trnd. Long Chis.	
32F992	607	⅛ Trnd. Screwdvr.	1.55
32F993	608	⅛ Trnd. Diamond	
32F994	610	3/16 Diamond	
32F995	613	3/32 Trnd. Screwdvr.	
32F996	615	1/16 Trnd. Screwdvr.	
32F997	617	3/32 Screwdriver	

MODEL 3114 60-WATT STANDARD IRON

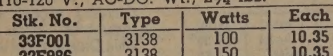
Features long-life compression-wound, mica-insulated nickel chrome element on steel core. Withstands 1100 volt test. Has one-piece round seamless steel casing. Fast change plug-in tip. Terminal assembly has brass connector bars with pull-proof cord clamps. Insulated handle. ¼" tip. 9" long with tip. Wt., 1 lb.
35F125. NET **7.20**

MODEL 3128 LIGHT DUTY 60-WATT IRON



Compact iron for light work. Uses ¼" tip for working in hard-to-get-at spots. With tip, cord and stand. For 110-120 V., AC-DC. Shpg. wt., 1 lb.
33F000. NET **7.20**

MODEL 3138 100 AND 150 WATT IRONS



For work on radio chassis, switchboards, and other electrical uses. 12⅞" long. ⅜" diamond point tip. Nickel-plated metal parts. With stand, 6-ft. cord and tip. For 110-120 V., AC-DC. Wt., 2¼ lbs.

Stk. No.	Type	Watts	Each
33F001	3138	100	10.35
32F986	3138	150	10.35

"LITTLE DANDY" 3110 40-WATT IRON

Light-weight iron ideal for production use. Cool handling Tenite® finger grip prevents fatigue. May be used with a wide variety of easy-to-change Paragon "Quality" clad tips (below). Shipped complete with 3/16" diameter tip and 2-wire neoprene cord. 110-120 volts AC. Wt., ½ lb.
36F126. NET **5.15**

PARAGON CLAD TIPS FOR 3108 ABOVE

Stk. No.	Type	Description	Each
35F127	704	¼" Chisel	
35F128	703	⅛" Turned Chisel	
35F129	706	1/16" Turned Chisel	
35F130	724	¼" Cone	
35F131	701	⅛" Turned Screwdvr.	1.70
35F132	710	⅛" Turned Diamond	
35F133	709	¼" Diamond	
35F134	714	3/32" Turned Screwdvr.	
35F135	716	1/16" Turned Screwdvr.	
35F136	720	5/32" Screwdriver	

3158 MEDIUM-DUTY 200-WATT IRON

For medium-heavy factory and production work. 13⅝" long. With cord stand and ⅝" tip. For 110-120 volts, 50-60 Hz AC-DC. Shpg. wt., 3 lbs.
33F002. NET **12.75**

3178 HEAVY-DUTY 300-WATT IRON

Rugged design with higher heat capabilities. For use on light commutators, service, production work. 14¾" long. ⅞" tip. 117 VAC. 4 lbs.
33F004. NET **16.75**

GENERAL PURPOSE SOLDER POTS

5½" high, 1½" deep Crucibles of cast iron. Center tapped for dross skimmer or extra fixturing. Heat solder to 400° in 15 minutes—750° in 25 minutes. Adjustable, direct reading thermostat. Cords are 2-wire SJO.

Stock No.	Type	Solder Capacity	Top OD	Shpg. Wt.	NET
35F1285	300	1 lb.	4¾"	6½ lbs	30.40
35F1286	301	1 lb.	4¾"	6½ lbs	33.40
35F1287	600	2½ lbs.	6"	9 lbs	31.90
35F1288	601	2½ lbs.	6"	9 lbs.	34.90

AMERICAN BEAUTY DRI-WICK

Any place you can put solder in, you can take it out with Dri-Wick. (1) Lay Dri-Wick on soldered joint (2) Apply soldering iron to top-side of Dri-Wick for 1 second (3) lift Dri-Wick and soldering iron together. 484-1:.025"w for pad sizes .060" & less .484-2:.050"w for sizes .060" to .125" 484-3:.0175"w for .125" to .190"; 484-4:.095" for .190". 484-6:.20" for large circuit boards telephone lugs, plugs. *Indicates color code.

Stk. No.	Type	*	1-24	25-100	100-Up
35F1281	484-1	White	1.49	1.19	.89
35F1282	484-2	Yellow	1.49	1.19	.89
35F1283	484-3	Green	1.49	1.19	.89
35F1284	484-4	Blue	1.69	1.35	1.01
35F154	484-6	Orange	1.49	1.19	.89

SOLID-STATE ULTRA-SONIC CLEANERS AND ACCESSORIES

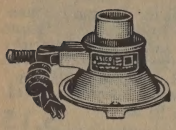
Save time and money with an industrial quality ultrasonic cleaner. Fast-acting, easy-to-use and simple-to-operate. Has single pilot-lighted on/off switch. All models are self-contained and self-tuning — never need adjustment. There is a size for almost any work situation in your plant. Cleans virtually any small item or assembly. Eliminates the necessity of carrying small items to a central point for cleaning. Sound is introduced into liquid in the cleaner tank, creating millions of microscopic bubbles which expand and collapse. These implosions act like millions of tiny scrub brushes, driving into virtually every area to be cleaned. The action invades any surface where liquid can go, even by capillary action. Uses any cleaning solution applicable to other cleaning methods now in use. For operation from 110-120 volts, 50-60 Hz AC. *Indicates cleaning power in watts; † indicates shipping weight.

Stk. No	Type	Dimen.	Tank Size	*	Input	†	NET
35F137	S-10	5x5x5"	3½x3½x2⅝"	25W	50W	5	53.00
35F138	S-30	7¼x7¼x6"	5x5x3"	50W	75W	7	64.00
35F139	S-50	12x7½x9"	5x9x4"	100W	125W	14	106.00
35F140	S-70	14x8½x9"	6x11x6"	150W	185W	17	240.00
35F141	S-1010	Stainless steel tank cover for S-10				1	1.10
35F142	S-1030	Stainless steel tank cover for S-30				1	6.40
35F143	S-2030	Stainless steel solid tray for S-30				2	6.40
35F144	S-2130	Stainless steel perf. tray for S-30				2	7.50
35F145	S-1050	Stainless steel tank cover for S-50				2	9.60
35F147	S-2050	Stainless steel solid tray for S-50				2	11.75
35F148	S-2150	Stainless steel perf. tray for S-50				2	12.80
35F149	S-4050	Pyrex beaker 250ML for S-50				½	1.60
35F146	S-1350	Beaker covers to fit 3-250ML for S-50				1	11.75
35F150	S-1070	Stainless steel tank cover for S-70				2	12.80
35F151	S-2070	Stainless steel solid tray for S-70				2	19.20
35F152	S-2170	Stainless steel perf. tray for S-70				2	21.30
35F153	ST-1	Automatic shut-off for all units				2	10.70

Soldering Pots and Accessories

ESICO SOLDERING POTS

MODEL 12—200 WATTS



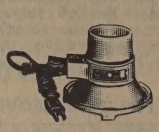
Ideal for dipping small parts. Inside dimensions: 1⁹⁄₁₆" diameter, 1½" depth. Maximum temperature: 750 degrees. Solder capacity ¾ lb. Wt. 4 lbs.

33F321. NET **11.50**

Model 12T. With thermostat. 250 Watts—650 degrees maximum. Shpg. wt., 6¼ lbs.

33F322 NET **25.50**

MODEL 36—250 WATTS



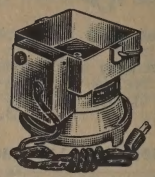
Dip soldering of bundles of lead wire, etc. Inside dimensions: 2½" diameter, 1¾" depth. Maximum temperature: 750 degrees. Solder capacity 2¼ lbs. Wt. 4⅛ lbs.

33F323. NET **12.75**

Model 36T. With thermostat. 650 degrees maximum. Shpg. wt., 6⅓ lbs.

33F324 NET **26.50**

MODEL 75T 650 WATTS



Dipping small panels, etc., which cannot be accommodated in small pots. Thermostat control. Inside dim. 4¾" sq., 1¾" in depth. Max. Temp. 650°. Solder cap. 11¾ lbs. Wt. 9⅛ lbs.

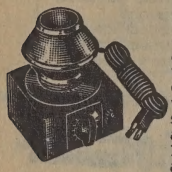
33F320. NET **33.50**

MODEL 80T—1200 WATTS

Printed circuit panels, etc. Thermostat controlled. Inside dim.: 6"x12", 1⅞" in depth. Max. soldering temp. 650°. Solder capacity in pot 45 lbs. Wt. 28 lbs.

33F327. NET **99.00**

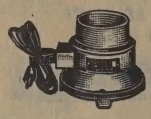
MODEL 20—250 WATTS ADJUSTABLE



Pot incorporates thermal delay type control for manual adjustment of wattage with automatic correction for voltage variations. At 25% setting, pot idles at approx. 600° F; at 75° setting, pot idles at approx. 1050° F; control corrects for voltage variations. On hi, pot temperature is approx. 1200°.

35F1280. NET **41.50**

MODEL 37—600 WATTS



Large capacity pot. Inside dimensions: 3½" diameter, with a depth of 1¾" for greater capacity. Maximum temperature: 800 degrees. Solder capacity 5 lbs. Wt. 7¼ lbs.

33F325 NET **17.50**

Model 37T. With thermostat. 625 watts—650 degrees maximum. Shpg. wt., 9⅛ lbs.

33F326. NET **31.50**

Replacement Elements for Esico Soldering Pots

Stk. No.	Watts	For Pot #	Price
35F1275	200W	12	2.75
35F1276	250W	12T-36-36T	2.75
35F1277	600W	37	5.00
35F1278	650W	37T-75T	5.00
35F1279	1200W	80T	25.00

WAAGE SOLDERING POTS

ROUND SOLDER MELTING POTS

Round solder melting pots for melting solder, tin, lead-type metal and babbitt with temperatures up to 1000°F. Melting crucible of heavy cast iron. Replaceable heating elements are clamped to bottom of crucibles for even heat distribution. Fiber glass and air insulation reduces heat loss to a minimum. Furnished with 6', 115 VAC 3-conductor, grounded cordset.

550 DEGREES FAHRENHEIT

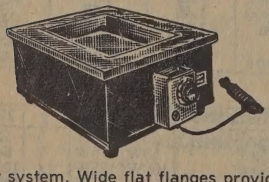
Stock No.	Type	Cap. Lbs.	Watts	Inside Dia.	Inside Depth	Control	NET EACH
60F1500	MP1	1	150	1½	1½	1 heat	22.00
60F1501	MP1A	1	200	1½	1½	Auto.	27.00
60F1502	MP4A	4	300	3	1½	Auto.	31.00
60F1503	MP10A	10	500	3½	2½	Auto.	41.00

1000 DEGREES FAHRENHEIT

60F1504	MP1X	1	400	1½	1½	1 heat	35.00
60F1505	MP4X	4	800	3	1½	1 heat	38.00
60F1506	MP1XFR*	1	400	1½	1½	Auto.	51.50
60F1507	MP4XFR*	4	800	3	1½	Auto.	54.50

*Includes pot and Inf. 120 infinite control

RECTANGULAR SOLDER MELTING POTS



Specially designed for printed circuit fabrication. Wide open top area with shallow depth offers maximum dipping efficiency of either flat or edge dipped circuit boards. Circuit boards can be dipped manually or the standard Waage Tanks can be easily integrated into a completely automatic assembly system. Wide flat flanges provide easy mounting of assembly jigs for accurate production dipping. Specifications similar to round units.

550 DEGREES FAHRENHEIT

Stock No.	Type	Cap. Lbs.	Watts	Inside Dimens.	Control	Shpg. Wt.	Net Each
60F1508	RSP1	10	600	4x4x2"	Auto.	15	49.50
60F1509	RSP2	20	1200	4x8x2"	Auto.	23	67.00

700 DEGREES FAHRENHEIT

Stock No.	Type	Cap. lbs.	Watts	Inside Dimens.	Control	Shpg. Wt.	Net Each
60F1510	RSP3	30	1500	4x12x2"	Auto.	35	95.00
60F1511	RSP7	70	1600	9x12x2"	Auto.	52	140.00

MICROFLAME

DELUXE GAS WELDING TORCH KIT

Flame temperature exceeds 5000°F. Pin point accuracy. Operating time: with large tip (# 20 gauge) 10 minutes, with medium tip (# 22 gauge) 20 minutes. Solder sticks are a silver alloy enabling soldering of any metal with a melting point of 1100°F. or higher. For welding, brazing or cutting most metals. Contains the torch, 6 Oxygen Cylinders, 3 LP gas cylinders, spark igniter, welding tips, 4, 6, inch silver alloy brazing rods, a two way bench bracket for mounting on bench or pegboard plus instruction. Overall torch size: 5¼" long by 2" wide by 1¼" thick. Hand size: 3" long by 2" wide by ⅝" thick. Shpg. Wt. 16 oz.

60F1536. NET **29.95**

GAS WELDING TORCH: Same as kit but without extra gas cylinders, spark igniter brazing rods and bench bracket. Shpg. Wt. 16 oz.

604F1525. NET **19.95**

MINIATURE-TO-INDUSTRIAL ADAPTER KIT

Convert Model #1000 & #4000 Miniature Torch Set to use as an Industrial Torch Set. Contains 5002 Hose Set, 2003 Handle/bracket, 2004 Oxygen Valve, 5005 Propane Valve. Order propane and oxygen tanks separately. Shpg. wt. 2 lbs.

60F1533. NET **52.96**

5000 INDUSTRIAL TORCH

Complete Model #1000 Miniature Torch Set, plus industrial capacity oxygen and propane gas tanks, valves, hoses, adapters, bracket spark lighter and instructions. Accessories are for longer term industrial uses. Shpg. wt. 27 lbs.

60F1532. NET **107.20**

ACCESSORIES

60F1526 Type 1001. Oxygen Cylinder. **NET** ..... **.75**
60F1527 Type 1002. Butane Cylinder. **NET** ..... **.50**
60F1528 Set of 3 Flame Tips. **NET** **1.50**
60F1529 Set of 6 Cylinder Gaskets. **NET** ..... **.60**
60F1530 Gold-Silver Alloy Sticks. Pkg. of 4. **NET** **5.00**
60F1531 Soldering Tool and Heat Sink Adapter. **NET** **3.95**
60F1534 Type 2006. Oxygen Cylinder. Shpg. wt. 5 lbs. **NET** **19.90**
60F1537 5006 Oxygen Gas Tank for 5000 Torch **NET** **22.00**
Type 2007. Propane Cylinder. Shpg. wt. 1½ lbs.
60F1535 NET **3.20**

SOLDER SIPPER

Removes molten solder from electrical connections or any place where solder is concentrated in a small mass. Teflon tube gives long dependable life under normal use. Not recommended for use over 500 F. Small, lightweight. Shpg. Weight 5 oz.

33F487. NET **1.29**

KESTER SOLDERS

"44" RESIN CORE SOLDER

KESTER SOLID WIRE SOLDER—the equal of the flux core solders in purity, quality, and fabrication.

Alloy					1 - 10		11 - 24		25 - Up	
Tin	Lead	Stk. No.	Dia	GA	1-lb	5-lb	1-lb	5-lb	1-lb	5-lb
40	60	32F1133	125	11	2.19	.....	1.96	.....	1.73	.....
40	60	33F1134	125	11	....	10.55	.....	9.45	....	8.35
40	60	33F1102	062	16	2.38	.....	2.13	.....	1.88	.....
40	60	33F1103	062	16	....	11.55	.....	10.35	....	9.10
50	50	33F1104	125	11	2.53	.....	2.26	.....	2.00	.....
50	50	33F1105	125	11	....	12.25	....	10.95	....	9.70
*50	50	33F1106	062	16	2.81	.....	2.52	.....	2.22	.....
50	50	33F1107	062	16	....	13.75	....	12.30	....	10.85
*60	40	33F1108	062	16	3.17	.....	2.84	.....	2.51	.....
60	40	33F1109	062	16	....	15.35	....	13.75	....	12.10
*60	40	33F1110	031	21	3.90	.....	3.49	.....	3.08	.....
*60	40	33F1111	031	21	....	17.55	....	15.70	....	13.85

KESTER BAR SOLDER—Available in all the tin/lead alloys 1 lb. bars.

Alloy				Stk. No.	1-10	11-24	25-99	100 Up
40%	Tin	60%	Lead	33F1100	2.00	1.79	1.58	1.40
50%	Tin	50%	Lead	33F598	2.28	2.04	1.80	1.60
60%	Tin	40%	Lead	33F599	2.70	2.41	2.13	1.89
63%	Tin	37%	Lead	33F1101	2.89	2.58	2.28	2.03

KESTER SOLDERING FLUXES—use on all metals except aluminum Kester Soldering Fluxes remain stable even under extreme conditions.

Formula No.	Stk. No.	Pts	Stk. No.	Qts.	Stk.No.	Gals
1544	35F1135	2.50	35F1136	4.20	35F1137	10.90
1571	35F1138	2.50	35F1139	4.20	35F1140	10.90
1587	35F1141	2.50	35F1142	4.20	35F1143	10.90
196 (Type A) MIL-F-14256C 115 (Type W) MIL-F-14256C	35F1144	2.50	35F1145	4.20	35F1146	10.90
	35F1147	2.50	35F1148	4.20	35F1149	10.90

TV RADIO SOLDER. 1 oz. coil. 1/16" dia.
33F200 NET ..... .35

All Kester solder can be supplied in Fed. Spec. QQ-S-571D.

Featuring fast acting, instant-wetting, non-corrosive and non-conductive flux. Makes soldering faster than ever before and provides stronger long lasting bond. Flux residue is immune to fungus growth, resistant to oxidation or organic decomposition. Core 66 (3.85% flux content). Applicable MIL and federal specs.

Alloy					1 - 10		11 - 24		25 - Up	
Tin	Lead	Stk. No.	Dia.	GA	1-lb.	5-lb.	1-lb.	5-lb.	1-lb	5-lb.
40	60	33F205	093	13	2.32	....	2.07	.....	1.83	.....
40	60	33F219	093	13	....	11.30	....	10.10	....	8.95
50	50	33F207	093	13	2.76	.....	2.47	.....	2.18	.....
50	50	33F220	093	13	....	13.50	....	12.05	....	10.65
60	40	33F221	093	13	3.12	.....	2.79	.....	2.46	.....
60	40	33F222	093	13	....	15.10	....	13.50	....	11.95
63	37	33F1115	093	13	3.25	.....	2.91	.....	2.57	.....
63	37	33F1116	093	13	....	15.75	....	14.10	....	12.45
40	60	33F213	062	16	2.41	.....	2.16	.....	1.91	.....
40	60	33F214	062	16	....	11.80	....	10.55	....	9.30
50	50	33F215	062	16	2.85	.....	2.55	.....	2.25	.....
50	50	33F216	062	16	....	13.95	....	12.50	....	11.05
60	40	33F217	062	16	3.21	.....	2.87	.....	2.54	.....
60	40	33F218	062	16	....	15.60	....	13.95	....	12.30
63	37	33F1117	062	16	3.34	.....	2.99	.....	2.64	.....
63	37	33F1118	062	16	....	16.25	....	14.55	....	12.85
60	40	33F1119	050	18	3.61	.....	3.23	.....	2.85	.....
60	40	33F1120	050	18	....	16.65	....	14.90	....	13.15
63	37	33F1121	050	18	3.74	.....	3.35	.....	2.96	.....
63	37	33F1122	050	18	....	17.30	....	15.45	....	13.65
60	40	33F1123	040	19	3.82	.....	3.42	.....	3.02	.....
60	40	33F1124	040	19	....	17.20	....	15.40	....	13.60
63	37	33F1125	040	19	3.95	.....	3.54	.....	3.12	.....
63	37	33F1126	040	19	....	17.85	....	16.00	....	14.10
60	40	33F223	031	21	3.97	.....	3.55	.....	3.14	.....
60	40	33F224	031	21	....	17.95	....	16.05	....	14.20
63	37	33F1127	031	21	4.10	.....	3.67	.....	3.24	.....
63	37	33F1128	031	21	....	18.60	....	16.65	....	14.70
60	40	33F1129	025	23	4.96	.....	4.44	.....	3.92	.....
60	40	33F1130	025	23	....	22.40	....	20.05	....	17.70
63	37	33F1131	025	23	5.09	.....	4.56	.....	4.02	.....
63	37	33F1132	025	23	....	23.10	....	20.65	....	18.25

ERSIN MULTICORE SOLDER

Special Alloy Industrial Solders. Low-melting pt. type (L.M.P.) is 62% tin, 36% lead, 2% silver. High melting point (H.M.P.) type is 5% tin, 93.5% lead, 1.5% silver. Eutectic 63/37 alloy, melts at 361°F. Shpg. wt., 1-lb. spool, 1¾ lbs.; 28-lb. carton, 32 lbs. SWG size 22=.028".

Stk. No.	Type	Gauge	1-27	28-Up
33F310	L.M.P.	16	5.67	4.77
33F311	L.M.P.	18	6.56	5.51
33F312	L.M.P.	22	8.12	6.82
33F313	H.M.P.	16	4.78	4.01
33F314	H.M.P.	18	4.85	4.07
35F1012	H.M.P.	22	5.47	4.59
33F315	Eutectic	16	3.96	3.33
33F316	Eutectic	18	4.03	3.38
33F317	Eutectic	20	4.19	3.52
35F1013	Eutectic	22	4.36	3.66

P.C. PAK

Contains 22 swg. (.028") wire rosin cored solder in 60/40 alloy for printed circuit boards, diodes and transistor work. Flame proof aluminum pak has advantage of not burning which is important when working in close proximities.
35F1015. NET 1.00

Savbit copper-loaded Industrial Solder Alloy that lengthens the life of copper tips. Melting pt., tensile and shear strength same as tin-lead alloys. 1 lb. spools. 1¾ lbs.

Stk. No.	Gauge	1-27	28-up
33F239	14(.080")	3.58	3.00
33F240	16(.064")	3.61	3.04
33F241	18(.048")	3.74	3.15
33F238	20(.036")	4.07	3.42
35F1014	22(.026)	4.37	3.66

1 POUND REELS

Stk. No.	Alloy	Gauge	1-27	28-up
33F226	40/60	16	2.99	2.51
33F229	50/50	16	3.37	2.83
33F228	60/40	16	3.74	3.15
33F230	60/40	18	3.81	3.20
33F231	60/40	20	4.11	3.46

7 POUND REELS

Stk. No.	Alloy	Gauge	1-3	4-up
33F227	40/60	16	20.65	17.29
33F233	50/50	16	23.31	19.53
33F234	60/40	16	25.90	21.77
33F235	60/40	18	26.39	22.12

Made with non-corrosive extra-active flux. 5-core design guarantees continuity of flux stream, faster melting, and same % of flux-to-solder as with single core types. SWG wire gauge sizes: 16=.064", 18=.048", 20=.036". Shpg. wt., 1 lb. carton 1¾ lbs.; 7-lb. reel, 9¼ lbs.

ALLOY 60/40 ½ LB. REELS

Stk. No.	Gauge	Net
33F344	24(.022")	2.96
33F345	28(.014")	3.90
33F346	32(.0108")	5.09
33F347	34(.009")	6.18

ALLOY 63/37 ½ LB. REELS

Stk. No.	Gauge	Net
33F339	22(.028)	2.26
33F340	24(.022")	3.09
33F341	28(.014")	3.96
33F342	32(.0108")	5.14

SOLID BAR SOLDER

High Purity

Stk. No.	Alloy	1-13 lbs.	14-up
35F1010	60/40	3.19	2.69
35F1011	63/37	3.25	2.75

BERNZ-O-MATIC

HANDI-HAND TORCH 610

Lightweight torch with four foot hose. Allows user to keep both hands free. Complete with pencil burner head and cylinder which burns up to 15 hours. Pistol grip allows for maneuver ability. Shipping weight 4½ lbs.
33F819. NET 13.42
33F821 NET 1.39
Replacement cylinder for all standard torches. 2 lbs.

JET TORCH

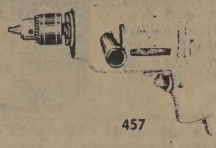
MODEL JT-10. Propane torch with brass pencil flame burner and propane fuel cylinder. Up to 15 hours burning time. Shipping weight, 3 lbs.
33F825 NET 6.00

JET TORCH KIT

MODEL JT-25. Seven piece propane torch kit with fuel cylinder, spark lighter, blow torch head, with snap-on-off flame spreader and soldering tip. Packed in blue steel enameled tool chest. Shpg. wt. 5 lbs.
33F824. NET 9.60

JT-10

SKIL Power Tools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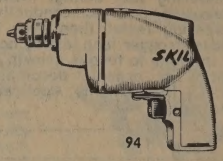

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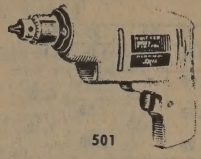
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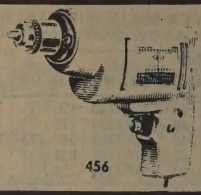
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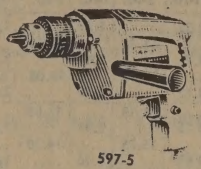
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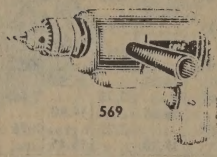
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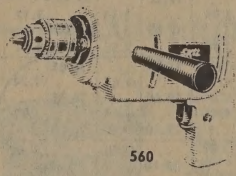
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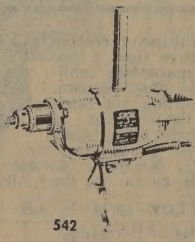
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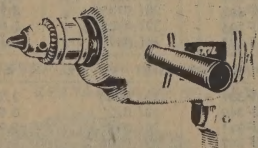
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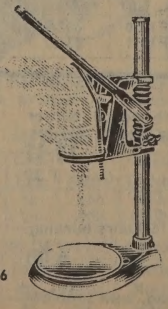

45136

¼" DRILLS

• NEW REVERSABLE VARIABLE SPEED DRILL

Model 94. ¼" reversing drill. Operates from 0 to 1800 r.p.m. forward/reverse with adjustable trigger speed control. Adjusting dial to hold any selected maximum speed, double reduction gears to deliver more torque. Excellent for driving and removing screws or nuts, tapping, drilling, cutting thread, and as a driving fastener. 2.5 amp motor. Shpg. wt. 4¾ lbs.
32F442. NET..... **65.00**

DOUBLE INSULATED DRIVE-R-DRILL

Model 456. ¼" Drive-R-Drill. 0-2100 r.p.m. forward/reverse. Speed of drill controlled by squeezing trigger. Pre-set any maximum speed up to top r.p.m. with adjusting knob. Drill in wood, metal, or masonry; drive or loosen screws, bolts all with one tool. Powered by 2.5 amp burnout protected motor. Double insulated. Shpg. wt. 4 lbs.
64F435. NET..... **32.99**

DOUBLE INSULATED TSC DRILL

Model 501. ¼" Operator squeezes trigger for any forward speed from 0 to 2000 r.p.m. Trigger speed control feature provides greater versatility over standard drills when using general accessories. Drill or drive screws in wood, metal, plastics, masonry, and even glass without center punching. Drill into curved or irregular surfaces without bit skidding. 2.5 amp motor and helical gears. Shpg. wt. 4 lbs.
64F401. NET..... **19.99**

REVERSIBLE DRIVE-R-DRILL

Model 596. ¼" Operates from 0-200 r.p.m. forward/reverse, with adjustable trigger speed control. Speed regulated in two ways: preset adjusting knob or just squeeze trigger. 2.5 amp motor 3-wire cord and plug. Shpg. wt. 4 lbs.
64F405. NET..... **36.95**

DOUBLE INSULATED STANDARD DRILL

Model 503. ¼" Operates at a single forward speed only. 2100 r.p.m. Lightweight 2 amp motor gives power to spare for drilling accurate holes in concrete, metal, brickwork, woodwork, and plaster. Has convenient 2-prong plug, requires no adapter. Shpg. wt. 4 lbs.
64F400.NET **12.88**

3/8" DRILLS

DOUBLE INSULATED DRIVE-R-DRILL

Model 457. ⅜" Operates from 0-1000 r.p.m. forward/reverse, with adjustable trigger speed control. Double insulated with two prong plug. Powerful 3 amp motor supplies reliable drilling power. Extra chuck capacity for larger bits. Removable side handle. Shpg. wt. 4½ lbs.
64F436. NET..... **36.99**

REVERSIBLE DRIVE-R-DRILL

Model 597. ⅜" Operates from to750r.p.m. forward/reverse. Has extra power 3 amp motor for more demanding jobs. Extra chuck capacity for driving bits and other accessories. 3-wire plug and cord. Removable side handle. Shpg. wt. 4½ lbs.
64F406. NET..... **39.95**

⅜" DRILLS (con't)

DOUBLE INSULATED TSC DRILL

Model 569. ⅜" Operates from 0-1000 r.p.m. forward, with trigger speed control. Double insulated construction and the convenience of a two prong plug. 3 amp motor, double reduction gears, removable side handle. Shpg. wt. 3¾ lbs.
64F437. NET..... **24.99**

DOUBLE INSULATED STANDARD DRILL

Model 560. ⅜" Operates at single speed forward of 1000 r.p.m. 3 amp motor with double reduction gears provide more drilling torque. Has two prong plug. Shpg. wt. 4½ lbs.
64F432. NET..... **15.99**

½" DRILLS

DELUXE DRILL

Model 542. For drilling heavy lumber and metal. Bores 1" hardwoods, drives hole saws and all self-feeding bits. Rear spade handle and removable top handle. Heavy duty strain relief on cord. No load speed. 500 rpm. 4 amps. motor, delivers 20% more power and torque. 12½" long. Shpg. wt. 8½ lbs.
64F403. NET..... **49.99**

DRIVE-R-DRILLS

Model 598. Operates from 0 to 500 r.p.m. forward/reverse, with adjustable trigger speed control. Compact, lightweight, but powerful enough to do all the heavier jobs. 3 amp motor, multi-thrust bearing on chuck, and true double reduction gears provide more drilling torque. Has removable side handle, 3-wire cord and plug. Shpg. wt. 4½ lbs.
64F407. NET..... **49.95**

COMPACT DRILL

Model 541. Compact and low in price without sacrificing drilling performance, and ease of handling. Cool running motor and double reduction gears deliver full drilling torque. Multi-thrust bearing on chuck spindle for heavier duty drilling. Removable side handle, 3 amp. motor. No load speed, 750 rmp, AC-DC. Drilling capacity: ½" steel: 1" in wood. Length overall, 9 ¾". Shpg. wt. 4½ lbs.
64F431. NET..... **29.99**

VERTICAL DRILL STAND

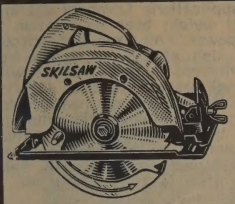
Model 45136. Converts most compact ¼" x ⅜" x ½" electric drills to handy lever operated drill press. Shipping weight: 5½ lbs.
64F424. NET..... **12.95**

NEWARK

YOUR DEPENDABLE

SOURCE FOR ALL YOUR

ELECTRONIC NEEDS



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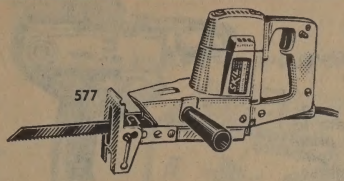

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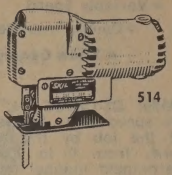

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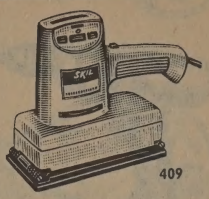


409

6½" HOMEOWNERS POWER SAW

Model 534. Cuts 2" dressed lumber; makes 45° bevel cuts. Sawdust ejection system. Vari-torque clutch. Safety stop brushes and lower blade guard. 9 amp. motor, 5500 rpm. Helical gearing. Shpg. wt. 10¾ lbs.

64F411 NET **27.99**

6½" HEAVY DUTY SAW

Model 552. 3 heavy duty ball bearings and 1 roller bearing. 10 amp. motor develops over 1½ hp. Has cutting depth of 3/16" at 90°. Cuts 2" dressed lumber at 45° bevel. Shipping wt. 14½ lbs.

64F412 ..... **74.95**

7¼" POWER SAW

Model 574. Cuts wood, plastic composition, wall board, metal, and masonry. Anti-friction bearings. Depth and bevel controls. Sawdust ejection system. Lower blade guard. 1½ hp. 10 amp. Shpg. wt. 11¾ lbs.

64F413 NET **29.99**

• NEW 7¼" DOUBLE INSULATED POWER SAW

Model 559. Lightweight, deluxe ball bearing saw with extra cutting capacity and handling ease. Cuts 2 7/16" at 90°, 1 7/8" at 45°. Easy to use bevel and height adjusting controls. Extra long lower guard retracing level for improved control and safety adjustable rip fence and cord guard. Rugged 10 amp. motor develops over 1¾" hp. Shipping wt., 11¼ lbs.

64F439 NET **49.99**

RECIPRO SAW

Model 577. Has 2 speeds: Hi (2000 strokes per minute) for fastest cutting of wood, plastic, and composition; lo (1600 spm) for cutting steel, aluminum, and brass. Ideal for pocket cuts, roughing in scroll work, and ripping. Adjustable 4 position blade; 3 position foot; double reduction gears, and canted blade. Anti-friction bearings. Trigger switch, AC only. 3 amp. 115V motor. Includes: 3 blades and 3 wire cord plug. Shpg. wt. 3 lbs.

64F415 NET **52.99**

2 SPEED JIG SAW

Model 514-6. Rips, crosscuts, scrolls and notches. Makes own starting hole. Orbital blade action. Low speed for metal-high speed for cutting wood and plastic. Contour grip. Stationary foot. 2.3 amp motor. Low speed: 3000 strokes/min. High speed: 4000 strokes/min. Automatic blower. Assortment of blades included. Shpg. wt. 4¾ lbs.

64F433 NET **32.99**

ORBITAL SANDER

Model 409. Has over 25 sq. in. of sanding area. Sands flush on all 3 sides. Spring action clamp holds up to 6 sanding sheets. 2.5 amp. 115v universal motor double insulated with convenient two prong plug. AC only. No load speed 5,000 opm with 3/16" orbit. Overall length 9¼". With 3 standard sanding sheets. Shpg. wt. 5¾ lbs.

64F438. NET **29.99**

DELUXE 2-SPEED JIG SAW

Model 524. 2.3 amp. motor delivers 4000 SPM for wood, plastic, and composition; 3000 spm. for metal. Orbital action cuts on up stroke, clears on down stroke. Automatic blower. Bevel gears, ball thrust, and mounted anti-friction bearings. Trigger switch. AC only. Includes: Splinter free cutting attachment, 3 blades, 3-wire cord and plug. Shpg. wt. 5½ lbs.

64F418 NET **36.88**

JIG SAW

Model 582. Single speed, lightweight, compact jigsaw. 2.5 amp motor delivers 3500 s.p.m. Do rip scroll, crosscut and knotching with ease and speed. No need to make starting hole for pocket cuts. Simply change blade for easy cutting of metal, plastic compositions or wood. Comfortable handle for easy operating, splinter resistant foot for smooth cuts, and a super burnout protected motor. Automatic blower to keep cutting line clear. Blade included. Shpg. Wt. 5¼ lbs.

64F434 NET **19.99**

• NEW 3/8" HAMMER-DRILL

Model 219. Compact, lightweight tool with hammering action for masonry drilling or rotation action for drilling in wood or metal only. Adjustable depth gauge can be rotated to any position for drilling holes in uniform depth. Two position auxillary side handle. Capacity of 3/8" in steel and ½" in masonry. Shpg. wt. 6 lbs.

64F440 NET **85.00**

• NEW ⅓ HP ROUTER

Model 548. 3.2 amp. Super Burnout Protected motor delivers 25,000 RPM. Built in spindle lock for easy bit changing. Contour handle for comfort and control. 5 5/8" diameter non-marring base with side switch, eye shield, 1/4" collet and wrench. Ideal for home workshop. Shipping wt. 6⅛ lbs.

64F441 NET **36.99**

• NEW POSITIVE CLUTCH SCREWDRIVER

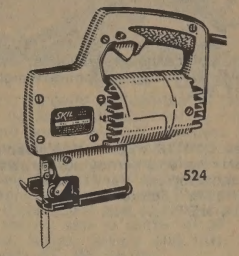
Model 140. Standard duty, 900 RPM reversing screwdriver. Features clutch jaws that engage when driver is applied to screw or nut and continue to tighten as long as pressure is applied. Reversing lever mounted for finger tip control. Shipping wt. 5 lbs.

64F443 NET **77.00**

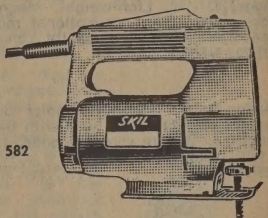
SKILL GRINDER—6"—¼ H.P.

Model 291. Features adjustable tool rests, precision ground shafts. Includes 1 fine, and 1 medium grit 6"x 5/8" wheel, ½" arbor, ¼ H.P., 50-60 Hz, 115V motor, 3600 R.P.M. Toggie type switch, AC only. Shpg. wt. 31 lbs.

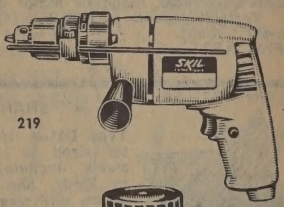
64F425 NET **65.00**



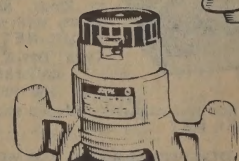
524



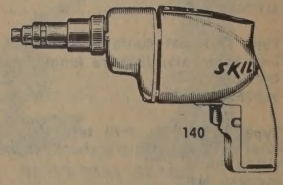
582



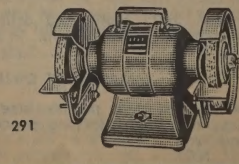
219



548



140



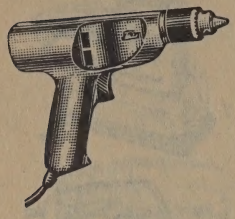
291

Tools

THOR

FAST-BACK DRILLS

- Variable Speed
- Double Insulated
- 3-Jaw Geared Chuck



Model DI-110VSC. ¼" variable speed drill. Accelerate to fit the job by trigger pressure; from 0 to 2000 rpm. Permanent magnet motor solid state electrical circuitry, double reduction gears. Double insulated for safety and convenience. Overall length, 7¾". Spindle offset, 19/32". Tough polycarbonate housing, two-wire cord, two prong plug. 115VAC. UL listed. Shipping Weight: 2⅞ Lbs.
33F318. NET **27.88**

Model DI-112R-VSC. ⅜" Variable speed, reversible drill. Use for driving and removing screws, drilling augering and powering accessories. Vary speed by trigger pressure 0-1200 rpm. Length, 7⅞". Spindle offset, ⅝". 115VAC. Shpg. Wt. 2⅞ Lbs.
33F319. NET **37.88**

Model D1-110. Lightweight. Magnetic motor design. 30% more horsepower than conventional models. Double reduction gears. Speed 2000 RPM. ¼" capacity. Length 7-¾". Wt. 1⅞ lbs.
33F703 NET **19.88**

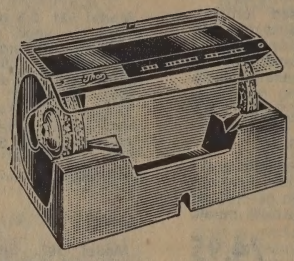
Model D1-112. Magnetic motor design. Polycarbonate housings. Tough, powerful and safe with balanced power. Virtually indestructible. Double reaction gear. 1200 RPM. Capacity ⅜. Length 7-⅞". Weight 1-⅞ lbs.
33F704. NET **24.88**

Model D1-112VSC. Magnetic motor design. 30% more horsepower. Variable speed 0-1200RPM. Capacity ⅜. Length 7-⅞". Weight 1-⅞ lbs.
33F705. NET **29.88**

¼" ELECTRIC DRILL—HAND SIZE

Type E-110. ¼" drill for industrial applications. Compact size and light weight bear no relation to its power. Full-wave diode circuit for high efficiency, trouble-free permanent-magnet stator with convenient AC operation (110/120 VAC). Also features heat-proofed armature with welded commutator leads and high-temperature insulation, shock-proof gearing, and splined armature shaft. Spindle offset is 1 9/32". Shpg. wt., 3 lbs.
33F330. NET **38.50**

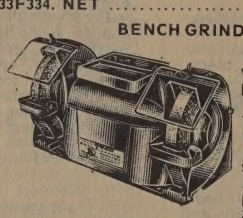
BENCH GRINDER



Model 946. Perfect for grinding, buffing, jewelry polishing, wire brushing. Cast-in parts and water cooling trays; built-in tool rests grooved and set for accurate drill sharpening. Slide switch Self-aligning oil impregnated bearings. 115v. shaded pole motor 60 hz A.C. only 6-foot, 3-wire lead cord. 4½" x ½" wheel. Arbor ½" dia. 3400 rpm. Overall length 10¾". Net Wt. less than 8 lbs.
33F343. NET **19.88**

Model 947. Same as above 946 with hi-intensity lamp and vacuum anchored base.
33F334. NET **34.95**

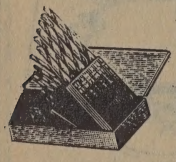
BENCH GRINDER 6" WHEEL ¼ HP



No. 928—6 For all grinding, buffing, wire brushing operations. Cast-in parts tray; eye shields; rubber feet drilled for mounting; heavy duty toggle switch; two 6" dia. x ¾" width x ½" arbor hold wheels incl. Self-aligning oilless bearings; shaded pole 3450 motor, 115v 60-hz AC only. UL listed and CSA approved. Wt. 19½ lbs.
33F307. NET **29.88**

CONSOLIDATED

¼" SHANK DRILL BIT SETS



Type D15-A. 15 piece high speed drill bit set sized to fit drills with ¼" reduced shank. Includes bits 1/16 to ¼" calibrated in 32nds, and one each 9/32 to ½" by 32nds. With steel index.
35F2650. NET **23.94**

Type D29-A. Contains one each, 1/16 to ¼", calibrated at intervals of 1/64 inch. Also one each 17/64 to ½" calibrated at 64th inch intervals. ¼" reduced shank in all steel index.
32F2651. NET **45.62**

Type DC-5. ¼" shank for bits of ¼", 5/16, ⅜, 7/16 and ½ inch. Packed in plastic carrying case.
35F2652. NET **10.82**

STRAIGHT SHANK DILL BITS SETS

Type D13. Set includes one each, 1/16" to ¼" bits, calibrated at intervals of 1/64th inch. All in jobbers length with all steel index.
35F2653. NET **7.22**

Type D21. Set contains one each, 1/16 to ⅜" drill bits at 32nd inch intervals. Jobbers length, straight shank, in all steel index container.
35F2654. NET **13.62**

Type D29. With drill bits sized 1/16 to ½ inch, at 1/64th inch intervals. All straight shank, jobbers length. Packaged in all steel sizing guide.
35F2655. NET **43.76**

Type D60. Sixty high-speed drill bits, numbers 1-60. All are straight shank, jobbers length. In all steel index.
35F2656. NET **30.24**

MASONRY DRILL BIT SET

Set MD4. Four piece popular size masonary drills, complete in one easy to handle carrying pouch. Bit diameters of ¼", 5/16", ⅜" and ½".
35F2657. NET **5.48**

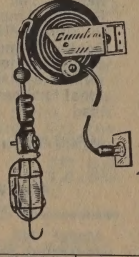
13 PC. HIGH SPEED DRILL SET

- EASY TO STORE
- EASY TO USE

Set PL13. 13 piece high speed drill set with bits of 1/16 to ¼", ralibrated by 64ths. Complete in see-thru plastic zip bag that is waterproof, air proof and reusable.
35F2658. NET **6.64**

CORDOMATIC REELS

- NEW TYPE DROP REELS



Designed to meet the most rigid demands that require grounding of circuits for electrical equipment. Phenolic pistol-grip handle. Units feature a grounding type convenience outlet in the handle, a grounding type molded male plugcap and time proven deluxe levolier toggle action switch. Electrical rating: 900G-7 amps. S/900G-10 amps, 950G- 6 amps at 125 volts. UL approved. 3 conductor cord. Heavy gauge steel casing, styled hammered finish. Mounts on wall or ceiling.

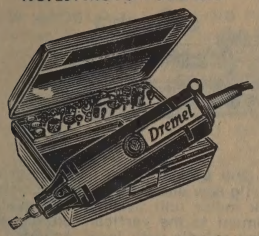
(Model 600: Garage Mount.)

Stk. No.	Type	Wire Ga Lgth	Wt. lbs.	1-5	6-Up
78F100	600	20'-18-SV0	4½	14.94	14.05
78F101	900G	30'-18-SJ0	8¼	31.13	29.24
78F102	S/900G	25'-16-SJ0	8¼	32.29	30.33
78F103	950G	50'-18-SV0	8½	33.44	31.75

NEWARK ELECTRONICS MOST COMPLETE ELECTRONICS INVENTORY FOR YOUR NEEDS

Dremel Tools and Accessories

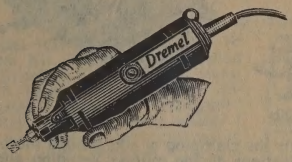
NO. 281 MOTO-TOOL KIT



Model 281. Industrial Model. Permanent magnet motor with built-in wave rectifier circuit delivers 30,000 rpm. Operates when load reaches 16 oz-inch. Ball bearing construction for longer more dependable use. Size: 7½" x 1 11/16". 6-foot 3-conductor cord, .9 amp. Shpg. Wt. 2¾ lbs.

33F554. Model 281 kit. NET 44.95
33F553. Model 280 tool only. NET 35.95

NO. 271 MOTO-TOOL KIT



Ideal for die and mold grinding polishing deburring. Oil impregnated bronze bearings. Kit has 34 accessories cutters, grinders, brushes, sanders and polishing tips. 1/8, 3/32, 1/16, 1/32 inch collets. Model 270 tool has 1/8" collet 8 amp 3 conductor cord. 30,000 rpm. 7¼" x 1-11/16. Wt. Kit-2-¾ lbs. Tool 11 oz.

33F664. Model 271 kit. NET 35.95
33F672. Model 270 tool only. NET 26.95

MODEL 261 MOTO TOOL KIT

Model 261. Palm sized, 9 oz. Used in grinding, sanding, carving, polishing, and engraving. High performance motor delivers 30,000 rpm. .5 amps. Shpg. wt. 2½ lbs.

33F662. Model 261 kit NET 27.95
33F654. Model 260 tool only NET 22.45

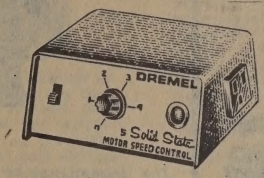
ACCESSORIES

Set 240. Consists of 24 high speed steel cutters. Shpg. wt. 18 oz.
33F700. NET 32.40

Set 220. Contains twelve high speed steel cutters. Shpg. wt. 15 oz.
33F701. NET 16.20

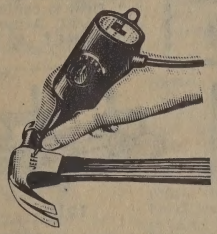
Set 202. Includes 20 pieces; drum sander, saw, brushes, emery wheel points, two silicon wheel points, screw mandrel, high speed steel cutters, polishing tip and more. Shpg. Wt. 8 oz.
33F702. NET 16.00

• NEW MOTOR SPEED CONTROL



Model 219. Controls motor speed to match work. Built-in pilot light, 3-wire grounding cord and overload protector. Can be used with all universal (brush-type) motors and fixed load shaped pole motors. Voltage Range, 0-120 Volt. Max load 5-AMPS. AC full wave controlled output. 5" x 4" x 2". Wt. 1 lb. 13 oz.
33F555. NET 16.95

ELECTRIC ENGRAVER



Model 290. Heavy duty engraver provides a fast, permanent method of marking on all types of materials from hardened steel to glass. Works as easily as writing with a pencil. Calibrated stroke adjustment regulates depth of engraving. 7200 strokes per min. High impact nylon housing and powerful motor. Solid carbide engraving point and storage case. Shipping weight: 1½ lbs.
33F674. NET 13.45

Type 9924. Replacement solid carbide pt.
33F648. NET 2.25

Type 9929. Diamond engraving pt.
33F649. NET 7.60

CARBIDE CUTTERS

9901 9903 9905 9907 9908

Perform very efficiently with a torque and speed (27,000 RPM). Maximum cutting head of 1/8". Mounted on 1/8" shank. Outlasts high speed steel.

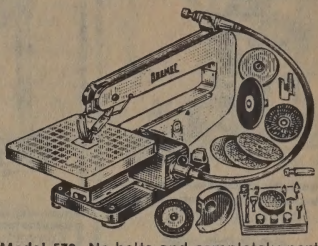
Stk. No.	Type	Stk.	Type	Each
33F1025	9901	33F1028	9907	3.60
33F1026	9903	33F1029	9908	
33F1027	9905			

CHUCK COLLETS

For Moto Types Nos. 1, 2 & 3

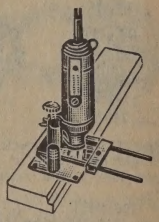
Stk. No.	Type	Size	Pkg. of 3
33F1030	416	1/8" to 3/32"	1.80
33F1031	417	3/32" to 1/16"	
33F1032	418	1/16" to 1/32"	
33F1033	419	1/32" to .0135	
For Moto Types Nos. 260, 270 & 280			
33F1034	434	1/8" to 3/32"	1.80
33F1035	435	3/32" to 1/16"	
33F1036	436	1/16" to 1/32"	
33F1037	437	1/32" to .0135	

DELUXE MOTO-SHOP



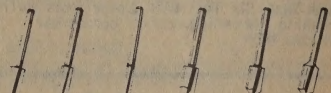
Model 572. No belts and completely portable. 15" Jig Saw with ball bearing rotary motor and power take off. Includes disc sander attachment, cloth buffing wheel, wire wheel brush, grinding wheel, wheel guard, flexible shaft, polishing compound stick, 12 piece accessory set, 1 adapter, 3 sanding discs and 4 saw blades. Jig Saw has 15" throat, saw to center of 30" circle. Table raises, lowers and tilts. For 110-120 volts AC. Wt. 18 lbs.
33F663. NET 49.45
33F657. (Pack of 5) ..... .70

ROUTER ATTACHMENT



Model 229. Ideal for the man whose occasional need doesn't justify purchase of full size router. Used like larger conventional, portable router bases. 1.32" per revolution knob for depth of cut adjustment with edge guide fence adjustment from 0 to 3¼". Shipping wt. 21 lbs.
33F1000. NET 9.95

HIGH SPEED STEEL ROUTER BITS



610 640 632 650 652 654

Stk.	Type	Stk.	Type	Ea.
33F1001	610	33F1004	650	3.10
33F1002	632	33F1005	652	
33F1003	640	33F1006	654	

EMERY WHEEL POINTS

Set of 33 assorted sizes and shapes of emery wheel points.
33F1007. Set of 33 NET 16.50

MOTO-TOOL ACCESSORIES

223 225

UNIVERSAL STAND

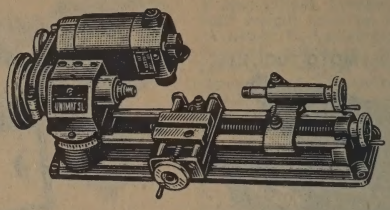
Type 223. Holds No. 260, 270, or 280 Moto-Tool at any angle ball and socket assembly. Clamp for receiving and releasing.
33F550. NET 8.50

DRILL PRESS

Type 225. Used with No. 260, 270, or 280 Moto tool. For drilling and routing. 12" high with a 6¾" x 4" lock in any position for depth adjustment. Wt. 4 lbs.
33F552. NET 15.00

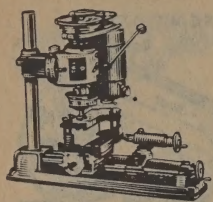
AMERICAN EDELSTAAL

UNIMAT 5-IN-1 PRECISION MACHINE SHOP

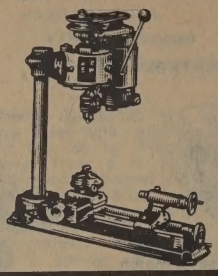


The Unimat may be set up as a drill press, miller, surface grinder, polisher and grinder, circular saw, jig saw and lathe with quick-change accessories. Features a head-stock motor unit designed for quick removal from lathe bed and attachment to the vertical column. Headstock features precision ball-bearing spindle with lever actuated quill feed of ⅝ in. and spindle return spring. On lathe bed or vertical column headstock may be rotated a full 360° and locked in any angle. Excellent for use with steel, aluminum, brass, plastic, and wood 1/10 hp motor. Jacobs' type drill and chuck, grinding wheel arbor, face plate, lathe dog, 2 centers, drive belts, wrenches, tool bit, wood storage chest and 40 page illustrated instruction book are included. Swing over bed 3" 360° headstock rotation. Distance between centers 7". Handwheel microcalibrations .002". Takes up to ¼" square bits; spindle bore takes ¼". Drill to center of circle 6⅛"; spindle nose to table 6¼". Operates on 110 VAC. Accurate to ½ thousandths. Size: 17" x 4" x 5". Wt. 25 lbs.
35F1200 NET 149.50

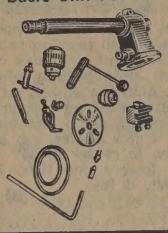
Converts to Vertical Miller



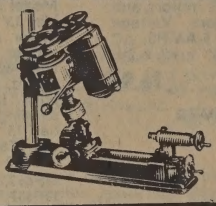
Converts to Drill Press



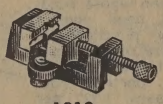
Basic Unit Parts



Converts to Surface Grinder



1002



1010

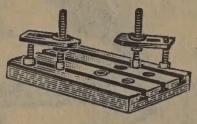
2820

Type 1001 Lathe chuck. 3 jaw, universal chuck. 2¼" capacity.
35F1207 NET 29.95

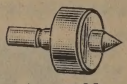
Type 1002 4 jaw independent chuck. All jaws adjustable individually.
35F1205 NET 29.95

Type 1010 Machine Vise. Opens to 1⅛ inch. V milled both horizontally and vertically.
35F1203 NET 11.50

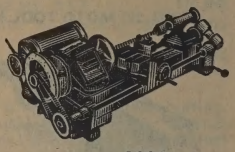
Type 2820. Six Tool Bits. Lathe tools for roughing, left and right finishing, threading, cut-off boring bar.
35F1206. NET 12.95



1210



1221



1290

Type 1210 Milling table. Permits the clamping of odd shaped materials, round stock, and large castings during milling, grinding and drilling.
35F1202 NET 14.95

Type 1221. Live Center. Anti-friction double-row ball-bearing for high speed turning or finishing.
35F1204 NET 7.50

Type 1290. Power Feed. Drives carriage/across slide assembly at .0008" per spindle revolution. Normal manual operation can be selected at any time.
35F1201 NET 29.95

BURGESS VIBROCRAFTERS

DELUXE ELECTRIC VIBRO GRAVER

Model V-73. Electric ID marker that writes on metals, wood, plastics, glass and other materials. On-off switch, complete with hard tantalum carbide point. 110v AC 60 Hz. Size 6¼ x 3¼ 1-⅝. Shpg. wt. 2 lbs.
99F1161. NET 9.75

Type 98003. Tantalum Carbide Point.
99F1167. NET 1.47

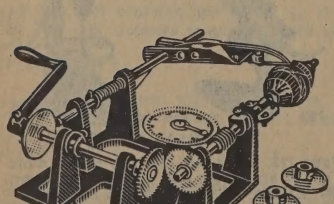
Type 98080. Diamond-Tipped Point.
99F1168. NET 5.62

ELECTRIC PENCIL

Model V69. Equipped with a steel pt. that vibrates at 7200 strokes/min. With its built-in-Mercury Switch turns itself on when you pick it up; turns off automatically. Adjustment knob changes length of stroke and width of line marked. Overall length: 5½" with 6' cord. Packed in mail order shipping carton. Dim.: 7 x 3 x 2". Weight 7 ounces.
99F1162 NET 5.95

MoReCo., INC.

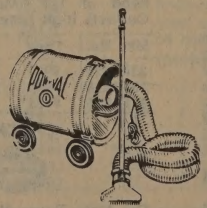
COIL WINDING MACHINE



Hand operated coilmaster. Produces self supporting, universal and honeycomb coils, also solenoid single layer. Included with each machine are: 3 cams, 1/8", 3/16", and 1/4" throw, and 4 gears. The arm that carries the wire guide is adjustable for PI spacing, and different diameter coil forms. Accurate and suitable for both practical and experimental work. Capable of producing many types of coils. Shipping weight 4 lbs.
34F701. NET 9.45

CENTRAL QUALITY INDUSTRIES

POW-R-VAC HEAVY DUTY VACUUM CLEANER

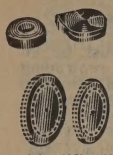


Model 2020. This sturdy machine has a big 2½" wide hose which will give you many times the suction of ordinary vacuums, to pick up workshop and industrial debris. When hose is attached to exhaust, it acts as a powerful blower. 8' cord and a 6" rubber hose enables you to clean a large area. Drum is made of heavy gauge steel finished in avocado with a wood grain trim. Inside is coated with rust inhibitor to assure a long life. Has powerful 110-120v AC-DC 1½ HP motor. Comes complete with four side-positioned wheels for balance and mobility, full-length handle for stand up jobs, and an adapter to fit standard 1¼" attachments.
80W150. NET 35.95

POW-R-VAC ACCESSORIES—2½" SIZE

99F1301 7682. 14" Floor Nozzle with brush. NET 5.95
99F1302 7684. Large Crevice Tool. NET 3.75
99F1303 7685. Paper Filter Bags. (Pkg. of 6) NET 1.00
99F1304.7687. Cloth Filter Bag. (1) NET 1.50

Tapewriters and Accessories DYMO

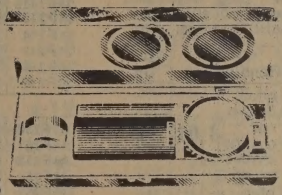


•NEW MODEL 1570 LABELING PAK

Touch-Action Tapewriter embosses ½" and ⅜" Dymo tape either horizontally in two type sizes or vertically. Versatile machine prints extended letters to aid legibility, reduce identification errors. Provides labels of high readibility at low materials cost; makes identification neat, attractive and fool-proof to read. Rugged chrome plated zinc housing assures years of use without failure or misalignment of parts. Outfit includes two horizontal embossing wheels (characters .200" and .180" high) and vertical wheel (.145" high), plus one roll each of black ½" tape and red ⅜" tape. Labelmaker dimensions: 9½"x3¼"x3½" wide. Shpg. wt., 00 lbs.

58F1328 NET **19.95**

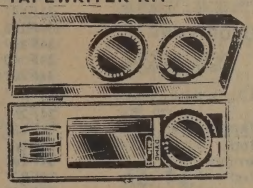
MODEL 1470 ½" TAPEWRITER KIT



Model 1470-01. Slimline Tool N' Tape Kit. Includes 1 1470 Tapewrite with vinyl finish and polished aluminum wheel disc, 1 "Designer" letter .200" embossing wheel, 1 vertical letter .160" embossing wheel, 1 horizontal .180" embossing wheel, 2 rolls ½" tape (red & black), 1 custom molded carrying case.

58F698. NET **16.95**

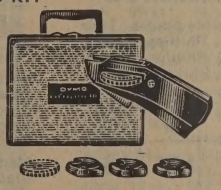
MODEL 1450 ¼" & ⅜" TAPEWRITER KIT



Model 1450-01. Slimline Tool N' Tape Kit. Tape writer finished in Cycolac, black enamel metal with brush chrome trim. Includes 1 extended "Designer" Letter. 180" embossing wheel, 1 Vertical Letter .160" embossing wheel with extended "Designer" letters, 1 Horizontal letter, .145" embossing wheel with extended Designer letters, 1 magazine ⅜" black tape, 1 magazine ¼" red tape, 1 custom molded carrying case.

58F697. NET **14.95**

NEW MARKING KIT



Handy kit for home, office, shop or plant. Gives you all you need for a multitude of applications. Mark VI Tapewriter embosses both ⅜" and ¼" vinyl tapes. Features dual track for quick change of tape widths. Letter spacing shifts from regular to wide for extending words' length simply by moving spacing button. Interchangeable embossing wheels allow you to change type size or vertical and horizontal format. Wheels have full alphabet and numerals plus $, c, %, &, ', -, /, and period. Prints letters .150" high. Handy cut off lever slices tape in the machine. Cycolac plastic body is rugged, withstands abuse. Kit includes writer, vinyl carrying case, vertical and horizontal embossing wheels, 3 magazines of ⅜" tape, 2 magazines of ¼" tape in assorted colors. Wt., 00 lbs.

58F1328 ..... **9.95**

MODEL 1700 TAPEWRITER

Embrosses letters on ⅜" vinyl tape. Features pull-tab tape cut-off, easy to operate. Includes extra vertical embrossing wheel & tape. Made of Cycolac plastic. Shpg. Wt. 7½ ozs.

58F696. NET **4.95**

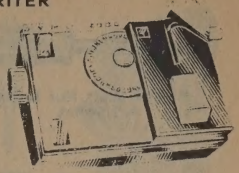
TAPES FOR ABOVE DYMO TAPEWRITERS

Series 5206¼" x 144" Plastic Tape, Series 5201⅜" x 144" Vinyl Tape, Series 158½" x 144" Vinyl Tape.

Color	Stk. No.	Type	NET	Stk. No.	Type	NET	Stk. No.	Type	NET
Red	58F683	5206-2		58F665	5201-2		58F613	158-2	
Green	58F685	5206-5	.75	58F668	5201-5	.89	58F616	158-5	1.25
Blue	58F686	5206-6		58F667	5201-6		58F615	158-6	
Black	58F689	5206-9		58F666	5201-9		58F614	158-9	

Look to NEWARK for All Your Industrial Needs

DESK TAPEWRITER



Model 2000-01. Dual-track embossing machine. Selector knob speeds letter dialing by 25⅞. Dual track embosses ⅜" or ¼" tape. Non-marking rubber feet. Takes six interchangeable embossing wheels. Automatic "Pull Tab" cutoff. View window allows user to see embossed letters before they emerge. Kit contains: 1 Desk Tapewriter; 2 rolls ⅜" and 2 rolls ¼" tape. Standard letter and vertical letter embossing wheels plus Optimum Wheel incl. with machine. Fiber-filled plastic base and satin finished chrome top. Shpg. wt. 2lb.

58F753. NET **20.25**

36' ECONOMY TAPE MAGAZINE

For use in desk model 2000 only. Exclusive pressure-sensitive adhesive backing.

⅜" x 36" Stk. No.	Type	Color	NET	¼" x 36" Stock No.	Type	Color	
58F754	5219-02	Red		58F763	5220-02	Red	
58F755	5219-04	Oran.		58F764	5220-04	Oran.	
58F756	5219-05	Green	1.75	58F765	5220-05	Green	1.45
58F757	5219-06	Blue		58F766	5220-06	Blue	
58F758	5219-07	Yellow		58F767	5220-07	Yellow	
58F760	5219-09	Black		58F769	5220-09	Black	
58F761	5219-12	Grey		58F770	5220-12	Grey	

TAPEWRITERS

Model 1101. Emboss ½" vinyl tape. Accommodate ½" x 200" Guide-Pak tape rolls. 1101 (M-11) is mainly for use with ½" metal embossing tapes. Equipped with hardened steel embossing wheel. Has a built in hole punching device; allows user to punch a 3/32" hole in the end of lables. Shpg. wt. 22 oz.

58F642 Model 1011 M11. **NET**..... **33.95**

TOOL 'N' TAPE KIT

Model 7593, M-11. Kit makes permanent raised letter labels to meet most specialized requirements. Kit includes: 1 M-11 tape-writer; 1 steel vertical embossing. 1 plastic horizontal embossing wheel; 5 rolls contrast aluminum tape with adhesive backing; 5 rolls of vinyl tape in assorted colors; and black texon carrying case.

58F776. NET **47.95**

METAL TAPES

Use when labeling job calls for exposure to extreme heat, chemical and atmosphere corrosion, or rough use. **For M-11 only.**

Stk. No.	Type	Size	Metal	Adhesive	NET
58F636	358	½"x12'	Alum.	Yes	1.85
58F632	313	½"x12'	Copper	Yes	2.40
58F633	325	½"x21'	St. St'L	No	1.25

• NEW TOOL 'N' TAPE KIT DYMO 1270

Model 1270-01. Kit contains: 1 1270 tapewriter. Embosses giant (.250") letter labels on ½" vinyl tape, both the standard and economy length. Also uses standard, vertical, and special character embossing wheels. Has a die cast aluminum body with baked enamel finish. Size: 6"x3¼"x6". Kit also includes: 10 rolls ½" economy length vinyl tape; 1 standard letter (.200") horizontal embossing wheel; 1 giant letter (.250") horizontal embossing wheel (in tool); 1 standard letter (.160") vertical embossing wheel; 1 special character (.215") embossing wheel; 1 carry-case; 1 belt clip key ring.

58F782. NET..... **26.95**

DYMO VINYL TAPES

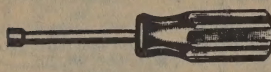
Manufactured from thermo-plastic bonded to a pressure-sensitive adhesive backing. Hi-gloss finish. All guidepak tape may be substituted for series 158 or 5201 if cartidge is removed first. Used with models 1200, 1250, 1203 and 1270.

Guide-Pak Economy Length ½"x 200"

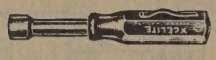
Stk. No.	Type	Color	NET	Stk. No.	Type	Color	NET
58F728	5163-1	Clear		58F734	5163-8	Brown	
58F729	5163-2	Red		58F735	5163-9	Black	
58F730	5163-4	Oran.	1.75	58F736	5163-12	Grey	1.75
58F731	5163-5	Green		58F737	5163-13	Gold	
58F732	5163-6	Blue		58F738	5163-15	Purp.	
58F733	5163-7	Yell.		58F739	5163-60	Wood	

XCELITE® Top-Quality Drivers and Tools

Hollow Shaft Nut Driver
HS Series



Solid Shaft Nut Driver



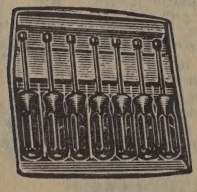
Pocket Style NutDriver
P Series

Dual Purpose Screwdriver
CR Series

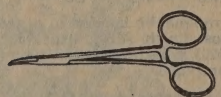
Phillips Screwdrivers
XST Series

Phillips Screwdriver
X Series

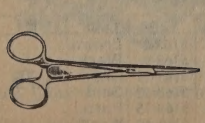
Shock Proof Screwdriver



Tray Bien NutDriver
Sets



Curved
Nose



Straight
Nose

HOLLOW SHAFT NUT-DRIVERS

Ideal for use where nuts must be installed or removed over protruding bolts. Finely-tempered and finished steel.(*)Volume control wrench. Shpg. wt. 6 oz.

Stk. No.	Type	Nut Size	Handle	1-4	5-Up
34F319	HS-8	1/4"	red		
34F320	HS-10	5/16"	amber		
34F321	HS-11	11/32"	green	1.15	1.02
34F322	HS-12	3/8"	blue		
34F323	HS-14	7/16"	brown	1.32	1.17
34F324	HS-16	1/2"	red	1.32	1.17
34F325	HS-18*	9/16"	orange	1.38	1.23
34F326	HS-20*	5/8"	amber	1.55	1.38

SOLID SHAFT NUT-DRIVERS

Most popular sizes. 6" long over all. Made of hardened and polished tool steel. Color coded plastic handles. 4 oz.

Stk. No.	Type	Nut Size	Handle	1-4	5-Up
34F300	6	3/16"	black		
34F301	7	7/32"	brown		
34F302	8	1/4"	red		
34F303	9	9/32"	orange	1.01	.90
34F304	10	5/16"	amber		
34F305	11	11/32"	green		
34F306	12	3/8"	blue		
34F307	14	7/16"	brown	1.25	1.11
34F308	16	1/2"	red		

POCKET STYLE NUTDRIVERS

All handles are color coded. Pocket Clip.

Stk. No.	Type	Nut Size	Handle	1-4	5-Up
34F330	P4	1/8"	Red		
34F331	P5	5/32"	Amber		
34F332	P8	1/4"	Red	.64	.57
34F333	P10	5/16"	Amber		
34F334	P12	3/8"	Blue		

DUAL PURPOSE SCREWDRIVERS

Screwdrivers with reversible blades. Type CR1 is for 3/16" and No. 1 Phillips screws, type CR2, 1/4" and No. 2 Phillips screws. CR3 for 5/16" and No. 3 Phillips screws. Overall length 7 1/4".

Stk. No.	Type	Blade Size	1-4	5-Up
34F298	CR1	3/16"		
34F299	CR2	1/4"	1.79	1.59
34F297	CR3	5/16"		

PHILLIPS SCREWDRIVERS

Precision made. Feature bright, nickel chrome blades with specially treated, black-oxide "super-tru" finished tips for ultimate in dimensional control. Closer fit improves wear and reduces damage to screw head recesses. All equipped with black plastic (UL) handles.

Stk. No.	Type No.	Point Size	Total Length	1-4	5-Up
35F1433	XST-100	0	4 5/8"	.68	.60
35F1434	XST-101	1	6 5/8"	1.01	.90
35F1435	XST-102	2	8 1/8"	1.25	1.11

PHILLIPS SCREWDRIVERS

Special alloy steel. Av. wt., 5 oz. ‡Stubby types. *Pocket clip.

Stk. No.	Type	Point Size	Blade Size	1-4	5-Up
34F290	X-101	1	3"	.91	.81
34F291	X-102	2	4"	1.11	.99
34F292	X-103	3	6"	1.62	1.44
34F293	X-104	4	8"	2.03	1.80
34F294	X-108	1	6"	1.08	.96
34F295	X-1010	1	10"	1.35	1.20
34F296	X-1020	2	10"	1.52	1.35
34F287	SX-101‡	1	1 7/16"	.84	.75
34F288	SX-102‡	2	1 5/16"	.95	.84
34F289	P-12S*	0	2"	.54	.48

SHOCK PROOF SCREWDRIVERS

Tips ground to rectangle shape. Handles are amber plastic.(*)Have 1/2" dia. handles.(†)Have 1 3/8" dia. handles.(‡)Stubby types. 8 oz.

SQUARE BLADES

Stk. No.	Type	Blade Size	1-4	5-Up
34F276	S-141†	1/4x1 1/4"	.71	.63
34F275	S-316†	3/16x1 1/4"	.64	.57
34F203	S-3163	3/16x3"	.84	.75
34F204	S-3164	3/16x4"	.96	.84
34F205	S-3166	3/16x6"	1.05	.93
34F206	S-3168	3/16x8"	1.18	1.05
34F207	S-31610	3/16x10"	1.42	1.26
34F208	S-142	1/4x2"	.98	.87
34F209	S-144	1/4x4"	1.15	1.02
34F210	S-146	1/4x6"	1.25	1.11
34F211	S-148	1/4x8"	1.35	1.20
34F212	S-5162	5/16x2"	1.08	.96
34F1426	S-5164	5/16x4"	1.25	1.11
34F213	S-5166	5/16x6"	1.42	1.26
34F214	S-5169	5/16x8"	1.55	1.38
34F217	S-388	3/8x8"	2.19	1.95
34F218	S-3812†	3/8x12"	2.87	2.55
34F219	S,3818†	3/8x18"	3.21	2.85

ROUND BLADES

34F250	R-3322*	3/32x2"	.41	.36
34F251	R-3323*	3/32x3"	.44	.39
34F252	R-3324*	3/32x4"	.47	.42
34F254	R-182†	1/8x2"	.44	.39
34F253	R-183*	1/8x3"	.44	.39
34F255	R-184†	1/8x4"	.54	.48
34F256	R-186†	1/8x6"	.61	.54
34F257	R,188†	1/8x8"	.71	.63
34F258	R-1810†	1/8x10"	.81	.72
34F259	R-5323†	5/32x3"	.61	.54
34F260	R-5324†	5/32x4"	.61	.54
34F261	R-5325†	5/32x5"	.64	.57
34F262	R-5328†	5/32x8"	.81	.72
34F263	R-3163	3/16x3"	.78	.69
34F264	R-3164	3/16x4"	.84	.75
34F265	R-3166	3/16x6"	.95	.84
34F266	R-3168	3/16x8"	1.05	.93
34F267	R-31610	3/16x10"	1.22	1.08
34F269	R-144	1/4x4"	1.11	.99
34F270	R-146	1/4x6"	1.22	1.08
34F271	R-148	1/4x8"	1.28	1.14
34F272	R-1410	1/4x10"	1.35	1.20
34F273	R-5166	5/16x6"	1.35	1.20
34F274	R-5168	5/16x8"	1.45	1.29
34F277	R-181	1/8x2"	.41	.36

"TRAY BIEN" NUTDRIVER SETS

Nutdrivers have carbon steel shafts. Case hardened sockets. Plastic (UL) handles color coded. Features lightweight plastic case. Wall mounting holes. Compact easily stacked.

Model 127TB. Solid shaft nutdriver set. Blade length: 3" overall length 6". Handle dimensions: 1x3". Hex openings range from 3/16" to 3/8" in 1/32" steps. Features a wide variety of colors.
34F366. NET 6.75

Model 137TB. Solid and hollow shaft nutdriver set. Features hex openings from 3/16" to 9/16". Similar to 127TB except 2 nutdrivers have overall lengths of 7 1/4", handle dim. of 1 1/16 x 4 1/8", and 3 1/8" blade lengths.
34F367. NET 7.65

Model 147TB. Hollow shaft nutdriver set. Features hex openings of 1/4 to 1/2". First 5 nutdrivers have 7" lengths, 1" x 3 7/8" handle dim. 4 3/8" D. of clearance holes. Last 2 have 6" depths, 7 1/4" lengths, 1 1/16 x 4 1/8" dim.
34F368. NET 8.94

STAINLESS STEEL "SEIZERS"

Holds wires for soldering, acts as a heat sink, retrieves small parts from hard to reach places. Two position snap-lock. 6" models have serrated haws. 5" Jr. models, have smooth jaws to prevent marring of delicate materials. Box point construction. Shpg. wt. 6 oz.

Stk. No.	Type	Description	1-4	5-Up
34F370	42H	6" straight nose	4.54	4.13
34F371	43H	6" curved nose	4.70	4.27
34F373	32H	5" straight nose	4.54	4.13
34F374	33H	5" curved nose	4.70	4.27

REVERSIBLE BLADES SCREWDRIVER SETS

Blades have two different size tips. For handles #25 (1 1/16 x 4 1/4") & # (1 1/16 & 2"). UL listed.

BLADE CHART

Type	DESCRIPTION
RB1	#1 Phillips, 3/16" slotted 6 1/4"
RB2	#2 Phillips, 1/4" slotted 6 1/4"
RB3	#3 Phillips, 5/16" slotted 6 1/4"
GB1	3/16" and 3/32" G Clutch 6 1/4"
GB2	5/16" and 1/4" G Clutch 6 1/4"
SB1	#1 Phillips, 3/16" slotted, "Stubby" 3 1/8"
SB2	#2 Phillips, 1/4" slotted "Stubby" 3 1/8"

Stk. No.	Type	1-4	5-Up
35F3102	RB1	1.05	.93
35F3103	RB2	1.05	.93
35F3104	RB3	1.05	.93
35F3105	FB1	1.25	1.11
35F3106	GB2	1.25	1.11
35F3107	SB1	.98	.87
35F3108	SB2	.98	.87

Kit 600. Combination Screw driver-Nutdriver Set. Two hex nut openings in handle, 1/4 and 7/16", serve as nutdrivers. Includes RB1 blade. wt 3 oz.
35F1421. NET 1-4 ..... 1.92 5-Up 1.71

Kit CK-3. Three blades, RB1, RB2, and RB3, with No. 25 plastic handle in a convenient roll-up pouch for storage.
34F394. NET **4.13**

Kit CK-5. Five reversible blades—RB1, RB2, RB3, GB1 and GB2—with No. 25 handle in roll-up pouch for easy storage. Shpg. wt. 13 oz
35F1422 NET **6.15**

SK-20. Kit with No. 26 "Stubby" handle. Increases power to shaft. With SB1 and SB2 in roll-up pouch. 4 5/8 oz.
34F372. NET **2.61**

CK-20. Number 25 handle with two sets of blades, RB1 and RB2. Packaged in clear plastic pouch with zip-top closure. Shpg. wt. 6 1/2 oz.
35F1423. NET **3.15**

Kit CK23. Has plastic handle and three blades, choice of six tips: #1,2 and 3 Phillips tips and 3/16", 1/4" and 5/16" slotted blades. In plastic zipper case.
35F1424. NET **4.13**

HEX SCREWDRIVER SET

Type PS-89. 8 midget Allen hex type screwdrivers, in sizes .028", .035", .050", 1/16", 5/64", 3/32", 7/64", 1/8". "Piggyback" torque amplifier handle slips over top of midget tool handles, provides larger gripping surface, extended reach, increased drive. Hip pocket size, see-through plastic case has a broad flat base which permits its use as a bench stand.
35F1432. NET **4.35**

COMPACT SETS

Kits HSC-1. Interchangeable nut driver set with plastic carrying case. Includes plastic handle and 8 interchangeable shafts with hex sizes 3/16, 1/4, 5/16, 11/32, 3/8, 7/16, 1/2 and 9/16 inch. Shpg. wt. 14 3/4 oz.
3F1425. NET **8.85**

Kit HS6-18. Kit contains ten hollow shaft nut-drivers with hex openings 3/16", 7/32", 1/2", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", and 9/16". Packaged in a sturdy, plastic case. Shpg. weight 2 lbs.
34F376. NET **11.94**

NUTDRIVER SETS

Kit 99PS-50. Contains nutdrivers 99-6 to 99-12; Phillips screwdrivers 99-821 and 822; extension 99-X5; slotted blades 99-811 and 99-250; and handle 99-1. In plastic case. Shpg. wt. 1 lbs.
34F341. NET **9.15**

ALLEN HEX SET

Kit 99-PS-40. Includes 99-1 handle; allen hex screwdriver blades 99-20 thru 99-26 and 99-764 and 99-964; four inch ext. blade 99-X5. Shpg. wt. 12 1/2 oz.
34F339. NET **7.43**

ALLEN HEX SCREWDRIVER SET

Type 99LN. Seven piece Allen hex screwdriver set in roll-up plastic pouch. Includes one type 99-1 handle and Allen hex shafts 99-21, 99-22, 99-23, 99-24, 99-25 and 99-26. Handle is UL approved unbreakable plastic. Shpg. wt. 2 lbs.
35F1431. NET **4.65**

PS44. Includes five Scrulox screwdrivers. (#1 to #14), one nutdriver (1/4"), torque handle and case.
34F224 NET **4.35**

SERIES 99 PART NUMBERS

HANDLES

Stk. No.	Type	Descripton	Lngth	1-4	5-Up
34F398	99-1	1 1/16" dia.	4 1/8"	.81	.72
35F3110	99-2	1 1/16" dia.	3 1/8"	.78	.69
35F3111	99-3	1 1/16" dia.	2"	.74	.66

NUT DRIVER

35F3112	99-6	3/16"	3 5/8"	.74	.66
35F3113	99-7	7/32"	3 5/8"	.74	.66
35F3114	99-8	1/4"	3 5/8"	.74	.66
35F3115	99-S8	1/4"	1 3/8"	.61	.54
35F3116	99-9	9/32"	3 5/8"	.74	.66
35F3117	99-10	5/16"	3 5/8"	.74	.66
35F3118	99-S10	5/16"	1 3/8"	.61	.54
35F3119	99-11	11/32"	3 5/8"	.74	.66
35F3120	99-12	3/8"	3 5/8"	.71	.66
35F3121	99-S12	3/8"	1 3/8"	.61	.54
35F3122	99-14	7/16"	3 5/8"	.91	.81
35F3123	99-16	1/2"	3 5/8"	.91	.81

ALLEN HEX

35F3124	99-20	.050"	4"	.68	.60
35F3125	99-21	1/16"	4"	.68	.60
35F3126	99-22	5/16"	4"	.68	.60
35F3127	99-23	3/32"	4"	.68	.60
35F3128	99-764	7/64"	4"	.58	.60
35F3129	99-24	1/8"	4"	.68	.60
35F3130	99-964	9/64"	4"	.68	.60
35F3131	99-25	5/32"	4"	.68	.60
35F3132	99-26	3/16"	4"	.68	.60

REAMER

35F3133	99-38	1/8"-3/8"	4 1/8"	1.86	1.65
35F3134	99-39	1/4"-1/2"	4 1/8"	2.36	2.10

SLOTTED SCREWDRIVER

35F3135	99-250	1/4"	3 7/8"	.74	.66
35F3136	99-811	3/16"	3 7/8"	.74	.66

PHILLIPS SCREWDRIVER

35F3137	99-821	#1	3 7/8"	.74	.66
35F3138	99-822	#2	3 7/8"	.74	.66

EXTRA BLADES

35F3139	99-X5	4"	4"	1.08	.96
35F3140	99-X10	7"	7"	1.18	1.05

THE SERVICEMAN'S COMPLETE KIT

Kit 99SM. Includes 6" long nose and 5" diagonal pliers, 6" adjustable wrench, handles 99-1 and 99-3, nutdrivers 99-6 thru 99-16 including stubby models 99-S8, S10 and S12, Phillips blade 99-821, extension 99-X10, slotted blades 99-811 and 99-250, and reamers 99-38 and 39 in canvas pouch.
34F388. NET **27.90**

99 PR. Contains 99-1, nutdrives 99-6 to 99-PR, 99-811, 99-250, 99-281 and 99-822 in pouch, 24 oz.
34F395. NET **9.60**

99JR. Junior handle 99-2, nutdriver blades 99-6 through 99-12, slotted tips 99-811 and 250, Phillips screwdrivers 99-821 and 822 in pouch. Wt. 1 lb.
34F389. NET **8.55**

99PS-60. Bristol Multiple-Spline socket screwdrivers. Handle 99-1, blade 99-x5 and 9 bristol blades, three 4-flute and six 6-flute type, .048" to .183". All 4" long.
34F340. NET **7.43**

99MP. 39-piece kit contains 99-1 (regular) and 99-4 (tee) handles, ten regular nutdrivers (99-5 to 99-16), nine Allen Hex type screwdrivers (99-20 to 99-26), nine Bristol Multiple Spline screwdrivers (99-61 to 99-69), three slotted screwdrivers (99-811, 99-250, 99-312), two Phillips screwdrivers (99-821, 99-822), two reamers (99-38, 99-39), awl/scriber (99-70), and extension blade (99-X5)
34F223. NET **29.25**

Kit PS-7. Two Hex nutdrivers of 1/4" and 5/16"; two slotted screwdrivers with blades of 3/16" and 3/32"; and two Phillips screwdrivers, types #0 and #1. Torque amplifier and workbench carrying case.
34F335. NET **4.28**

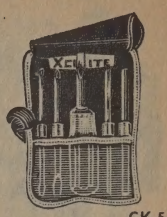
Kits PS-88. Slotted blade sizes are: 3/32", 1/8", 5/32", 3/16", and 1/4". Phillips Nos. 0, 1 and 2 points. Overall length 3 1/2".
34F375. NET **4.47**

Kit PS-120. Ten nutdrivers with color coded plastic UL approved, handles Hex openings of 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", tool is 3 1/2". Shipping wt. 9 3/4 oz.
34F336. NET **6.15**

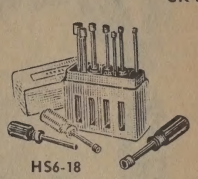
Resersible Ratchel Handles. Black,

Stk. No.	1-4	5-up
33F1150	5.57	4.95
33F1151	5.57	4.95

KIT 600


CK-5

CK23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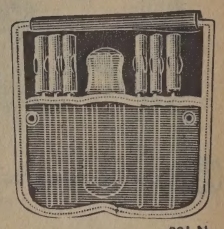
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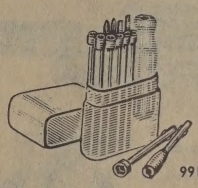
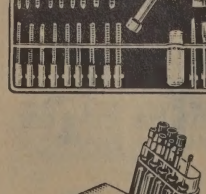
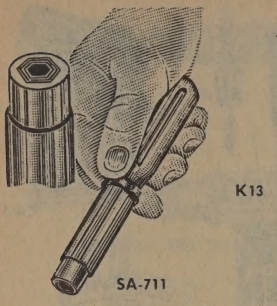

99PS-50

PS44

99SM

99MP

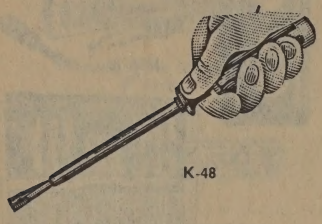

PS120



SELF ADJUSTING NUT TOOL

Type SA-711. Tool does the work of four nut drivers. Place the driver over the nut or screw and automatically select the right hex size ¼"-5/16"-3/8" or 7/16". Feature tempered steel sockets, chrome plated barrel and exclusive break proof shock proof, Comfordome handle. Simply turn the driver until it engages screw without benefit of adjustment. Just press and turn.
35F1274. NET **3.32**
Type 70711. Same as SA-711 but with Ratchet Handle.

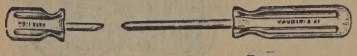
Stk. No.	1-5	6-Up
35F1492	5.95	4.76



PHILLIPS SCREW LAUNCHER

Ideal for holding, starting or retrieving any cross slot screw. One tip fits all sizes of screws. Choice of lengths.

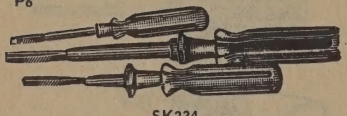
Stock No.	Type	Length	1-5	6-Up
35F1258	K13	3"	1.98	1.58
35F1259	K15	5"	2.30	1.84
35F1260	K16	7"	2.41	1.93
35F1261	K19	9"	2.51	2.01

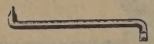


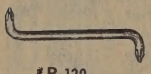
SURE GRIP SCREW LAUNCHER

Superb gripping power and non-slip driving action makes for ideal use in assembly work, production work, repair and maintenance, and home workshop. 3 blade diameters to fill every need.

Stk. No.	Type	Size	1-5	6-Up
35F1250	K23	1/8x3"	1.45	1.16
35F1251	K28	1/8x8"	1.75	1.40
35F1252	K34	3/16x4"	2.10	1.68
35F1253	K36	3/16x6"	2.15	1.72
35F1254	K38	3/16x8"	2.20	1.76
35F1255	K44	1/4x4"	2.20	1.76
35F1256	K46	1/4x6"	2.30	1.84
35F1257	K48	1/2x8"	2.35	1.88

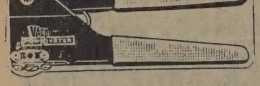






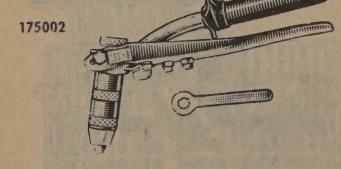
REVERSIBLE SCREW DRIVERS

The reversible screwdriver will please any serviceman, technician, hobbyist, or repairman. Square blade on one end and phillips bit on the other. Special clutch secures blade in break-proof handle. Saves space, time and money.
Type DU-2. 3/16" Regular x #1 Phillips. Overall length 6".
35F1271. NET **1.40**
Type DUH-4. 1/4" Regular x #2 Phillips. Overall length 6¾".
35F1272. NET **1.69**
Type DU-1. 1/8" Regular x #1 Phillips. Overall length 5".
35F1273. NET **1.07**



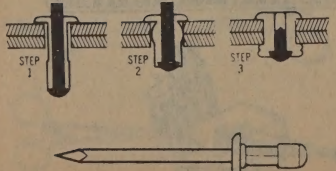
POW'RIVETER

Model 495. Fastens anything up to ½ in. thick from one side. Features a special head that adjusts by the removal of a simple thumb screw. Four way head has nozzle for any size blind rivet, 1/8, 5/32, and 3/16 in.
35F1450. NET **4.95**



POW'RIVETER KIT

Model No. 575100. Contains No. 495 Pow'Riveter Tool plus assortment of 55 Pow'Rivets. Wt. 2 lbs.
35F1451. NET **7.95**



PHILLIPS SCREW DRIVERS STANDARD TYPES

Phillips cross slot screws are now in such wide use that you need these precision steel screwdrivers for all Phillips screws. Shpg. Wt., 4 oz.

Stk. No.	Type	Point	Length	Screw	NET
34F355	P01	0	5¼"	0-1	.72
34F356	P1	1	6½"	2-4	.97
34F357	P2	2	7⅝"	5-10	1.22
34F358	P3	3	10"	12-16	1.66
34F359	P4	4	12½"	18 up	1.97

STUBBY TYPE

34F361	P6	1	3"	2-4	.97
34F360	P5	2	3⅞"	5-10	1.06

POCKET CLIP TYPE

34F362	P12	0	5"	0-1	.72

3-PIECE SCREW LAUNCHER KIT

Type SK-234. Includes 1/8x3", 3/16x4" and ¼x6" with self-closing pouch. For every serviceman, repairman, mechanic and homeowner in almost any kind of job from repairing a radio to just putting a picture on the wall. Drivers come with easy-to-carry red and white self-closing plastic pouch. Weight: 8 oz.
35F1262. Net **4.68**

OFFSET SCREWDRIVERS

Double-ended—one bit parallel to shank, other at right angles. Made of chrome vanadium steel. Av. shpg. wt., 4 oz.

PHILLIPS OFFSET SCREWDRIVERS

Stk. No.	Type	Screws	Length	EACH
34F400	P-120	1 & 2	4¾"	.66
34F401	P-230	2 & 3	5½"	1.08
34F402	P-340	3 & 4	6"	1.26

MILLED BIT OFFSET SCREWDRIVERS

34F403	VO-1	2 to 6	3"	.47
34F404	VO-2	6 to 10	4"	.75
34F405	VO-3	8 to 12	5"	.86

MAGNETIC LEVEL,PROTRACTOR,RULE AND SQUARE COMBINATION TOOL

Type ML-7. Protractor level accurate to 1°. Plastic level vial . . . vial head swivels in either direction for reading any angle to 90°. Scale measures rise or fall in in./ft. 1/16" graduate rule on 3 sides.
35F1268. NET **3.00**

PROFESSIONAL POW'RIVETER

Model No. 175002. Streamlined head reaches into confined quarters or deep openings. Provides choice of stroke adjustments for single long stroke or short power strokes. Comes in heavy duty storage pouch with supply of Pow'Rivets. Size: 1/8" x 5/32" x 3/16". Weight: 1 lb. 10 oz.
35F1452. NET **24.50**

POW'RIVETS

Superior clamp up action eliminates loose parts under adverse conditions. Low profile guaranteed for finished appearance on both sides. Sealed stem for waterproof, dustproof application. 4 sizes do the job of 14 regular rivets, 3-step illustration shows unique "bubble action" which assures positive fastening every time.

"HD" is Head Diameter; "HH" is Head Height

Type No.	Dia. "D"	"L" Length	Grip Range	"HD"	"HH"	Hole Size	Stk. No.	100 Per Pkg.	Stk. No.	1000-Per Pkg. 1-9	1000-Per Pkg. 10-Up
425	1/8	.400	To .250	.215	.044	.136	35F1454	1.75	35F1458	13.70	12.33
528	5/32	.470	To .280	.255	.057	.166	35F1455	2.65	35F1459	21.70	19.53
631	3/16	.530	To .312	.349	.070	.199	35F1456	3.00	35F1460	25.00	22.50
650	3/16	.720	To. 500	.349	.070	.199	35F1457	4.35	35F1461	35.00	31.50

TERMINAL KIT

TYPE 2195. Kit consists of 11 bin plastic box with crimping tool and over 150 terminals in 10 sizes. Crimping tool cuts and strips wire and crimps terminal on wire. Includes Model 1900 crimping tool which cuts bolt sizes: 10-32, 10-24, 8-32, 6-32, and 4-40. Case: 8¾"x6"x1¾". Shpg. wt. 2 lbs.

30F900 NET **9.50**

SNAP RING KITS

TYPE 1550. For use in lab, maintenance dept., or shop. Contains compartmented metal box with hinged cover, and external snap rings (consisting of 109 internal snap rings up to 1" diameter) and 112 external snap rings up to ⅞" diameter. Has two pliers, one for each type ring. Shpg. wt. 8 lbs.

35F1265 NET **13.20**

TYPE 2100. Similar to TYPE 1550 except contains 66 internal snap rings (1 1/16" to 1 5/8" diameter) and 60 external snap rings (1 5/16" to 1 7/16" diameter). Internal and external snap ring pliers included.

29F260 NET **18.00**

DELUXE WIRE STRIPPER

Type WS-150. Spring loaded stripping and cutting tool has adjusting dial for precision stripping of 12 to 2V gauge. Ideal for any use; factory, home or service.

35F1269. NET 1.36

SNAP RING PLIERS

Carbon spring steel pliers with black oxide finish and induction hardened .038 straight tips. Internal type for contracting an internal ring to fit into a bore or housings of diameters, ⅜ to 1 inches. External type expands an external ring over shafts of diameters, ¼ to ⅞ inches. Ground tips fit several sizes of rings. Internal type fits ring numbers 3000-X37 to 3000-X100. External type fits ring numbers 3100-25 to 3100-87.

TYPE 21. Internal type.

35F1263 NET **2.04**

TYPE 22. External type.

35F1264 NET **2.04**

VACO

SOLDERLESS TERMINAL KITS

sturdy metal boxes with hinged covers

•CUSTOM MOLDED INSERTS

•LOCATION AND SPECIFICATION CHART ON COVER

TYPE 4900-63. Kit contains 500 insulated single-grip terminels in 20 different types and sizes, and includes TYPE 1963 crimping tool and bolt slicer for correct application of terminals. Terminals and tool housed in sturdy metal box with hinged cover. Custom molded inserts hold contents in orderly fashion. Box features handy location and specification chart in cover.

35F1266 NET **34.00**

TYPE 5000-63. Similar to TYPE 4900-63 except contains 1000 non-insulated solderless single-grip terminals (50 of each of 20 different types and sizes).

29F261 NET **34.00**

COMPOUND ACTION CRIMPING TOOL

Type T-1710. Features patented starcone crimping configuration for perfect solderless terminations of all terminals 22-10 gauge AWG. Comes equipped with built in ratchet, safety release, and terminal locator.

29F262 NET **40.00**

CRIMPING TOOL WITH BOLT SLICER

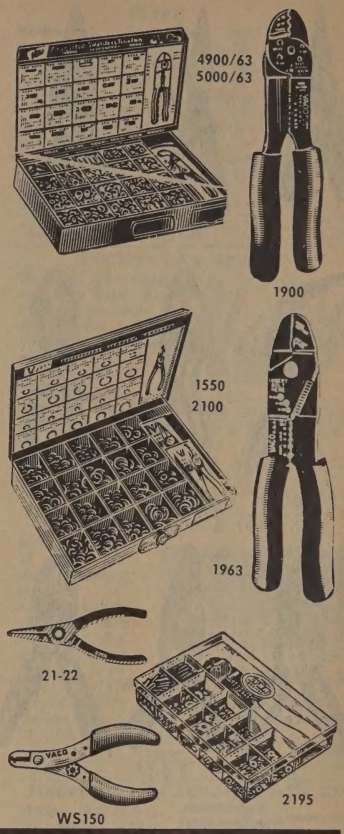
TYPE 1963. Cuts and strips wire 22 to 10 gauge and crimps both insulated and non-insulated style terminals. Wire cutter at tip of tool facilitates cutting in cramped quarters. Bolt slicer accommodates 6 sizes of bolts. Black oxide finish and jumbo cushion grip handles.

35F1267 NET **5.25**

CRIMPING TOOL WITH BOLT CUTTER

TYPE 1900. Cuts wire, strips wire from 22 to 10 gauge, crimps non-insulated solderless terminals, and cuts 5 sizes of bolts (4-40, 6-32, 10-24, and 10-32). Plastic comfort grip handles. Black oxide finish.

29F263 NET **4.50**



HACK SAW

Fingers protected by closed handle. Storage chamber provided for six extra blades inside of tube. Frame is die cast aluminum. Saw provides front end grip for two hand operation. Length of blade is 12 in.

34F180 Type 701-12. Net. 1-5 ..... **4.40**

6-Up 3.67

HACK SAW BLADES-CARBON STEEL

Stk. No.	Type	Length	Teeth	1-99	Vox of 100
34F181	1218C	12in	18T	.19	.13
34F182	1224C	12in	24T	.19	.13
34F183	1232C	12in	32T	.19	.13

HIGH-SPEED STEEL

34F184	1218HS	12in	18T	.78	.52
34F185	1224HS	12in	24T	.78	.52
34F186	1232HS	12in	32T	.78	.52

"CUSTOM" GRIP SCREWDRIVERS

Made of alloy tool steel, chrome plated. Amber plastic handle. *Heavy duty blade. 50% greater torque.

Stk. No.	Type	Des.	Blade	1-5	8-up
34F100	600-4	Sq.Shk.*	4x¼"	1.36	1.21
34F102	600-8	Sq.Shk.*	8x⅜"	2.29	1.91
34F103	602-3	Rd.Shk.*	3x3/16"	1.28	1.07
34F104	602-4	Rd.Shk.*	4x¼"	1.38	1.15
34F105	602-6	Rd.Shk.*	6x5/16"	1.54	1.28
34F106	602-8	Rd.Shk.*	8x⅜"	1.97	1.64
34F107	601-3	Rd.Shk.*	3x3/16"	1.10	.91
34F108	601-6	Rd.Shk.*	6x3/16"	1.10	.92
34F109	601-8	Rd.Shk.*	8x3/16"	1.15	.97
34F111	603-3#1pt.	S.Phillips	3x3/16"	1.10	.91
34F112	603-4#2pt.	S.Phillips	4x¼"	1.28	1.07

TAPE RULE

Tape rule is positive locking and smooth running. Control knob for easy operation. Rule has belt or pocket clip on back of case. Mylar clad, replaceable blade. Black numerals on yellow blade.

Stk. No.	Type	Length	Width	1-5	6-70
34F187	922-10	10ft.	¾in.	3.43	2.76
34F188	922-12	12ft.	¾in.	3.76	3.13

KLEIN TOOLS

ELECTRICIAN'S TOOL

TYPE 1000. Strips six wire sizes 10-22 gauge; crimps terminals; stripping holes provide wire gauge. Wire cutter and stud gauge #4- "stamped on face of tool. Lgth. 7½". Shpg. wt. 8 oz.

30F998 NET 1-5 ..... **5.95**

6-Up 4.96

TYPE 1002. Same as above with terminal locator that insures proper location of crimp Length. 8½". Shpg. wt. 8 oz.

34F244 NET 1-5 ..... **7.05**

6-Up 5.87

TUBULAR STEEL HAMMER

TYPE 806-18. Long neck; 1" dia. striking face. Straight claw pattern head of drop forged steel. Tubular steel, cushion gripped handle. Heat wt. 18 oz. 14" long. Shpg. wt. 2 lbs.

34F045 NET **6.51**

TYPE 802-16. Same as above except with standard head. Head wt. 16 oz. 13¼" long.

34F245 NET **6.29**

ELECTRICIAN'S WAIST BELT

Lightweight electrician belt, made of harness leather with tool loops and tape thong.

34F041 Type 5207M. 32-40" **4.03**

34F042. Type 5207L. 38-46" **4.15**

TYPE 2100-5 5" Scissors designed for electrician and mechanic. Made of high-grade tempered steel to withstand continued hard work. Screw hinge allows adjustment. Nickel plated finish. Wt. 6 oz.

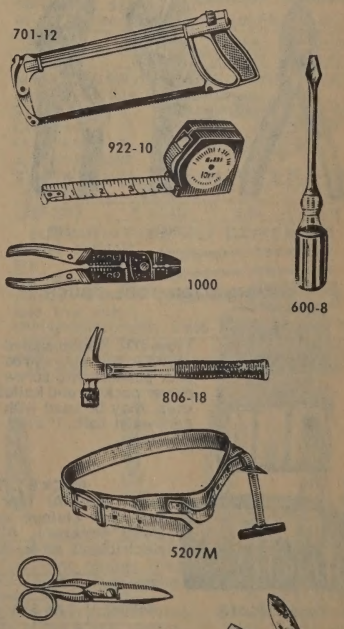
34F023 NET **3.36**

ELECTRICIAN'S KNIFE

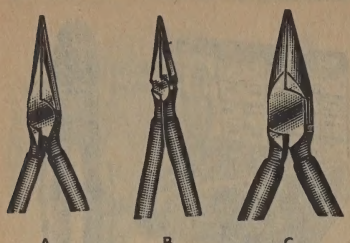
TYPE 1550-2. Two-blade knife and screwdriver made of high-grade cutlery steel, with durable plastic handle. Locking feature on screwdriver. Shpg. wt. 5 oz. Nominal length of blade 2½"; length of screwdriver 3".

34F022 NET 1-5 ..... **2.40**

6-Up **2.00**



M. KLEIN Tools & Accessories



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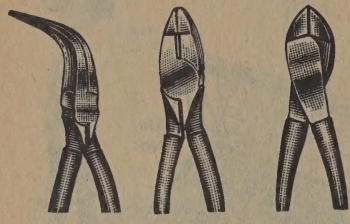

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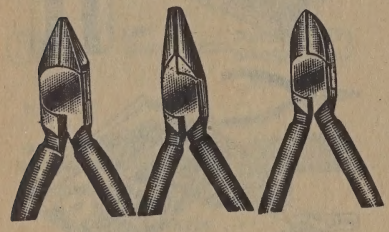

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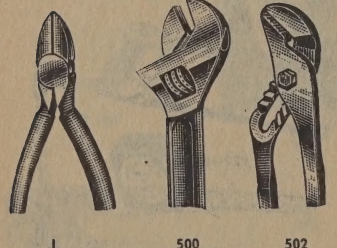


J 500 502

All have dipped plastic handles. All pliers are forged from a high- grade alloy steel. Plier heads are highly polished and handles are tempered blue. Tools are available in types and sizes to fit all applications. Average shpg. wt., 9 oz.

PLIERS AND CUTTERS WITH COIL SPRINGS

Come with plated coil spring to hold the jaws in open position. The sturdy spring is guaranteed for the life of the plier or cutter. Inside and outside are left free of any obstruction due to the spring. Plier heads are polished and handles are tempered blue.

NON-COIL SPRING PLIERS

Stk. No.	Type	Fig.	Handle Color	Description	1-5	6-Up
34F249	D213-8Ne	E	Blue	8½" high leverage pliers	5.82	4.85
34F016	D302-6	D	Yellow	6¼" curved nose plier	4.06	3.39
34F114	D314-8	B	Yellow	8" long nose plier	4.24	3.53
34F225	D326-5	A	Yellow	5 3/16" spring adj. plier. Inside jaws polished	4.72	3.93

COIL SPRING PLIERS

Stk. No.	Type	Fig.	Handle Color	Description	1-5	6-Up
34F008	D301-5C	A	Yellow	5 9/16" long nose plier	3.41	2.84
34F009	D301-6C	A	Yellow	6 5/8" long nose plier	3.49	2.91
34F010	D301-7C	A	Yellow	7⅛" long nose plier	3.73	3.11
34F025	D307-5½C	A	Yellow	5 13/16" slim long nose plier	3.46	2.88
34F032	D301-6PC	A	Yellow	6 5/8" long nose plier. Knife at point	4.80	4.00
34F095	D321-4½C	C	Yellow	4¾" long nose plier	3.12	2.60
34F113	D322-4½C	C	Blue	4¾" long nose plier	3.43	2.77
34F226	D323-4½C	A	Yellow	4¾" flat nose plier. Jaws Polished	3.52	2.73
34F123	D318-5½C	A	Yellow	5 13/32" long needle nose plier	3.76	3.13
34F128	D310-6C	A	Yellow	6 5/8" slim long nose plier	3.73	3.11
34F227	D211-6C	....	Green	6½" flush end cutting trimmer plier	4.96	4.13
34F228	D317-5C	C	Yellow	5¼" chain nose plier	3.47	2.89
34F229	D327-5½C	A	Blue	5 13/32" slim nose plier	3.79	3.16
34F230	D338-5½C	....	Blue	5½" curved needle nose plier. No knurl	4.72	3.93
34F236	D306-5½C	....	Yellow	5 13/16" duck bill plier	3.89	3.24
34F237	D230-4C	G	Red	4 3/16" hi-hardness plier	5.55	4.60
34F239	D221-5½C	A	Yellow	5 13/16" long needle nose side cutting plier	4.10	3.41

COIL SPRING CUTTERS

34F011	D203-5C	....	Yellow	5 9/16" long nose side cutters	3.79	3.16
34F012	D203-6C	....	Yellow	6 5/8" long nose side cutters	3.95	3.29
34F013	D203-7C	....	Yellow	7⅛" long nose side cutters	4.46	3.72
34F018	D202-5C	J	Red	5½" narrow nose oblique cutter	4.00	3.33
34F019	D202-6C	J	Red	6 1/16" narrow nose oblique cutter	4.16	3.47
34F020	D210-6C	J	Red	6 1/16" flush oblique cutter	4.56	3.80
34F021	D210-5C	J	Red	5½" flush oblique center	4.40	3.67
34F027	D052-C	....	Red	5⅛" oblique cutter for printed circuits	4.40	3.67
34F044	D208-6C	....	Red	6 5/8" slim long nose cutting shear	5.01	4.17
34F028	D209-5C	G	Red	5" pointed nose, flush cutting, oblique cutter	4.43	3.69
34F231	D209-4C	G	Red	4 3/16" ptd. nose, flush cutting, oblique cutter	4.03	3.36
34F087	D207-5C	....	Red	5½" oblique cutting shear	4.45	3.80
34F091	D224-4½C	H	Green	4 5/8" semi-flush transverse end cutter	4.03	3.36
34F093	D257-4C	I	Red	4 3/16" semi-flush cutting oblique cutter	3.52	2.93
34F232	D258-4C	....	Red	4" semi-flush cutting short nose cutter	3.84	3.20
34F233	D204-6C	....	Green	6¼" semi-flush cutting end cutter	4.48	3.73
34F234	D219-5C	G	Red	4 3/16" flush oblique cutter	6.88	5.73
34F126	D229-5C	....	Red	5" flush cutng., wire gripping oblique cutter	6.88	5.73

NON-COIL SPRING CUTTERS

Stk. No.	Type	Fig.	Handle Color	Description	1-5	6-Up
34F001	D201-8NE	E	Blue	8½" streamlined cutter	4.96	4.13
34F117	D228-8	F	Red	8" hi-lever oblique cutter	4.16	3.47

TYPE 502 — PUMP PLIERS

Jaws are positioned and locked into place for desired size opening by engaging a tongue in proper groove. With yellow plastic handles. Av. shpg. wt. 2 lbs.

Stk. No.	Type	Length	Max. Cap.	1-5	6-Up
34F235	D502-6	6 in.	1 in.	2.69	2.24
34F097	D502-10	10 in.	1½ in.	3.58	2.99
34F098	D502-12	12 in.	2⅛ in.	4.21	3.51
34F099	D502-16	16 in.	4¼ in.	5.90	4.92

ADJUSTABLE WRENCHES

Type 500. Adjustable wrenches. Drop forged, chrome plated with yellow plastic handles.

Stk. No.	Type	Description	1-5	6-Up
34F129	D500-4	½" capacity x 4"	3.41	2.84
34F037	D500-6	¾" capacity x 6"	3.44	2.87
34F038	D500-8	1 5/16" capacity x 8"	3.95	3.29
34F039	D500-10	1⅛" capacity x 10"	5.06	4.21
34F040	D500-12	1 15/16" capacity x 12"	7.36	6.13

COMBINATION TOOL POUCH

Type 5127 Has gusseted utility pocket, three plier pockets, two screw driver pockets and knife snap. May be used with 5207 waist belt. 7"x10". Wt. 12 oz.

POCKET TOOL ROLL

Type 1305-33A.

Type 1305-33A. 1 pr. side cutting pliers, nose and oblique cutting pliers, electrician's tweezers. Also file, screwdriver, electrician's knife. Size rolled: 8x2½". Wt.

Stk. No.	Type	1-5	6-Up
34F047	1305-33A	23.20	19.33

4 PIECE PLIER KIT

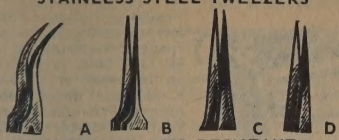
Type No. 1305-4. All-purpose kit containing 4 top quality drop forged high grade alloy tool steel pliers. Each individually fitted, tempered, adjusted and tested for maximum performance. Kit includes: 1 No. D-257-4 Oblique Cutting Pliers, 1 No. D224-4½ End Cutting Pliers, 1 No. D321-4½ Long Nose Pliers, 1 No. D-323-4½ Duck Bill Pliers. Top grade leatherette case. Shpg. wt. ¾ lb.

Stk. No.	Type	1-5	6-Up
34F127	1305-4	14.16	11.80

NEWARK—For All Your Electronic Needs

Special Purpose Hunter Tools

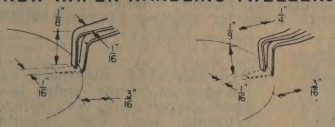
STAINLESS STEEL TWEEZERS



HEAT AND ACID-RESISTANT, NON-MAGNETIC

Stk.No.	Type	Points	Fig.	1-4	5-Up
34F416	B-3CS	Fine	D	4.76	4.20
34F417	B-2SA	Medium	C	5.25	4.64
34F418	B-3SA	Fine	D	5.25	4.64
34F419	B-3CSA	Fine	D	5.25	4.64
34F420	B-5S	Ex-Fine	B	5.66	5.00
34F421	B-7S	Fine	A	6.22	5.49
34F422	B-7BS	Serrated	A	6.22	5.49
34F735	CC-13C	Medium	C	2.52	2.22

•NEW WAFER HANDLING TWEEZERS

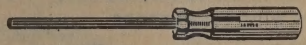


B-62ASA B-72ASA

Will handle 2" dia. by .010 and larger. Prevents tweezers from going beyond 1/16 from wafer edge, prevents breakage of IC. Positive holding action.

Stk. No.	Type	Net
35F3470	B62ASA	7.86
35F3471	B72ASA	7.86

HEX DRIVERS



Screwdriver type wrenches for speedy drive socket screws. Tenite handles.

Stk. No.	Type	Size	Lt.	1-4	5-Up
34F431	5	.05"	4 5/8"	.68	.60
34F432	5A	1/16"	5 1/8"	.71	.63
34F433	5B	5/64"	6"	.75	.66
34F434	5C	3/32"	6 3/8"	.78	.69
34F733	5C1	7/64"	6 3/4"	.82	.72
34F435	5D	1/8"	6 3/4"	.82	.72
34F734	5D1	9/64"	7"	.82	.72
34F436	5E	5/32"	7 5/8"	.82	.72
34F437	5F	3/16	8"	.90	.80
34F438	5G	7/32"	8 3/8"	1.00	.89
34F439	5H	1/4"	9"	1.21	1.07
34F445	5I	5/16"	10"	1.43	1.26

SCREW HOLDING SCREWDRIVERS

Shock-proof plastic handle. Chrome-finished blade. Shpg. wt. 3 oz.

Stk. No.	Type	Screw #	Lt.	1-4	5-Up
34F760	10E-3	00 to 2	2 1/2"	2.28	2.01
34F458	10E-4	00 to 2	4"	2.70	2.39
45F459	10E-7	00 to 2	7"	2.77	2.45
34F761	10M-5	3 to 6	5 1/4"	2.64	2.33
34F460	10M-8	3 to 6	8 1/4"	2.90	2.57
34F461	10M-12	3 to 6	11 1/4"	3.18	2.81
34F430	10C	7 to 10	7 1/2"	2.82	2.49

SOLDERING AIDS

Stainless steel blades won't hold solder. Length, 7"; except*,6". Shpg. wt., 10 oz.

Stk. No.	Type	Blades	1-4	5-Up
34F724	51	Fork & Hook	1.02	.90
34F725	51A	Fork & Brush	1.02	.90
34F726	51B	Knife & Brush	1.02	.90
34F727	51C	Fork & Reamer	1.02	.90
34F728	51C1*	Fork & Hook	1.02	.90
34F729	51C2*	Fork & Reamer	1.02	.90

HEAT SINKS

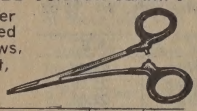
Model 51E. Built for heavy or open work. Has Copper jaws. Overall Lt. 2".

Model 51G. Extremely small—light weight. 1 1/4" long.
Model 51F. 2" long.

Stk. No.	Type	1-4	5-Up
34F491	51E	.87	.77
34F492	51G	.60	.53
34F493	51F	.78	.69

STAINLESS STEEL SCISSOR-CLAMPS

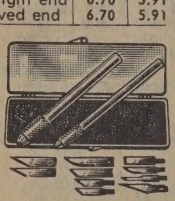
Design for solder clamping. Tempered blades, serrated jaws, precision box joint, 5" long. Wt. 8 oz.



Stk. No.	Type	Blade	1-4	5-Up
34F746	F35	Straight end	6.70	5.91
34F747	F36	Curved end	6.70	5.91

KNIFE SET

Type E65B. Two handles and 10 assorted blades for light to heavy work. Comes in plastic box. Shpg. wt., 3 lbs.



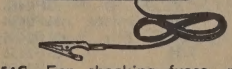
Stk. No.	1-4	5-Up
34F723	2.63	2.32

CIRCUIT TRACER SET

Model 54. Contains complete probe set, low voltage lamp neon light plus resistor for high voltages work. Shpg. wt. 2 lbs.

Stk. No.	Type	1-4	5-Up
34F748	54	6.29	5.55

SELF POWERED CONTINUITY TESTER



Model 54C. For checking fuses, relays etc. Pen light batteries included. Alligator clip on lead wire, point on probe for tight spots. Shipping weight 1/2 lb.

Stk. No.	Type	1-4	5-Up
34F721	54C	2.18	1.92

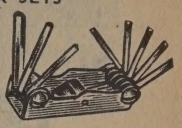
PLIKE

Model 55. 4 in 1 Tool. Has serrated needle nose jaw for use as pliers, crimper for solderless terminals, 3/8" sharpened edge for cutting variety of wire sizes, six convenient holes for stripping AWG solid wire in gauges 12 through 22 and stranded wire 14 through 24. 1/4" cushion grip.

Stk. No.	Type	1-4	5-Up
34F479	55	2.98	2.63

POCKET HEX SETS

Easy to use hard to lose hex sets. Blades cold drawn from 8650 alloy steel. **1P5** 4" handle, 2" blades. **1P6** 3" handle, 2" blades. **1P8** 4" handle, 3" blades.



Stk. No.	Type	Hex sizes (in.)	1-4	5-Up
34F541	IP5	3/32, 1/8, 5/32 3/16, 7/32	1.42	1.26
34F540	IP6	.050, 1/16, 5/64 3/32, 1/8, 5/32	1.39	1.23
34F763	IP8	3/32, 7/64, 1/8 9/64, 5/32	2.06	1.82

•NEW MINIATURE TOOL KIT

Model K24MB. 32 piece kit. Red plastic handle, 4" univ. extension. E20 knife, 5 end wrench blades sizes 5/64 5/32, 6 screwdriver blades Sizes .055 to .100. 5 spline blades 5/64 to 5/32 5 hex key blades .028 to 5/64, Phillips #0, #1 and awl.

Stk. No.	Type	1-4	5-Up
35F3450	K24MB	20.36	17.97

SUBMINIATURE SCREWDRIVER KIT

Model XK 24B13. Six piece screwdriver set. Red handle. 5 screwdriver blades sizes-.055,.070,.100.Phillips#0,#1.

Stk. No.	Type	1-4	5-Up
35F3451	XK24B13	3.19	2.82

•NEW SUBMINIATURE WRENCH SET

Model X-K24U Six pieces. Consists of red handle & 5 interchangeable blades. 5/64, 3/32, 7/64, 1/8, 5/32 inches.

Stk. No.	Type	1-4	5-Up
35F3452	X-K24U	3.89	3.44

SUBMINIATURE NUT DRIVER KIT

Model X-K24V. Six pieces. Consists of red plastic handle and five interchangeable blades. Sizes- 5/64, 3/32, 7/64, 1/8, 5/32.

Stk. No.	Type	1-4	5-Up
35F3453	X-K24V	4.42	3.90

SPECIAL MINIATURE CUTTERS & PLIERS

Stk.No.	Type	Fig.	Description	Lt.	1-4	5-Up
34F462	A90E	A	Full Flush cutter 40° angle	4 3/8"	13.50	11.91
34F463	A90EL	A	As Above + leaf spring	4 3/8"	13.75	12.14
35F3454	A115E	B	Relieved Head Tin Cutter	4 7/16"	15.40	13.59
35F3455	A115EL	B	As above + leaf spring	4 7/16"	15.66	13.82
35F3456	A116E	C	Offset Relieved Jaw Tip Cutter	4 5/16"	17.53	15.47
34F3457	A116EL	C	As above + leaf spring	4 5/16"	17.78	15.69
35F3458	A119E	D	Chain Nose Tip Cutter	4 1/2	17.53	15.47
35F3459	A119EL	D	As above+ leaf spring	4 1/2"	17.78	15.69
35F3460	A120E	E	Mini Shear Cutter	4 1/2"	21.79	19.23
35F3461	A120EL	E	As above+ leaf spring	4 1/4"	22.05	19.45
35F3462	A95E	F	Fine Taper Jaw Dyke	4"	6.70	5.91
35F3465	A95EL	F	Same as A95E + leaf spring	4"	6.95	6.14
35F3463	A74E	G	Tipcutting Midget Diagonal	4"	11.39	10.05
35F3464	A74EL	G	As above+ leaf spring	4"	11.65	10.28
35F3565	A104	H	Mini Flat Round	4 3/8"	11.14	9.83
34F755	A14-4 1/2	I	Extra long Needle Nose	4 1/2"	5.27	4.65
34F756	A14L-4 1/2	I	As above+ leaf spring.	4 1/2"	5.53	4.88
35F3466	A77E	J	Taper Dig. Full Flush Cut	4"	7.84	6.92
35F3467	A77EL	J	As above+ leaf spring	4"	8.11	7.14
34F754	A11D	K	Long Chain Nose Ser. Tip	4 3/4"	4.46	4.11
35F3468	A5	I	Long Needle Nose Ser. Tip	5 1/4"	5.65	4.98
35F3469	A5L	I	As above + leaf spring	5 1/2"	5.90	5.21

Wire Strippers & Heat Shrink Tools

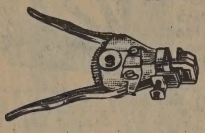
IDEAL

• NEW STRIPMASTER® "600"

Strips both solid and stranded wire up to a full ⅞". Practically eliminates nicking or cutting. Won't crush wire or fray ends. Jaws automatically stay open after stripping for removal of wire before blades snap back to starting position. Self-lubricating internal mechanism with minimum finger pressure for operation. Has narrow easy grip handle. Super-hardened blades are easily disassembled for substitution or replacement. 7" long. Wt. 10 oz.

Stk. No.	Type No.	AWG Gauge	NET
59F1100	45-612	No. 8 to 22 Wire	6.95
59F1101	45-614	No. 16 to 26 Wire	6.95
59F1102	45-615	No. 14 to 22 Wire	6.95

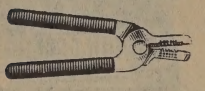
CUSTOM STRIPMASTER®



Unique blade construction and extreme holding power of broad jaws permit fast, accurate stripping. Designed to strip without nicking or scraping wire, without marking insulation to meet the most rigid inspection standards. One-squeeze operation. Just insert wire between blades to desired strip length, squeeze handle and release. Includes short stop latch and adjust. wire stop. Wt. 14 oz.

Stk. No.	Mfg. No.	AWG Gauge	NET
58F550	45-186	No. 10 to 14 Wire	22.80
58F551	45-187	No. 16 to 26 Wire	22.80
58F552	45-188	No. 26 to 30 Wire	22.80

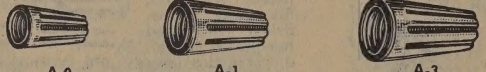
T-TYPE WIRE STRIPPERS



For clean stripping of wires used in electronic instruments and appliances. Sturdy, compact, constructed of hardened steel for rugged duty and long service. Comfortable plastic grips for sure handling and safety. Wt. 3 lbs.

Stk. No.	Mfg. No.	AWG Gauge	NET
58F586	45-120	No. 10 to 18 Solid	2.35
58F587	45-121	No. 16 to 26 Stranded	2.35
59F1103	45-125	No. 22 to 30 Solid	2.75

ALL-PLASTIC WIRE CONNECTORS

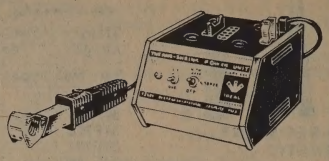


A-0 A-1 A-3

A low cost screw-on connector for OEM production. Long skirt of high dielectric plastic is knurled for easy application by hand or power driver. Designed for appliance and fixture manufacturers. U.L. and C.S.A. listed for 300V max.; temp. rating 105°C. max. (On connections with wires smaller than No. 18, U.L. and C.S.A. requires submission of finished product for listing.) Average shipping wt. 1¾ lbs. per 1000.

Stk. No.	Model	Mfg. No.	Min. & Max. Wire Combin.	NET PER 1000
35F2458	A-0	30-140	2#24, 2#18	4.35
35F2459	A-1	30-141	2#18, 1#16 &2#18	4.35
59F1104	A-3	30-143	2#18, 3#16	5.20

• NEW THERMO-SHRINK™ HEAT TOOL



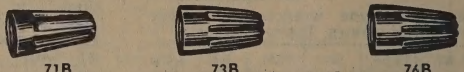
Provides radiant heat for shrinking a wide range of materials up to ⅝" O.D. Selector switch on the power unit gives a choice of three heat ranges. Provides a constant trickle-current to keep the element preheated. When the thumb switch is pressed, instant radiant heat goes to work. U-shaped heating element. Plug-in type heating element can be replaced in seconds. Is designed for comfortable, day-long use - no blown air, noise or vibration. Tool weighs only 7 oz., and is attached to the power unit with a 46" cord. Low current consumption - 1.5 amps - makes it extremely economical to operate. Wt. 12 lbs. 7 oz.

Stk. No.	Mfg. No.	Description	NET
59F1105	46-001	Thermo-Shrink Unit, 120V, 60Hz.	59.95
59F1106	46-901	Replacement Heating Element	9.95
59F1108	46-911	Bench Stand for Heating Element	4.95

STRIPMASTER Automatic single-squeeze feature, holds jaws open for removing wire without crushing end. For stripping lighter gauge wires, 6 holes except 14-22, 4. Wt., 14 oz.

No.	Mfg. No.	AWG Gauge	NET
58F553	45-093	No. 14 to 22 Wire	6.95
58F554	45-097	No. 16 to 26 Wire	6.95
58F555	45-098	No. 20 to 30 Wire	6.95

WIRE-NUT® WIRE CONNECTORS



71B 73B 76B

Screw-on connector for fast, economical production line use. Tapered spring insert. Threads and twists wires into a secure, low-resistance splice that won't pull apart or vibrate loose. 71B, and 72B models are listed as 300V Fixture-Type splicing connectors. 73B is listed as 600V. Larger models 74B and 76B are listed as 600V Pressure-Type connectors for Cu/Cu, A1/A1 and Cu/A1 wire connections. Temp. rating: 71B and 72B 150° C.; 73B, 74B and 76B, 105°C.

Stk. No.	Model	Mfg. No.	Min. & Max. Wire Combin.	NET per 100	NET per 1000
35F2450	71B	30-071	.....	1.05	.....
35F2451	71B	30-171	2#18, 2#16	.....	7.40
59F1111	72B	30-072	2#18, 3#16	1.25	.....
59F1112	72B	30-172	2#18, 3#16	.....	9.95
35F2452	73B	30-073	2#18, 3#16	1.55	.....
35F2453	73B	30-173	1#18	.....	12.60
35F2454	74B	30-074	1#14 & 1#18,	1.90	.....
35F2455	74B	30-174	2#14 & 3#16	.....	15.00
35F2456	76B	30-076	1#12 & 2#18,	3.20	.....
35F2457	76B	30-176	2#10 & 1#12	.....	26.15

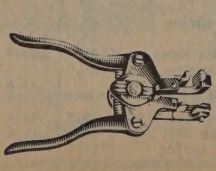
GC ELECTRONICS

733 STANDARD WIRE STRIPPER

Popular inexpensive model that will work on 90% of all stripping jobs. Will strip wires #12 to 20. Interchangeable blades are hardened and precision ground to razor sharp edges. Handles are smooth and narrow grip for ease of handling. Wt. 14 oz.

34F604 NET **4.77**

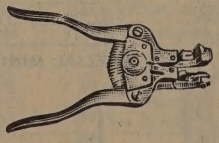
744 AUTOMATIC WIRE STRIPPER



Equipped with "Trig-O-Matic" stay-open feature. Especially suited for stripping fine and stranded wires. Will strip wires #10 to 22. "Off" and "On" mechanism enables it to be used as automatic or standard model. Wt. 14 oz.

34F601 NET **7.05**

766 SPEED-O-MATIC WIRE STRIPPER



Features Fully Auttmatic Delayed Return Action to prevent crushing fine wires. Strips any size wire #10 to 20. Has narrow easy grip handles and interchangeable blades. Wt. 14 oz.

34F608 NET **5.93**

• NEW WIRE STRIPPER KITS

Wire strippers and seven different size blades in metal box. Strips any size wire #8 to 30 with this kit. Wt. 1 lb. 14 oz.

Stk. No.	Type	Description	NET
35F3376	733-K	Standard Stripper kit	10.83
34F606	744-K	Automatic Stripper Kit	13.16
35F3377	766-K	Speed-O-Matic Stripper Kit	13.16

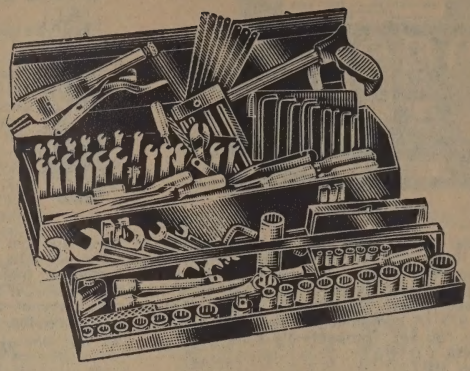
Wrench Sets, Tools, and Vises

HUSKY

110 PIECE WRENCH AND TOOL SET

Model 118. Includes tool chest with removable tray, with room for other tools. Includes:

- Spark Plug Socket. 1/2" drive, 13/16" opening.
- 12 Pt. Sockets. 1/2" drive, 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1".
- 12 Pt. Sockets. 3/8" drive, 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4". 1/2" reversible ratchet.
- 9 piece 1/4" Drive Socket Set. 1/4", 5/16", 11/32", 3/8", 7/16", 1/2".
- 5 Piece Open End Wrench Set. 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", 19/32", 11/16", 5/8", 3/4" plus clip.
- Complete 24 Piece Ignition Kit. 1/8" to 1/2", plus file, screw driver, plier, feeler gauge, spark plug gapping tool and carrying case.
- Lever Jaw Plier Wrench Extensions, two 1/2" drive, 5" & 10".
- Adapter from 1/2 to 3/8 drive
- Combination Offset Screw Driver
- Hex Key Wrench Set
- 10 Piece Screw Driver Set
- Spinner Handle and Carrying Box
- Chisel & Punch Set, 3 punches — 1 chisel adapter. 1/2" to 3/8" drive.
- 5 Piece Knife Set
- Carrying case for 1/4" sockets
- Internal Knurl Socket
- 14 Piece Hack Saw Kit chrome plated frame, pistol grip handle. 13 blades.



80W264 NET **39.95**

1/4" DRIVE SET

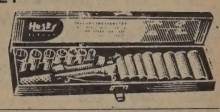
Model 9023. The 1/4" Drive Set is designed for utility strength and durability. Mirror chrome finish in this 23 pc. set assures long rust-free life. Ideal for electronic jobs and ignition systems.

Includes:

- 6 Pt. Sockets: 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 1/16", 1/2"
- 6 Pt. Extra Deep Sockets: 1/4", 9/32", 5/16", 11/32", 3/8", 7/16"
- 8 Pt. Sockets: 1/4", 5/16", 3/8"
- 6" Socket Extension
- 2" Socket Extension
- Reversible Ratchet
- Amber Handle Spinner
- Metal Box (10x3x1 1/2")

34F248. NET **17.50**

3/8" DRIVE SET



Model 9120. Famous Husky smooth action reversible ratchets are the heart of these tool sets. Each 20 piece 3/8" drive set is packaged in sturdy, heavy gauge, steel boxes.

Includes:

- 6 Pt. Sockets: 3/8", 7/16", 1/2", 9/16"
- 12 Pt. Sockets: 5/8", 11/16", 3/4"
- 6 Pt. Extra Deep Sockets: 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16"
- 3" Socket Extension
- Reversible Ratchet
- 10" Flex Handle
- Universal Joint
- Metal Box (14 3/4x3 1/4x1 1/2")

34F247. NET **20.80**

FLAT WRENCH SETS

2955

2975P

2945

Model 2975P. 5 piece **Combination Box-Open-End Wrench Set** in metal clip. Heads are polished. Sizes: 7/16, 1/2", 9/16", 5/8", 3/4".

35F2604. 1-5 ..... **4.75** **6-Up** **4.30**

Model 2955. 5 piece **Open End Flat Wrench Set** in metal clip. Heads are unpolished. Sizes: 5/16" x 11/32", 3/8" x 7/16", 1/2" x 9/16", 19/32" x 11/16", 5/8" x 3/4".

35F2603 1-5 ..... **2.35** **6-Up** **2.10**

Model 2945. 5 piece **Box End Flat Wrench Set** in metal clip. Heads unpolished. Size: 3"x7/16", 1/2"x9/16", 5/8"x11/16", 3/4"x13/16", 13/16"x7/8".

35F2605. 1-5 ..... **4.50** **6-Up** **4.05**

K. MILLER TOOLS

INDUSTRIAL TYPE WIRE STRIPPER & CUTTER

Model 102. Has needle nose with eccentric cam. Precise adjustment immovable. Precision-fitted jaws. Long plastic covered handles. Shp. wt. 3 oz.

34F661. NET **1.88**

Lots of 12-up **NET** **1.41**

Model 1035. Same as above plus spring action handles.

34F662. NET **2.20**

12-Up NET **1.65**

WIRE STRIPPERS

Model 101-S. Wire stripper and cutter, featuring spring return 5" long tool has blades hardened and ground to cut with smooth shearing action. Shpg. wt., 3 oz.

34F656. NET **1.76**

Lots of 12-up. **NET** **1.32**

Model 100. same, as above less spring return.

34F655. NET .. **1.32** · **12-up NET** .... **.99**

"DIAL-A-STRIP" CUTTER

Model 106. For speedy, positive adjustment of 8 stop settings, from 22 ga. wire up. Jaws are hand fitted, hand ground. Dials easily. 5" overall. Shpg. wt., 3 oz.

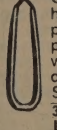
34F663. NET **1.46**

Lots 12-up. NET **1.10**

Model 107S. Same, with spring action handles

34F667. 1-11 Each 1.94 , **12-up. NET** ... **1.46**

HEAT SINK TOOL—HEAVY DUTY



Model 80. Heat Sink Tool. A necessity for transistor circuitry and other electronic work. Copper jaws for greatest heat absorption. Soft plastic handles. Compact, adheres to the work firmly with no damage to fine wiring. Shpg. wt., 1 oz.

34F664 NET **1.40**

Lots of 12 NET **1.05**

HEAVY DUTY MODEL

Type 601-S. Stripper and cutter for use on commonly used stranded wires. 6" long. Cuts wires cleanly, neatly. Self opening spring for ease of operation. Shpg. wt., 4 oz.

34F657. NET **2.76**

12-up NET **2.07**

LIGHTWEIGHT LONG NOSE PLIER

Model No. 85. Can be used by mechanics, assemblers, and hobbyists. Features spring closing heat sink tips. Includes soft plastic handles. 5 3/4 inches long. Lightweight: 2 1/2 lbs., per dozen.

34F668. NET **1.50**

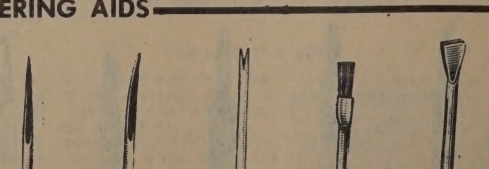
Lots of 12. NET **1.13**

BEAUCHAINE SOLDERING AIDS

Used for probing, scraping hard to reach places of printed circuit type.

Stk. No.	Type	Tip Description	1-99	200-Up
34F596	SH20A	Straight Reamer and Forked Tips	.98	.88
34F597	SH20B	Angled Reamer and Forked Tips	.98	.88
34F613	SH20K	Brush and Scraper	.98	.88
34F598	SH20C*	P.C.T. Straight Reamer and Forked	.85	.77
34F599	SH20D*	P.C.T. Angled and forked	.85	.77
34F612	SH20G*	P.C.T. Brush and Scraper	.92	.83

Type SH-120. All six aids in a plastic case.
34F614. NET **5.35**

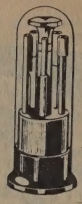


Straight · Angled · Forked · Brush · Scraper

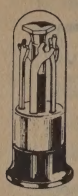
Selected Top-Quality Tools

MOODY SUBMINIATURE TOOLS

MASTER KIT



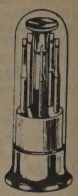
BW-5



OE-5

TS-5

PA-5



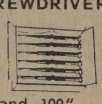
SC-5

MASTER KIT

Model MMk-6. The tiny tools contained in these six tool kits are ideal for miniature sub-assembly work. The six kits are these: SC-5 (with 5 screwdrivers), the PA-5 (which includes cross recessed drivers and Allen type wrenches,) the SW-5 (a socket Wrench Set), the OE-5 (an offset open end wrench set), the #70 (A companion to the TS-5 Tiny Tap Set), and the TS-5 Tiny Tap Set. Compact—8½ x 3½ x 1½".

33F494. 1-11 NET **26.25**
12-up NET 23.45

JEWELER'S SCREWDRIVER SET



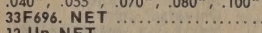
Model JS-6, meets Mil. Spec. GGG-S-121d. One set of six complete screwdrivers with properly heattreated blades. Blades sizes .025", .040", .055", .070", .080" and .100".

33F479. NET **4.12**
Lots of 12, NET 3.68

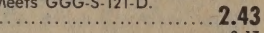
Model 52. Six interchangeable blades for precision work. .025", .040", .055", .070", .080", .100". Meets GGG-S-121-D.

33F696. NET **2.43**
12-Up NET 2.17

POCKET AND MACHINE SCRIBERS



MS-2



#42

Model MS-2. Meets MIL-Spec. GGG-131. Approximately 8½" overall with a hook point and a straight point. Has knurled aluminum finger grip handle.

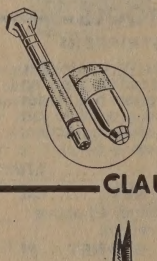
34F559. NET ..... **.82**
12-Up NET ..... .57

Model 42. On one end, powerful magnet for prodding other end stores a scribling point. Pocket clip.

33F697. NET **1.50**
12-Up NET 1.34

SWIVEL TOP PIN VISES

Have knurled steel handles and solid locking chucks. The PV-1 will take drills sizes #80 to #68, (.0135" to .031"). The PV-2 will take drill sizes #67 to #52. (.032" to .0635").



Stk. No.	Type	1-11	12-Up
33F480	PV-1	1.15	1.00
33F481	PV-2	1.15	1.00

SUBMINIATURE TOOL SETS

Socket Wrench Set. 5 interchangeable tiny hex socket wrenches. All fit the same handle. Enables inserting or removing tiny nuts from hard-to-get-at places. Wrench sizes: 5/64", 3/32", 7/64", 1/8" and 5/32".

Type BW-5. With Magnetic handle.
33F473. NET **4.12**
Lots of 12, NET 3.68
Type SW-5. Non-Magnetic handle.
33F472. NET **3.75**
Lots of 12. NET 3.35

Type OE-5. Offset Open End Wrench Set. A tiny offset open end wrenches. Made of tough heat treated steel. Wrenches are completely interchangeable in the chuck-type handle. Ideal for all types of tiny nuts found in electrical and other small devices. Wrench Sizes: 5/64", 3/32", 7/64", 1/8" and 5/32". Shpg. wt. 8 oz.

33F474. NET **2.62**
Lots of 12. NET 2.34

Type TS-5 Utility Tiny Tap Set. The newest addition to the Moody Kit sets. Tough, heat treated steel tap tool set is ideal for cutting tiny inside threads on any number of small items. Top sizes are 0-80, 1-72, 2-56, 3-48, 4-04. The knurled chuck type handle has a torque hole for steady firm leverage. Shpg. wt., 8 oz.

33F478. NET **7.50**
Lots of 12. NET 6.70

Type PA-5. Miniature Phillips and Allen 6 Piece Set. Contains two smallest-size Phillips screwdrivers, plus three tiny Allen-type wrenches. . .all interchangeable in swivel-top universal handle. You get: Phillips #0 and #1, plus Allen Nos, 4, 6 and 8. Shpg. wt., 7 oz.

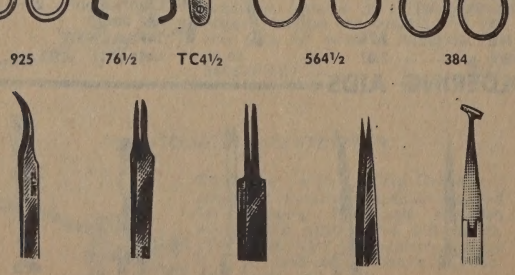
33F476. NET **2.62**
Lots of 12. NET 2.34

Type SC-5. Jewelers' Screwdriver 6 Piece Set. Perfect for dismantling small assembles. Five interchangeable rust-resistant blades fit universal swivel-top handle. Sizes include .055", .070", .080" and .100". Complete with awl with colorful plastic stand and cover 7 oz.

33F475. NET **1.87**
Lots of 12, NET 1.67

CLAUSS TOOLS

925 76½ TC4½ 564½ 384



7SS 55 5 AA AW

SCISSORS AND SNIPS

Scissors have small hardened points for fine cutting. Snips have comfortable handles, high leverage.

Stk. No.	Type	Description	Size	Wt.	NET
34F780	925	Electricians' scissors	5"	3 oz.	2.88
34F781	76½	Filiament snip	6½"	5 oz.	3.38
34F782	TC4½	Thread snip for light cutting	4½"	3 oz.	3.05
34F767	564½	Flush-cutting	4½"	⅔ oz.	4.30
34F771	384	General cutting tool, slender blades	4"	⅔ ox.	3.05
34F772	564D	For limited clearance wire cutting	4"	⅔ oz.	4.40

DOMESTIC TWEEZERS

Non-magnetic, satin-finish stainless steel. Delicate feel and balance. With smooth inside points except (*) serrated.

Stk. No.	Type	Description	Size	Wt.	NET
34F773	7SS	Curved tweezers	4½"	⅓ oz.	2.54
34F774	55	Long, V-shaped	4¼"	⅓ oz.	1.53
34F775	5	Long, slender	4¼"	⅓ oz.	1.70
34F776	231*	Serrated inside points	4¾"	⅔ oz.	2.03
34F777	AA	Tapered points	4⅞"	⅔ oz.	1.70

ANTI-WICKING TOOLS

Stock No.	Type	Gauge	NET
34F783	AW20	20	6.59
34F796	AW22	22	
34F797	AW24	24	

GREENELEE TOOL CO.

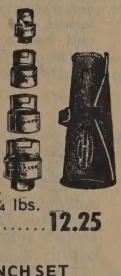
P & B RELAY SOCKET PUNCH

Type 731R. Makes clean, accurate, finished holes for Potter and Brumfield KHP, KU, and KUP miniature relay sockets. Makes holes in up to 16 gauge metal. No sawing and filling methods. All holes are identical. Weight 10 oz.

Type KU Punch. Hole dimensions 1¼" x 1⅜".
34F981 NET **22.60**

Type KHP Punch. Hole Dimensions 1.018 x .861".
33F797 NET **15.00**

½" THRU 1-¼ KNOCKOUT PUNCH SET



Type 735. Enlarges knockouts and punch holes for conduit in metal boxes, cabinets and panels. Punches cut up to 10 gauge metal. Metal is supported by die to prevent distortion. Die is recessed for slug clearance. Comes in leather case. Four punches in set, cut hole diameters of ⅞", 1-$^{3}/_{32}$", 1$^{11}/_{32}$" and 1-1$^{1}/_{16}$" for ½", ¾", 1", and 1-¼" conduit. Wt. 2¾ lbs.
33F750 NET **12.25**

1½" AND 2" KNOCKOUT PUNCH SET

Type 737. Similar to No. 735. Consists of two punches for cutting hole diameters of 1-$^{15}/_{16}$" and 2-⅜" for 1-½" and 2" conduit. Packed in leather case. Weight 3½ lbs.
33F753. NET **13.50**

SQUARE CHASSIS PUNCHES

Type 731. For cutting square and oblong holes in radio chassis. Turns with ordinary wrench. Punch has 4 cutting edges. Drive screw fits into ½" pilot hole. Av. wt., 10 oz.

33F779 For ½" holes. **NET** 7.45
33F780. For ⅝" holes. **NET** 7.45
33F781. For ¾" holes. **NET** 8.10
33F788. For ⅞" holes. **NET** 9.50
33F782. For 1" holes. **NET** 9.80

ALL-BEARING DRIVES

For faster and better hand operation of knockout punches. For use with knockout and chassis punches having a ⅜" or larger drive screw. For knockout punches: No. 737 for 1½" and two inch conduit, No. 730 for 1⅞", 2", 2¼", and 2½" No. 730M for 2$^{35}/_{32}$" openings, and No. 730 Round Radio chassis punches 11/16" and larger.

No.	Type	Overall Size	Wt.	Net.
33F725	AU304-BB	¾"x4"	11 oz.	3.40

For the following punches: No. 735 for ¾", 1" and 1¼" conduit, and No. 730 Radio Chassis. Punches for 1⅝" and 1¾" opening and No. 730S for 1$^{7}/_{32}$" opening.

No.	Type	Overall Size	Wt.	Net.
33F728	AU249-BB	¾"x3¾"	9 oz.	3.25

For Knockout Punch No. 735 for ½" conduit and No. 730 Radio Chassis Punches for 1$^{1}/_{16}$", ¾", 1$^{3}/_{16}$". ⅞" and 1$^{5}/_{16}$" openings.

No.	Type	Overall Size	WT.	Net.
33F731	AU322-BB	⅜"x2½"	2 oz.	1.25

Same type drive as No. AV322-BB above for 1" thru 1½" sizes No. 730 Radio Chassis Punch.

No.	Type	Overall Size	Wt.	Net.
33F734	AU112-BB	⅜"x2$^{13}/_{16}$"	2½oz.	1.35

CHASSIS "KEY" PUNCHES

Type 732 punches for cutting holes for tube sockets and plugs with keys. Operates by wrench power. Keyed prong prevents rotation after mounting. No need for mounting plate. Available in sizes: 1$^{5}/_{32}$", 1$^{5}/_{16}$", 1$^{11}/_{64}$", 1$^{17}/_{64}$", and 1$^{21}/_{64}$". Average shpg. wt., 10 oz.

33F789. For 1$^{5}/_{32}$" holes. **NET** 6.90
33F790. For 1$^{5}/_{16}$" holes. **NET** 7.25
33F791. For 1$^{11}/_{64}$" holes. **NET** 7.80
33F792. For 1$^{17}/_{64}$" holes. **NET** 9.20
33F793. For 1$^{21}/_{64}$" holes. **NET** 10.15

ROUND PUNCHES

Type 730 Makes round openings with maximum ease in minimum time. . . Clean, accurate holes for sockets, meters, etc. Use an ordinary wrench for drive power. Will cut metal, baketite, or hard rubber. Shipping weight, ¾ lbs.

No.	Size	Net	No.	Size	NET
33F760	½"	2.85	33F769	1¼"	3.35
33F754	$^{9}/_{16}$"	2.85	33F755	1$^{5}/_{16}$"	4.15
33F761	⅝"	2.85	33F770	1⅜"	4.15
33F775	1$^{1}/_{16}$"	2.85	33F771	1½"	4.55
33F762	¾"	2.85	33F756	1⅝"	5.50
33F776	1$^{3}/_{16}$"	2.85	33F757	1¾"	6.30
33F763	⅞"	2.85	33F758	1⅞"	7.80
33F736	1$^{5}/_{16}$"	3.20	33F759	2"	8.35
33F764	1"	3.20	34F977	2⅛"	9.00
33F765	1$^{1}/_{16}$"	3.35	33F772	2¼"	9.30
33F766	1⅛"	3.35	34F978	2½"	15.10
33F767	1$^{5}/_{32}$"	3.35	34F979	2¾"	21.00
33F768	1$^{3}/_{16}$"	3.35	34F980	3"	29.00

730M. Meter punch. Hole size; 2$^{25}/_{32}$"

33F777. NET **13.75**
730-S 1$^{7}/_{32}$ punch for oil tight control units.

33F778. NET **5.75**
730-T. 3⅛ punch for instrument panels.

33F794. NET **30.50**
AV-1675. ¼ screw for ½-⅝ punches.

33F773. NET ..... **.30**
AV-322. ⅜ x 1½ screw for 1$^{1}/_{16}$-⅞ punches.

33F787. NET ..... **.30**
AV-112. ⅜ screw for 1 to 1½ punches.

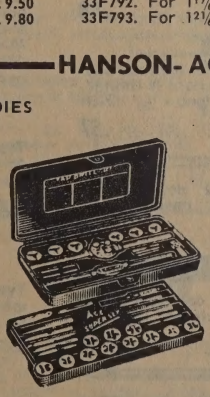
33F774. NET ..... **.35**

FAST RADIO CHASSIS PUNCH DRIVER

Type 1804. Ratchet Punch Driver. Knockout Driver Assembly, and ratchet and leverage handles. 3 adapter screws. Can be used with all standard Greenlee Knockout Punches from ½" to 3" and all No. 730 Round Chassis Punches 1$^{1}/_{16}$" and larger. Without punches. Shpg. wt., 13 lb.
33F799. NET **63.50**

HANSON- ACE QUALITY TOOLS

ADJUSTABLE DIES

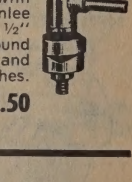


Type 614V. 39 tools, each in its own easy-to-reach compartment. Sturdy, unbreakable plastic case. Contains one each of the following: No. 25 die stock, No. 88 tap and reamer wrench, No. IE T tap wrench, No. 514 screw pitch gauge, screw driver and one each tap and adjustable die in the following sizes: 4x36, 6x32, 8x32, 10x24, 10x32, 12x24 machine screw standard. ¼x20. $^{5}/_{16}$x18, ⅜x16, $^{7}/_{16}$x14, and ½x13NC (U.S. Standard), ¼x28, $^{5}/_{16}$x24, ⅜x24, $^{7}/_{16}$x20, and ½x20NF (SAE Standard)‡, plus ⅛" pipe. Type of die, 1" O.D.
33F651. NET **36.96**

TAPERED REAMER—Type R120

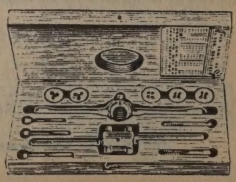
This high quality tapered reamer was primarily designed for enlarging holes in wood, bakelite, or metal up to ½" in diam. Shank has "T" handle. Length, 5¾". Tapered point has diameter of ⅛". Shpg. wt., 3 oz.
34F550. NET **1.98**

SCREW EXTRACTOR SET



Type 35P. Designed to remove broken screws, bolts, studs and pipes that cannot be taken out any other way. Drill hole in broken piece wedge extractor in hole by turning counter-clockwise — screw is removed on its own threads. Comes with 5 extractors—No. 1 for screws $^{3}/_{32}$ to $^{5}/_{32}$". No. 2 for $^{5}/_{32}$ to $^{7}/_{32}$". No. 3 for $^{7}/_{32}$ to $^{9}/_{32}$". No. 4 for $^{9}/_{32}$ to ⅜". No. 5 for ⅜ to $^{5}/_{8}$" dia. screws, and ⅛ and ¼" pipe. Made of extra tough heat treated alloy steel in handy plastic snap fastener pouch. Shpg. weight 1 lb.
33F650. NET **2.75**

TAP AND DIE SETS



Set S21. Ideal for mechanics, technicians, or homeowners. Made of highest quality precision-ground steel, these sets are packed in a sturdy wooden carrying case. Each set contains a die stock, tap wrench, and 1 each plug tap and 1" OD solid die in the size listed. Shpg. weight 3 lbs. Sizes 6x32, 8x32, 12x24, 10x24, ¼x20.
33F653. NET **11.88**

Tuning and Aligning Tools

GC ELECTRONICS

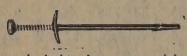
• NEW POCKET HEX KEY WRENCH SET

Type 9124. Six popular size wrenches from 0.50 to 3/16", fitted in steel case. wrenches open like pocket knife blade. Made of finest nickel chrome alloy steel.
35F3370 NET 1.83

• NEW TUBE PIN STRAIGHTENER

Type 8655. For 7 & 9 Pin Duplex Miniture tubes. Designed for mounting to work bench or tube tester. Precision molded plastic with hardened steel inserts.
35F3371 NET 2.00

• NEW PICK UP TOOL

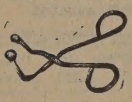


Type 5089. To pick up pieces and parts dropped into inaccessable places, will hold screws, nuts and bolts to start. Flexible. 24 inches long.
35F3372 NET 1.15

• NEW DUO TONGS

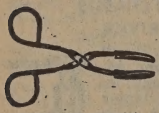
Type 9356. Nylon fuse pullers will accomodate household screw-in type, industrial cartridge fuses up to 3/4" or 100 amp capacity. Non-conductive, inflammable and virtually unbreakable.
35F3373 NET ..... .89

• NEW HOT TUBE PULLERS



Type 5099. Makes hot tube handling fast and easy. Assures you of firm cool grip. Eliminates possibility of dropping. Special plastic coating insulates handles and tips. Right angle for tight and enclosed areas.
35F3374 NET 1.88

TUBE EXTRACTOR



Type 5092. Zinc plated iridated spring steel. Molded neoprene cushion over claws. Removes all sizes of tubes and will not damage socket or shield. 6 oz.
34F752 NET ..... .98

HEX AND SPLINE WRENCH SET

Type 5028. A complete set of twelve box hex and spline wrenches in a convenient leatherette case. Constructed to fit #2 to 3/8" screw. Shipping wt. 6 oz.
34F520 NET 1.59

SERVICE TWEEZERS

7946

7947

7948

Type 7946. Self-closing, with crossover action, 6 1/2" long, serrated, blunt points. Shpg. wt., 2 oz.
34F521. NET ..... .99

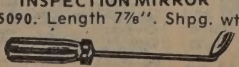
Type 7947. Heavy-duty, with slide-lock feature. Over-all length 6 1/2". Serrated, blunt points.
34F522. NET 1.10

Type 7948. Precision tweezer with narrow pointed ends. 4 1/2" long.
34F523. NET ..... .75

Tweezer Kit. In leatherette case. One each of above tweezers. 8 oz.
34F524. Type 7950. NET 2.84

INSPECTION MIRROR

Type 5090. Length 7 7/8". Shpg. wt., 5 oz.



34F557. NET ..... .42

DELUXE TOOL KIT

Type 8283. Contains 25 tools. Includes alignment screwdriver, TV alignment tool, K-Tran tool, TV channel tuning tool, FM tuning tool, TV core aligner, long reach aligner, TV Duplex aligner. TV alignment screwdriver, and many other needed TV tools. 1 lb.
35F650. NET 15.83

TV ALIGNMENT KITS

8280

8455

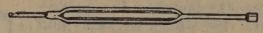
Type 8455. Includes K-Tran tool, TV channel tool, TV Short tool for RF and IF, oscillator tool, long reach aligner, flexible tuning wand, and others.
35F651. NET 6.26

Type 8280. Contains 16 tools needed to align most TV sets. Knurled plastic handles. Leatherette case. Wt., 8 oz.
35F801. NET 10.30

OSCILLOSCOPE KIT

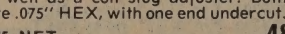
Type 12-035. Fourteen alignment tools in a plastic pouch. Included are a variety of ceramic, piston, slug and piston, and hex wrench alignment tools.
35F682. NET 11.50

INDIVIDUAL ALIGNMENT TOOLS

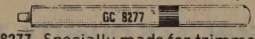


Type 8282. Molded delrin plastic IF alignment tool. Hex: .100, blade width: .109, 57/64" long. Wt. 2 oz.
35F812. NET ..... .37

•NEW DOUBLE END HEX ALIGNMENT TOOL

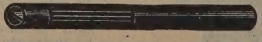


Type 9300. A general purpose alignment tool as well as a coil slug adjuster. Both ends are .075" HEX, with one end undercut.
35F3375. NET ..... .48

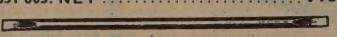


Type 8277. Specially made for trimmer and I.F., transformers where space is limited. Made of plastic. Size: 2 5/8" long x 7/32" Shaft Dia. Wt., 3 oz.
35F818. NET ..... .57

Type 8728. A fibreglass 12" double-bodied aligning tool with a 1/8" narrow shaft. Shipping wt., 3 oz.
35F622. NET ..... .58



Type 8196. For shielded coils and trimmers. Steel nib is insulated. 2 1/2x7/32" diam. Wt., 3 oz.
35F605. NET ..... .46



Type 8728A. Of low loss delrin. Has narrow shaft 7" long, 1/8" dia. Shpg. wt., 4 oz.
35F618. NET ..... .47

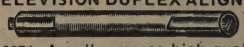
16" EASY REACH ALIGN. TOOL

Type 9294. Has 1/8" fibreglass blade for alignment where magnetic fields are important. Offers protection from high voltage. 3 oz.
35F817. NET .....

TV ZENITH UNIVERSAL ALIGNER

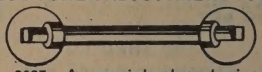
Type 8275. Made of white delrin and plastic handle has thin delrin screwdriver and recessed thin spring steel tip. 3 oz.
35F821. NET ..... .57

TELEVISION DUPLEX ALIGNER



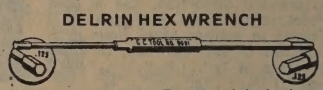
Type 8276. An all purpose high quality TV aligner for trimmers and I.F. transformers. Made of plastic material with extra thin spring steel tips, specially made for Television. One end has a protected tip, the other end has a recesed tip. A necessity in adjusting TV sets. 6x7/32". 3 oz.
35F616. NET ..... .57

SLUG TUNER ADJUSTMENT TOOL



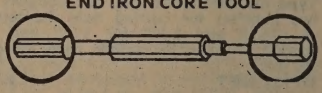
Type 9087. A special slug tuning tool especially made for adjusting standard tuners, etc. as used in TV receivers. Other end has a longer blade for other applications. Completely insulated. 7 1/2" long, 1/4" shaft dia. Shaft ends .170 dia. Wt., 3 oz.
35F813. NET ..... .75

DELRIN HEX WRENCH



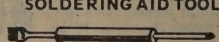
Alignment tool for Zenith, Admiral and other sets. One end under cut so it will reach bottom slugs in iron coils.
35F623. Type 8606.5". NET ..... .48
35F624. Type 8606L. 11". NET ..... .63

END IRON CORE TOOL



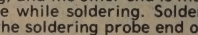
All Delrin hex tool for cores with .125 hex opening. One end under cut to reach bottom slug in coils w/o turning top.
35F625. Type 9091.5". NET ..... .48
35F626. Type 9091L. 11". NET ..... .70

SOLDERING AID TOOL



Type 9088. One end has a stiff wire brush for cleaning wire and terminal strip before soldering, and the other end is machined to hold wire while soldering. Solder will not stick to the soldering probe end of the tool. Made of special stainless steel with hardened probe. 8". Wt., 4 oz.
35F814. NET 1.03

SOLDER AID PROBE

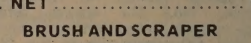


Type 9093. For printed circuits. Handy, fine point probe designed to aid in probing and soldering printed circuits. Size: 8". Wt., 4 oz.
35F653. NET 1.03

BRUSH AND SCRAPER

Type 9094. For printed circuits. Fine stainless steel brush and hardened steel scraper. Size: 8". Shpg. wt. 4 oz.
35F654. NET 1.03

"NE-O-LITE"



Designed for easy use. 5100 for voltages ranging from 60 to 550 volts AC/DC. 5105 & 5110 gauge 5 to 50 volts AC/DC. Neon bulb in insulated holder. 5" insulated leads with phone tips. Wt. 3 oz.
35F680. Type 5100. NET ..... .50
35F496. Type 5105. NET ..... .99
35F497. Type 5110. NET 1.19

VACU-VISE

FIG.A

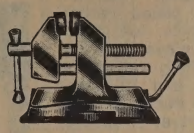


FIG.B

FIG. C

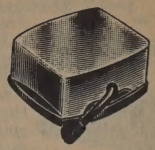


FIG. D

SWIVEL VACU VISE— FIG.A

Model 1850. Used in laboratories, schools, and shops. Ideal for drilling, filing, soldering and assembling. Equipped with slide-on rubber jaws for fragile work. Swivels 360° to any position. Tilts 90° to desired angle 3" metal jaws that open to 2⅝ inches. Easy to attach. No screws! No clamps! Holds firmly in any position to any smooth non-porous surface including metal, glass and formica. To attach apply slight pressure to top of vise and push lever down. To release just lift lever. Hammertone finish, base size 6¼" triangular, height 6¼", weight 5 lbs.

35F1183 NET **15.95**

Model 1810. Vacu Vise. Same as Model 1850 but non-swivel. Comes with rubber jaws RJ1816. Chrome Plated finish.

351296. NET **10.95**

VACU VISE—FIG. B

Model 1800. Vacu Vise. Same as Model 1850 but non-swivel. Comes with rubber jaws RJ1816 Hammertone finish.

35F1295. NET **6.95**

MULTI-PURPOSE VACU BASE

Just flick the Vacu lever and base fastens securely to any smooth working surface by super strong vacuum power! Lift lever—and base is released! No clamps or screws necessary. Small, conveniently portable, always handy. Constructed of die cast Zamak 3 alloy with heavy, long lasting rubber holding pads. Gives complete portability to any fixture, instrument or appliance attached to it! Extra material provided for hole and threaded mounting on top and sides. Wt. 1 lb.

Model 1803 Vacu Base Top. Fig. D. Size 2¾x2¼x1⅜" H.

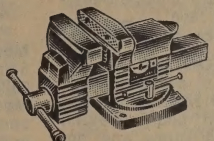
35F1299. NET **3.00**

Model 1805 Large Vacu Base. Fig. C. Same as #1803 listed above but larger top. Size 3⅝x2¾x1 5/16" H.

35F1298. NET **5.00**

MILWAUKEE VISE

GIANT VISES

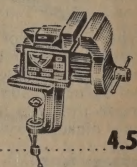


807 and 808. Designed with basic principles necessary for good vises. Are made from high tensil grey iron. Have square bases with holes for bench mounting and have 200° swivel, that can be secured with lock. Heat treated serrated face jaws are attached with clutch head machine screws. Have baked red enamel finish and all screws, handles, and lock nuts are bright plated. Model 4 has jaw width and jaw opening of 4", pipe size of ⅛ to 1½". Wt. 23-lbs. The Model 5 has jaw width and jaw opening of 5", pipe size of ⅛ to 2". Wt. 29 lbs.

33F581 Model 807. NET **22.95**

33F582 Model 808. NET **26.75**

"UTILITY CLAMP VISE"



Model 500. Utility vise clamps on flat surface edges. Jaws open to 2½". Accurately machine screws assures smooth action on round slide bars. Baked red enamel finish and bright plated screws. Shipping weight 4 lbs.

35F2606. NET **4.50**

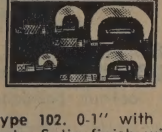
ECONOMY VISE

Model 335. Full sized bench vise with ⅝" screws, removable, replaceable, serrated face jaws. 180° swivel with positive lock, pipe jaws and solid slide bar. Vise is baked red enamel. Jaw width of 3½". Wt., 11 lbs.

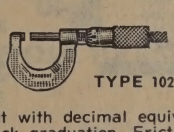
33F579. NET **8.26**

MG TOOL COMPANY

MICROMETERS



SET No. 4



TYPE 102

Type 102. 0-1" with full finish frame cut with decimal equivalents. Satin finish with easy to read black graduation. Friction thimble for more sensitive pressure.

35F1410. NET **5.50**

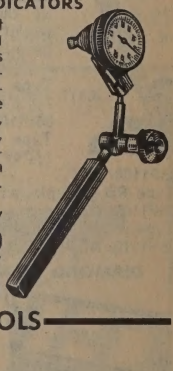
Type 101. As above but has black enameled frame with black graduations against satin finish thimble and barrel.

35F1411. NET **4.50**

Set No. 4. Consists of No. 052, 0-½"; No. 102; No. 202, 1-2"; and No. 302 with 2-3" range. Complete with standards and instructions in compartmented carrying case.

35F1412. NET **27.00**

PRECISION DIAL TEST INDICATORS



Quality American-made universal dial test indicators. Low in cost. Indicates to .001 inch. Special offset construction permits tight measurements. Supplied with complete set of accessories and three interchangeable points. One inch adjustable dial has knurled ring for zero setting, black graduations on white background, and flat glass faceplate to minimize reflections. Readings in clockwise direction only. Comes packed in a fitted case. Accuracy guaranteed.

Type 0100-3. Dial reads from 0 to 0.100 by .001" graduations.

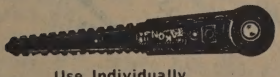
35F1413. NET **15.00**

Type 0503. Reads 0 to 0.50" to 0 by .001" graduations.

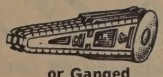
35F1414. NET **15.00**

TAKON

PRECISION HAND STAMP



Use Individually



or Ganged

Compact hand stamp having continuous rubber band containing characters: A-Z, 1-0. ° " % = + (pi) μ (phi) △ Ω - /. ( ) . Ideal for identification, and marking of electronic designations; also for stamping in areas where space is limited. Easy to clean and align. Can be used individually for single character marking, or any number of units may be quickly ganged for multiple character stamping. 5½" high, ⅛" thick, 1" wide, tapering to ⅜" at stamping edge. Intermix alphabet, numerals, and electronic symbols. Metal construction. Use with stamping ink or paste. Shpg. wt. 1½ oz.

60F1675 Model 118. ⅛" Gothic. NET 4.90

60F1676. D-1118 Replacement Band. ⅛" Gothic NET 1.80

60F1677. Model 332. 3/32" Gothic. NET 4.90

60F1678. D-1332 Replacement Band. 3/32" Gothic NET 1.80

GREAT NECK TOOLS

LEVER JAW WRENCH

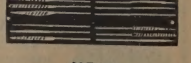
Model E10WC. Heads are hot drop forged from rugged alloy tool steel. Jaws are heat treated and hardened. Teeth are milled. No-slip, adjustable, positive yoke. Curved jaws with wire cutter. Easy action release. Over 2000 lbs. of gripping power. Shpg. wt. 1½ lbs.

35F2600. 1-5 ..... 3.30 6-Up 2.75

Model E10S. Same as above, but with straight jaws and without wire cutter.

35F2601. 1-5 ..... 3.30 6-Up 2.75

NEEDLE FILE SET



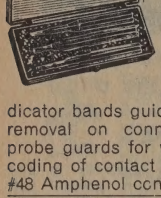
NF-12

Model NF-12. Complete set of Swiss Pattern files. Contains 12 different shapes. One for every metal cutting need. Swedish Steel stock will last longer than other softer steels. Set is packed in double fold clear-faced plastic pouch.

35F2602. 1-5 ..... 5.00 6-Up 4.17

Jonard Industrial Tools

• NEW CONTACT INSERTION AND REMOVAL TOOLS



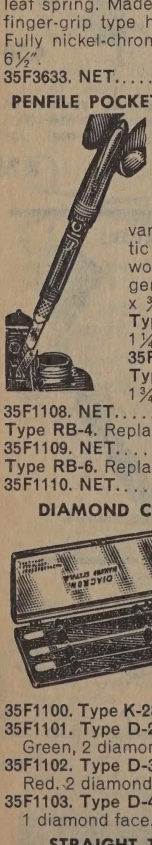
Precision made of highest quality materials for strength and durability. Aluminum handles provide proper gripping. Highly polished and finished tips provide protection for connectors and contact. Visual indicator bands guide contact insertion and removal on connectors, and protective probe guards for when not in use. Color-coding of contact sizes. For use on series #48 Amphenol connectors.

Stk. No.	Type	Description	
35F3625	A-12	Insertion, #12 contacts (green)	14.90
35F3626	A-16	Insertion, #16 contacts (blue)	14.50
35F3627	A-20	Insertion, #20 contacts (red)	14.00
35F3628	R-12	Removal, #12 contacts (green)	19.90
35F3629	R-16	Removal, #16 contacts (blue)	18.90
35F3630	R-20	Removal, #20 contacts (red)	18.50
35F3631	KA-260	Insertion kit (1 each A-12, A-16, A-20)	39.50
35F3632	KR-260	Removal kit (1 each R-12, R-16, R-20)	51.50

• NEW INSERTING AND EXTRACTING TOOL

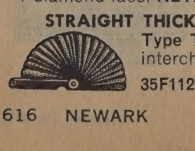
Type EI-419. For printed circuit boards, connector assemblies, flat-pack, IC's and other applications. Precision made, with leaf spring. Made of special alloy, molded finger-grip type handle for easy gripping. Fully nickel-chrome plated. Overall length 6½".
35F3633. NET..... **8.90**

PENFILE POCKET CLEANER-BURNISHER



Non-residual, hardened steel, blades do not leave any grit or dust on contact. Length and rigidity adjustment of flexible blade possible by varying depth in chuck. Plastic dielectric cap permits working on live and dangerous contacts. 5½" length x ⅜" diameter.
Type P-4 Penfile. ¼"W x 1¼"L x .007"T. 12 blades.
35F1107. NET.....3.90
Type P-6 Penfile. 3/16"W x 1¾"W x .007"T. 12 blades.
35F1108. NET.....3.90
Type RB-4. Replacement blades for P-4.
35F1109. NET.....Pkg. of 25 3.75
Type RB-6. Replacement blades for P-6.
35F1110. NET.....Pkg. of 25 3.75

DIAMOND CLEANER BURNISHER



Consists of abrasive diamond particles for cleaning of relay contacts with minimum pressure. Nominal material removal will not alter normal contact gap.
35F1100. **Type K-234.** Kit of 3. NET. **14.85**
35F1101. **Type D-200.** Coarse, Green, 2 diamond faces. NET.....4.95
35F1102. **Type D-300.** Medium, Red. 2 diamond faces. NET.....4.95
35F1103. **Type D-400.** Fine, Blue, 1 diamond face. NET.....4.95

STRAIGHT THICKNESS GAUGE

Type T-720N. Contains 26 interchangeable blades.
35F1125. NET..... **3.90**

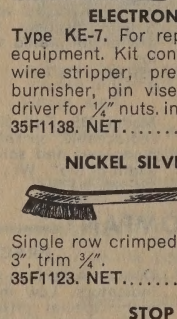
MASTER 15-PIECE SET

Type K-55. Precision chrome plated carbon steel tools for maintaining relays. Contains: two spring adjusters; tension and thickness gauges; duck bill plier; screwdriver tweezers; mirror, four-way tool; brush; armature; stop benders; contact spray and burnisher. Leather zippered case. 3½ lbs.
35F1127. NET..... **37.60**

COMPACT ADJUSTING KIT

Type KR-6. Made for electromechanical equipment. Includes carbon steel spring adjuster, armature bender, arm bender, relay spring, duck bill plier, burnisher and 0-50 gram tension gauge. Zippered leather case. 2 lbs.
35F1128. NET..... **22.00**

MASTER 20-PIECE SET

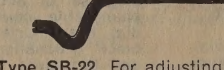


Type K-600. Includes pliers, drivers, tweezers, burnisher, soldering iron and aids, files, magnifier, etc; all tools for service of electronic equipment. Zippered leather case.
35F1137... **32.90**

ELECTRONIC TOOL KIT

Type KE-7. For repair of electronic type equipment. Kit contains chain nose plier, wire stripper, precision oiler, tweezer, burnisher, pin vise, and screw and nut driver for ¼" nuts. in Vinyl pouch.
35F1138. NET..... **12.90**

NICKEL SILVER WIRE BRUSH

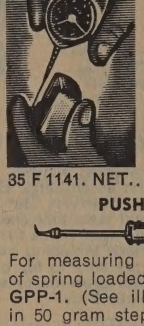


Type WB-65. Cleans delicate components. Single row crimped wire, thick brush face 3", trim ¾".
35F1123. NET..... **2.40**

STOP BENDER

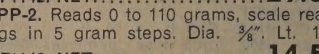
Type SB-22. For adjusting armature back stops. Carbon steel, nickel chrome-plated. Slot .033"W, 5" length.
35F1122. NET..... **1.98**

TENSION DYNAMOMETER DIAL GAUGES



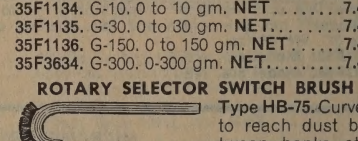
Determines force to actuate sensitive mechanisms.
GD-5. Dial face 1½". Scale, 0-50 grams.
35F1139. NET.....13.55
GD-15. Same as above but scale 15-150 grams.
35F1140. NET.....13.55
GD-100. 2½" dial face. Scale 100 to 1000 grams.
35 F 1141. NET..... **31.25**

PUSH-PULL GAUGES



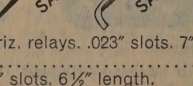
For measuring tension and compression of spring loaded equipment.
GPP-1. (See illustration) Scale readings in 50 gram steps, from 0 to 1000 grams. Diameter, ⅝". Length, 9¼".
35F1142. NET..... **29.80**
GPP-2. Reads 0 to 110 grams, scale readings in 5 gram steps. Dia. ⅜". Lt. 11".
35F1143. NET..... **14.50**

SPRING TENSION GAUGES



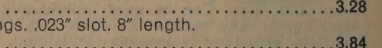
Model GP-50. Cal. 0-50 gm., both sides at 5 gm. intervals. 5¼" length.
35F1112. NET..... **7.98**
Model G-50. Engraved scale front and back for horiz. and vert. reading. Scale is 0-50 gm., at 5 gm. intervals. 5" length.
35F1111. NET.....7.48
35F1134. G-10. 0 to 10 gm. NET.....7.48
35F1135. G-30. 0 to 30 gm. NET.....7.48
35F1136. G-150. 0 to 150 gm. NET.....7.48
35F3634. G-300. 0-300 gm. NET.....7.48

ROTARY SELECTOR SWITCH BRUSH



Type HB-75. Curved to reach dust between banks etc.
35F3635. NET..... **2.70**

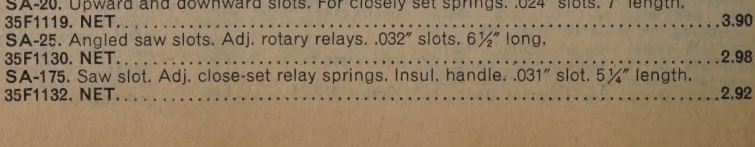
ADJUSTMENT OFFSET WRENCHES



For adjusting relay locknut positioned horiz. or vert.

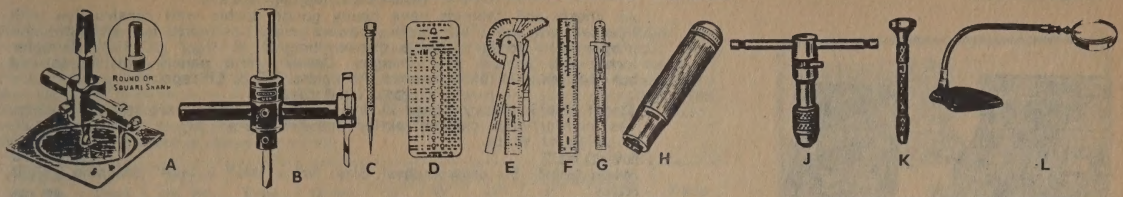
Stk. No.	Type	Length	Opening	NET
35F1104	DW-16	8"	3/16"	3.48
35F1105	DW-32	8"	7/32"	3.48
35F1106	DW-4	8"	¼"	3.48

PRECISION SPRING ADJUSTERS—CRHOME PLATED, CARBON STEEL



SA-2. Chisel edge. Curved both ends. Adj. horiz. relays. .023" slots. 7" length.
35F1114. NET.....2.98
SA-6A. For vertical and horizontal relays. .029" slots. 6½" length.
35F1115. NET.....2.95
SA-16. Double ended lengthwise slots. .031" slots. 8" length.
35F1117. NET.....3.28
SA-17. Offset flat type. For relay contact springs. .023" slot. 8" length.
35F1118. NET.....3.84
SA-20. Upward and downward slots. For closely set springs. .024" slots. 7" length.
35F1119. NET.....3.90
SA-25. Angled saw slots. Adj. rotary relays. .032" slots. 6½" long.
35F1130. NET.....2.98
SA-175. Saw slot. Adj. close-set relay springs. Insul. handle. .031" slot. 5¼" length.
35F1132. NET.....2.92

GENERAL HARDWARE TOOLS



QUALITY CIRCLE CUTTERS

Fig. A. Cut round holes in metal, wood bakelite, etc. Used with drill press, hand drill or brace. Fully adjustable. Wt., 8 oz.

No.	Type	Shank	Size	NET
34F570	JR-00	Comb. ¼"	5/8" to 2½"	1.32
34F571	4	Comb. ¼"	7/8" to 4"	2.30
34F573	5-B	Round 5/16"	1" to 5½"	3.05

Extra blade for Types 4, 5-A or 5-B circle cutters above. 4 oz.
34F574. NET ..... .55

Fig. B. Type 55. Cuts holes from 1¾" to 8" dia. Made of tool steel with Jessup cutting bits. Has ½" shank to fit ½" chuck. Set screw wrench included. wt., 8 oz.
34F575. NET **5.37**
34F576. Extra blade for above. NET 1.07

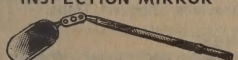
CHASSIS LAYOUT TOOLS

Fig. C. Model. 83. Pocket Scribe. Hex head, steel case, locking chuck. 2¼" tapered point may be reversed. Size, 4¾".
34F560. NET ..... **.80**

Fig. D. Model 15. Drill and Wire Gauge. Decimal equivalents for sizes 1 to 60. Lists taps and body drill sizes ¼-28 to 2-56.
34F561. NET **1.82**

Fig. E. Model 16. Multi-Use Rule & Gauge. A 4" rule in 32nds and 64ths, drill point gauge, sq., bevel protractor, center finder, circle divider, tap drill table. Wt. 4 oz.
34F562. NET **1.65**

INSPECTION MIRROR



Type 558. 2"x1" oval inspection mirror. Adjustable 6" knurled chrome plated handle.
34F443. NET **1.49**

Fig. F. Model 310. 6" Steel Rule and Wire Gauge. Gives 32nd and 64th graduations B and S wire gauge and decimal equiv.
34F563. NET ..... **.66**

Fig. G. Model 301. 6" Pocket Rule and Depth Gauge. Only ¼" wide. Gives readings in 64ths. With handy pocket clip.
34F564. NET ..... **.22**

ADJUSTABLE FILE AND TOOL HOLDER

Fig. H. Model 890. Holds files, blades, reamers, scriber points, etc., in a vise-like grip. Knurled knob assures easy and positive locking. Wt., 8 oz.
34F578. NET ..... **.90**

RATCHET TAP WRENCH

Fig. J. Model 160R. Made of hardened and tempered tool steel. Self-equalizing jaws, positive ratchet, sliding-T-handle. Opening capacity: 3/32 to 7/32". Wt., 8 oz.
34F579. NET **4.62**

HAND DRILL AND PIN VISE

Fig. K. Model 92. A precision tool with two reversible collets for holding drills, taps, wire, etc. from the smallest size .0 to .125". Has large free-wheeling swivel head. Size: 4" long, 5/16" body dia., ¾" head. Wt., 5 oz.
34F580. NET **1.58**

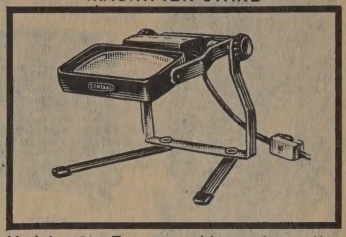
INSPECTION MAGNIFIER

Fig. L. 4" powerful ground and polished lens. 12" chrome plated adjustable Gooseneck Arm. Ball joint swivel permits easy adjusting. Sturdy cast-iron base for bench or table use. Wt., 4 lbs.
34F620. NET **7.85**

MACHINISTS HAND VISE

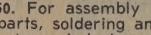
Model 815. Ideal for jobs where portability and flexibility are desired. Hard steel knurled jaw faces grip any object securely and safely. Has spring tension wing nut adjustment. Wt., 1 lb.
34F444. NET..... **3.80**

ADJUSTABLE ILLUMINATED MAGNIFIER STAND



Model 1050. For assembly or inspection of small parts, soldering and engraving. For laboratory, industry, schools, and hobby use. Both lens and light frame adjust separately to required height and visual range. Lens size 4"x2" adjusts from 1" to 6½" high. .7 watt 115 volt lamp, with 6 ft. U. L. approved cord. Sturdy extruded aluminum 5"x5" stand folds compactly for storage. Weight 1¼ lbs. lbs.
35F1182. NET **8.95**

JEWELERS' SCREWDRIVER SET

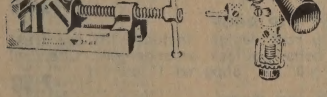


Type S-600. Set of six. Sizes: 0, 1, 2, 3, 4, 5. Swivel head with removable blade. 3" long. ½ lb.
34F577. NET **3.47**

AUTOMATIC CENTER PUNCH TYPE 79

Constructed of shock-resistant alloy steel. Pressure adjustable. Ideal for rapid center on stock. Tips replaceable. 5x½" dia. 5 oz.
34F565. NET **4.05**
34F566. Type 79P. Extra point. NET ..50

GEN'L PURPOSE TOOLS



BENCH DRILL VISE

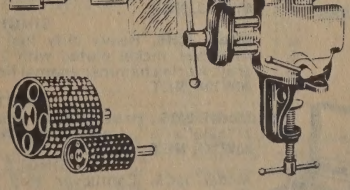
Model 217. Vise for bench drill, or drill press. Removable swivel jaw provided. Capacity with swivel inserted, 2¾"; with swivel jaw removed, 3⅛"; width of jaws, 2⅜". Wt. 5 lbs.
33F573. NET **12.25**

2-SPEED ANGLE DRIVE

Model 350. Right angle drive for half or double drill speed. Fits ¼" electric drills. Swivel angle-drive. Includes three adapters to mount Angle-Drive in chuck or on drill spindle. Has steel gears, grease-sealed lubrication, lifetime bearings. Weight 1½ lbs.
33F471. NET **3.98**

4-PIECE CUTTER SET

Model 15. For corner beveling and rounding with any electric drill. Adjustable bevel cutters cuts 45° bevels from 1/32" to 5/16" wide and 3 different size radius-cutters for 1/8", 3/16", ¼". Dual guides for accurate cutting on anything. Shipping wt., 4 oz.
33F486. NET **4.61**



SWIVAL BENCH VISE

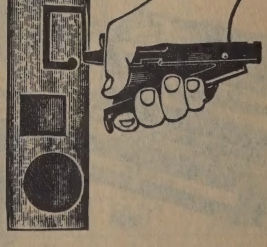
Base permits jaws to be swung around to any angle; controlled by a small lever at the right. Jaws 2½" wide are milled after assembly to insure close fitting. Maximum opening is 2¼". Clamps to bench up to 2 inches thick. Wt. 5½ lbs.
33F574. NET **7.90**

SHOP KING ROTARY RASP

Model 5500. ¼" shank. Cuts wood, plastic, plaster, brass, wallboard, rubber plywood and copper. Never clogs or needs sharpening. Constructed of hardened and tempered steel. Consists of: 3 rotary rasp drums, ¾, 1¼ and 1⅞" diameters. Length of drum 1½". Shpg. wt., 7 oz.
33F483. NET **3.55**

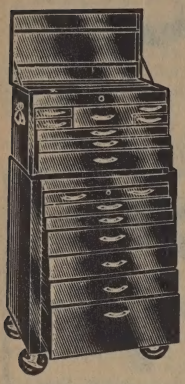
ADEL

HAND NIBBLING TOOL



Now you can make any size or shape hole over 7/16" dia. in any type of sheet metal! Bites right through 18-gauge steel or 1/16" aluminum, copper or plastic. Takes sharp angles and tight curves with ease. Leaves safe smooth flat edges. Minimum hole size 7/16" diameter. Durable construction; punch is replacable. Shipping weight 8 oz.
33F670. Net 1-11 ..... Each **4.50**
12-71 ..... Each 4.00 72 up Each 3.80
Replacement Punch for above
33F671. NET 2.50

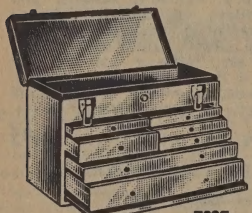
Tool Boxes and Cabinets



MASTER MECHANICS SET

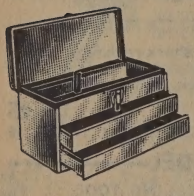
86684S

8688S

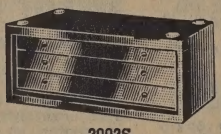


700S

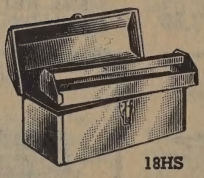
P23NS



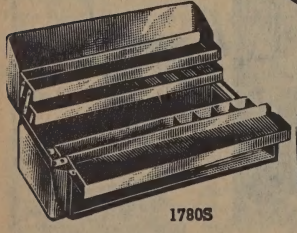
P22NS



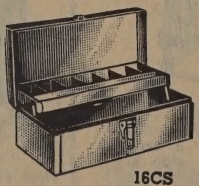
3003S



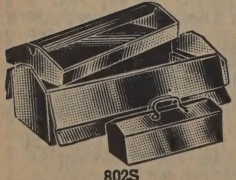
18HS



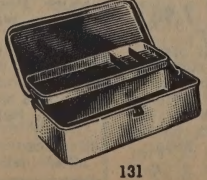
1780S



16CS



802S



131

MASTERS MECHANICS

All chests and cabinets have heavy gauge double wall construction with internal bracing. Full depth drawers with partitions for strength and proper tool storage. Usable drawer heights of $1\frac{11}{16}$" to $8\frac{3}{4}$". Tumbler locks with various key changes. Drawers and panels finished in red baked-on enamel, black frames. All prices F.O.B. Chicago.

DE-LUXE CHESTS

Model 86684S. Heavy gauge 10 drawer chest. Drawers are full $13\frac{1}{2}$" deep, has comfort-grip chrome plated handles. Size: 26" x $13\frac{3}{8}$" x $18\frac{1}{4}$". Shipping wt. 90 lbs.
80W423 NET **67.50**

Model 86684S. Six drawer chest. Size: 26" x $13\frac{3}{8}$" x $14\frac{1}{2}$". Shipping weight 60 lbs.
80W424 NET **48.00**

DE-LUXE ROLLER CABINETS

Model 86688S. Seven drawer heavy gauge steel cabinet. Features wide-track 4" casters (2 swivel with brake, 2 rigid). Size: $26\frac{1}{2}$" x 18" x $35\frac{1}{2}$". Shipping wt. 132 lbs.
80W425 NET **96.00**

Model 86686S. Four drawer roller cabinet. Size: $26\frac{1}{2}$" x 18" x $32\frac{1}{2}$". Shipping wt. 102 lbs.
80W426 NET **79.50**

MASTER MECHANICS SET

Combination of one roller cabinets and one chest listed above. Combination seven drawer cabinet (Model 86688S) and ten drawer chest (Model 86684S). Shpg. wt. 222 lbs.
80W427 NET **147.15**

Combination four drawer cabinet (Model 86686S) and six drawer Chest (Model 86682S). Shpg wt. 162 lbs.
80W428 NET **124.75**

HEAVY DUTY MACHINISTS CHEST

Model 1000S. Durable heavy-gauge steel chest with electrically welded seams and continuous piano hinge, in a black wrinkle satin finish. Ten non-sagging drawer slides with safety stops for a complete view of contents. Felt lined form fitted steel handles. Chests are spill-proof and completely locked by a sturdy assembly controlled with a single key. 20" x $8\frac{1}{2}$" x $17\frac{1}{2}$". Shipping weight 40 lbs.
80W100. NET **42.38**

Model 700S. Same as 10 drawer above except 7 drawer. Size: 20" x $8\frac{1}{2}$ x $13\frac{1}{4}$". Shpg. Wt. 31 lbs.
80W110. NET **33.45**

3 DRAWER MACHINISTS CHEST

Model P23NS. Heavy gauge 3 drawer steel cabinet with a one piece electrically welded piano hinge. Drawers lock when lid is closed. Form-fitting steel handle with center draw bolt—padlock arrangement. Nickel plated hardware and finished in charcoal gray Kortex hammer enamel. Red Drawers 20" x $8\frac{1}{2}$" x $10\frac{1}{2}$". Wt. 18 lbs.
80W101. NET **14.93**

2 DRAWER MACHINISTS CHEST

Model P22NS. Mechanic's tool chest. Heavy gauge steel, continuous piano hinge. Drawers lock automatically when lid is closed. Form-fitting steel handle with center draw bolt—padlock arrangement. All hardware, nickel plated. Black wrinkle finish with red enamel drawers. Shpg. wt. 17 lbs.
80W109. NET **13.43**

MACHINISTS CHEST

Model 3003S. Add on storage unit, fits all makes and models. Makes more storage room without extra bench space. Full suspension slides allows extension of drawers. Three drawers 20" long, $8\frac{1}{2}$" high, $7\frac{3}{4}$" deep. Individually packed. Weight 16 lbs. each.
80W111. NET **14.25**

FOUR TRAY CANTILEVER

All purpose heavy gauge steel chest in hip roof type with four cantilever trays. One-piece electrically welded continuous piano hinge with formfitting steel handle. Nickel plated hardware with padlock arrangement. Finished in gray Kortex hammer enamel. Red Trays.

Type 1780S. 7" x $8\frac{1}{2}$" x 10" with 4 small trays. Shpg. wt., 13 lbs.
80W102. NET **12.00**

Type 2180S. 21" x $8\frac{1}{2}$" x 10" with 4 large trays. Shpg. wt., 15 lbs.
80W103. NET **13.50**

SINGLE TRAY HIP ROOF

Model 18HS. Heavy duty tool box—hip roof design. Includes lift out tray. All hdwe. nickel plated with 2 draw bolts—padlock arrangement. Charcoal gray. Kortex hammer enamel finish. 20" x 8" x 9". Shpg. wt. 11 lbs.
80W104. NET **7.50**

GOVT. TYPE HIP ROOF

Model 802S. Heavy gauge steel, piano hinge, lift out tray. Steel handles. 21"x$8\frac{1}{2}$"x$7\frac{1}{4}$". 6 per carton. Wt. 72 lbs.
80W112. NET **7.12**

SINGLE TRAY ALL-PURPOSE

Model 16CS. Cantilever tray tool box for all servicemen. Heavy gauge steel; piano hinge and form fitted handle. Center draw bolt padlock set. Charcoal gray Kortex hammer finish. Red Tray 16" x 8" x 6". Shpg. wt. 10 lbs.
80W105. NET **5.85**

MODEL 130, 131 & 132

All purpose utility boxes. Finished in gray Kortex hammer enamel finish.
80W106. Model 130. No tray. $13\frac{1}{2}$"x$4\frac{1}{2}$"x$6\frac{1}{2}$". 3 lbs. **NET** 1.69
80W107. Model 131. With tray. $13\frac{1}{2}$"x$4\frac{1}{2}$"x$6\frac{1}{2}$". 3 lbs. **NET** 2.10
80W108. Model 132. With two trays. $13\frac{1}{2}$"x$5\frac{3}{4}$"x$6\frac{1}{2}$". 3 lbs. **NET** 3.45

You Can Depend on NEWARK
for Complete Stocks
Lowest Prices—Fastest Service

Akro-Mils Drawer Cabinets

A-M

MODULAR HEAVY DUTY CABINETS

Welded steel frames eliminate swaying or chance of becoming lopsided. Cabinets are adaptable to any space; they stand, stack, hang on wall, or fit into existing shelves. Gray hammer-tone finish resists chipping or rubbing off. Plastic drawers are made out of tough styrene. Won't bend, warp or twist out of shape. Drawers are transparent or granite-gray color. Are flexible and divide into various size compartments. Molded, one piece construction; ribbed for strength, drawers are smooth sliding and silent operating. With dividers and index labels. Cabinet width: 17⅞".

Opague Stk. No.	Type	Trans. Stk. No.	Type	Drws.	Drwr. Size H"	W"	D"	Cabinet Size H"	D"	Each
.....	.....	80W057	17-136	36	1 7/16	2 3/4	5 7/8	11 1/8	6	14.99
80W065	18-228	.....	.....	24	2	2 3/4	5 3/4	11	11	25.70
.....	.....	80W058	17-024	28	2 1/8	2 1/4	11	9 7/8	6	14.99
80W061	18-320	80W062	17-320	20	2 1/8	3 1/8	11	11	11	22.99
80W056	18-416	80W050	17-416	16	2 1/8	4	11	11	11	22.99
80W055	18-715	80W063	17-715	15	3 1/32	3 1/8	11	11	11	22.99
80W054	18-909	80W064	17-909	9	3 1/32	5 1/4	11	11	11	22.99
80W066	18-608	.....	.....	8	4 3/4	4	11	11	11	22.99
80W067	18-956	.....	.....	6	4 3/4	5 1/4	11	11	11	22.99

ECONOMY DRAWER CABINETS

11-148

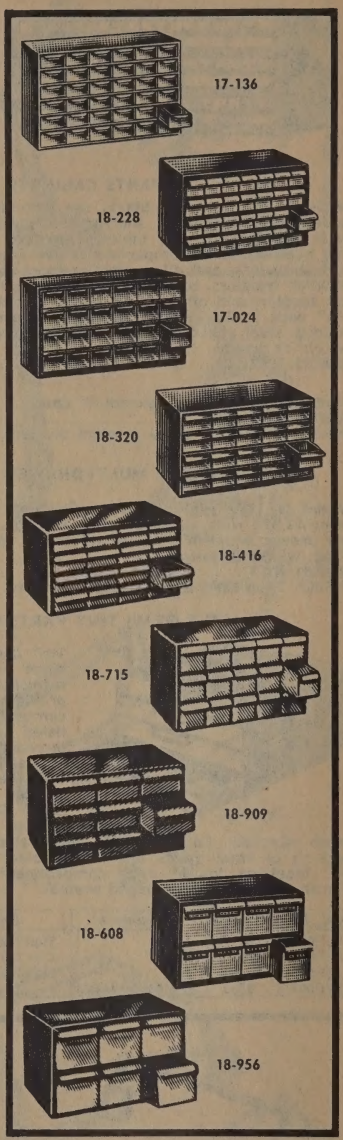
11-266

11-124

11-463

Model 11-148—48 Drawers. Compact steel frame cabinet. Three sizes of virgin styrene drawers. This model you can add and stack. Size: 15 x 8 x 20". Shpg. wt. 12 lbs.
Model 11-266—16 Drawers. Has deep, compact drawers for storage of articles up to 2" in height. Compartment sizes are completely adjustable with moveable dividers that lock into place. Supplied with divider and index per drawer. Size: 5¾ x 2¾ x2". Shpg. wt. 6½ lbs.
Model 11-124—24 Drawers. For storing small parts. Welded plastic steel front and dividers. Safety tab prevents accidental spilling. With index labels and 1 divider. Size: 2¾ x 1¼ x 5¾". Shpg. wt. 6½ lbs.
Model 11-463—12 Compact Drawers-1 Jumbo Drawer. Hinged door with lock clasp. Keyhole slots provided for hanging. Locking, hinged door provides protection from dust, moisture and theft. Stands, stacks or hangs on wall. Shpg. wt., 6½ lbs.

Stk. No.	Type	No. of Drawers	Cabinet Size	Each
80W069	11-148	48	15x8x20"H	11.25
80W053	11-266	16	6x13x9"H	5.63
80W051	11-124	24	6x13x9"H	5.63
80W052	11-463	13	6½x9x10"H	5.63



DIVIDERS FOR AKRO-MILS CABINETS

Dividers are dove-tailed and lock tight to prevent from spreading. Rust-proof, chemical resistant, non-corrosive, and smooth sliding. Label and label slots provide easy indexing.

Stk. No.	Type	Description	For Drwrs. in cabinet	Dividers Per Pkg.	Price
82F083	42-121	Long	17-136 18-136	24	1.73
82F084	42-101	Cross	17-136-18-136	50	1.73
82F030	42-301	Cross	17-320 18-320	25	1.38
82F119	40-501	Cross	11-124	25	.86
82F122	40-401	Cross	17-024 18-024 11-266	25	1.38
82F131	43-301	Cross	17-909 18-909	25	2.24
82F132	43-331	Long	17-715 18-715 17-909 18-909	10	2.07
82F134	43-101	Cross	17-715 18-715	25	2.07
82F137	42-401	Cross	17-416 18-416	25	1.73
82F138	42-431	Long	17-416-18-416	10	1.38
82F161	42-201	Cross	18-228	25	1.38
82F162	44-401	Cross	18-608	25	3.45
82F165	44-501	Cross	18-956	25	4.14

PLASTIC STORAGE BOXES

Rugged Hinge-Top storage boxes molded of clear polystyrene. Contains from 1 to 18 compartments suitable for storing hardware, small parts, fuses, capacitors resistors, and other odds and ends. Boxes are scratch resistant, easy to clean, light, rigid, and durable. Individually wrapped in sealed cellophane bags for added protection. Exclusive cover and hinge design, assures easy movement, snug fit, and long hinge life.

Stk. No.	Type	Number of Compartments	Compartment Dimensions	Overall Dimensions	Shpg. Wt.	NET	Carton Qty.	Carton Qty. Price Ea.
82F141	05-201	1	4¾"x2⅝"x1"	4¾"x2⅝"x1"	2 oz.	.32	36	.26
82F142	05-204	4 equal	2 5/32"x1 9/32"x1"	4¾"x2⅝"x1"	2 oz.	.32	12	.26
82F146	05-401	1	8 3/32"x4⅛"x1¼"	8 3/32"x4⅛"x1¼"	9 oz.	.65	12	.52
82F147	05-406	6 equal	1 5/16"x4⅛"x1¼"	8 3/32"x4⅛"x1¼"	9 oz.	.65	12	.52
82F148	05-412	12	1 9/32"x1 3/16"x1¼" 1 5/16"x4⅛"x1¼" 1 5/16"x2"x1¼"	8 3/32"x 4⅛"x1¼"	9 oz.	.65	12	.52
82F025	05-505	5 equal	2 15/16"x5 15/16"x2"	10 7/16x5 13/16"x2"	9 oz.	1.60	12	1.20

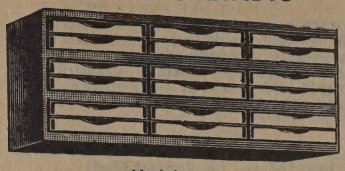
Use Cabinets 18-228, 18-715, 18-608, and 18-856 with storage boxes 05-820, 05-950 and 05-960 respectively. Order drawer-boxes and corresponding cabinet. Each carton contains enough drawer-boxes to fill one cabinet (8 boxes per drawer).

82F026	05-820	1	2"x1⅛"x2"	2"x1⅛"x2"	2 oz.	.15	224	.11
82F027	05-900	1	2⅞"x1⅛"x2¾"	2⅞"x1⅛"x2¾"	2 oz.	.25	120	.19
82F028	05-950	1	4½"x1⅛"x3¾"	4½"x1⅛"x3¾"	3 oz.	.38	64	.28
82F029	05-960	1	5"x1⅛"x4½"	5"x1⅛"x4½"	4 oz.	.48	48	.38

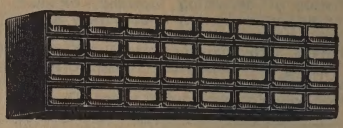
Storage and Lighting Equipment

EQUIPTO CABINETS

Model 11



Model 15



Model 32

PARTS CABINETS

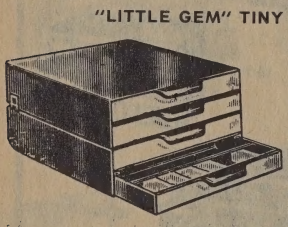
Model 11. Handy units. Stack, use individually, or as an insert under counters and in shelving. Fits readily under counters, work benches, mailing tables, bolted to the wall-in any spot you need it. Three compartments per draw, make a total of 54 compartments, and allow storage room for larger items or for smaller resistors, condensers, nuts, bolts, screws, nails, electrical supplies and other small parts. 18 drawers are 11" deep x 5⅝" wide x 3⅛" high. Two dividers per drawer. Heavy-duty welded steel, olive green finish. Shipped complete. Shipping weight 61 pounds.
80W075. NET **49.90**

Model 22. Same as No. 11 except 18" deep.
80W076. NET **42.90**
82F002. Type 8720. Extra straight dividers. **Each** ..... .15

LITTLE GEM MULTI-DRAWER CABINETS

Model 15. 13¾" high, 12" deep. Contains 18 type A Little Gem drawers 11" wide x 11" deep x 1¼" high. There are 8 dividers per drawer which makes 216 adjustable compartments per unit. Shpg. wt. 90 lbs.
80W081. NET **98.53**
82F007. Type 8730. Extra straight dividers. **NET** ..... .10

"LITTLE GEM" TINY PARTS CABINET



1½" deep drawers in a one-piece frame. Each drawer furnished with 8 dividers, providing for 24 adjustable compartments. Extra dividers listed below may be used to increase total of 28 compartments per drawer. Cabinets can be used individually, stacked or as shelving inserts. Drawer stops prevent spilling. Units lock together when stacked. Compartments have sloping fronts for easy picking of small parts 1⅜" label holder on front of drawer; ⅝" label on top of each compartment within the drawer. Finished in olive green baked enamel.

Stk. No.	Type	Drawers	Size	Wt.	NET
82F004	No. 1	Two	3¼x11x11"	8 lbs.	8.95
82F005	No. 2	Four	6½x11x11"	15 lbs.	17.90
82F006	No. 3	Six	9¾x11x11"	22 lbs.	26.85
82F007	8730	Extra dividers		4 ozs.	.10

CABINETS WITH 2" HIGH DRAWERS

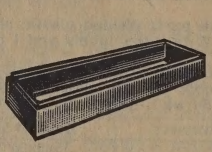
Model 32. Ideal for systematic small parts storage. Drawers are jam-proof, slide in and out smoothly even with maximum load. 34" wide x 12" deep x 10¾" high. Consists of welded steel frame complete with 32 drawers each 4½" wide x 2" high x 11" deep. Has two scoop cross dividers, large easy handles and lable holders. Two dividers per drawer make 96 compartments designed for storing small to medium parts and tools. Olive green with grey dividers. Shipping weight 58 pounds.
80W079. NET **58.94**

Model 34. Some as model 32 except, 24 drawers, 5⅝" wide x 2" high x 11" deep 72 total compartments. Shipping weight 56 lbs.
80W080. NET **50.00**

ACCESSORIES

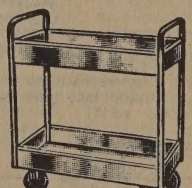
Stk. No.	Type	Description	Size	NET
82F202	8732	Straight divider	4¼"	.10
82F203	8733	Scoop divider	4¼"	.10
82F204	8734	Straight divider	5⅝"	.15
82F205	8735	Scoop divider	5⅝"	.15
82F207	8737	Scoop front insert	5⅝"	.10

BASES FOR DRAWER UNITS



Model 6812. The bases are designed to keep the bottom row at a more convenient height as well as to keep the drawers clear from brooms and mops. Size: 34" x 4" x 2". Shpg. wt. 1½ lbs.
82F208. NET **8.50**

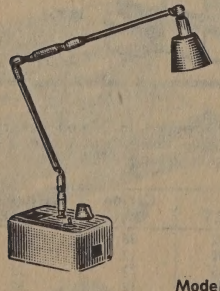
TWO TRAY STOCK CARTS



Sturdy steel construction Trays are strong with round bedded edges. The carts come with 2 trays, each 4" deep. Top tray may be inverted for flat surface use. 5" tired wheels in front, swivel wheel in rear provide easy portability. Can handle up to .600 lbs. with ample factor of safety. Green baked enamel finish. Designed for use between narrow aisles.
Model 145. 30"x16"x30". Wt. 44 lbs.
80W077. NET **38.50**
Model 150. 36"x24"x36". Wt. 62 lbs.
80W078. NET **44.00**

ROXTER CORPORATION

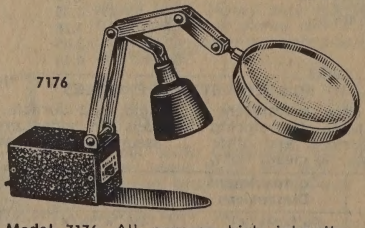
Licensed By Tensor Corp.



Model 5900

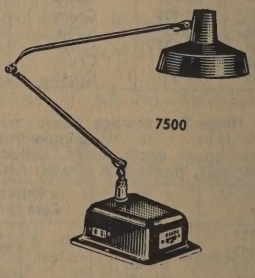
Model 5900. Precision Work Lamp. Swivels 360°,2½" O.D. Reflector. Arms ⅜" brass tubing, three friction joints. Teflon plastic feet. Elect. outlet on base (115 volts at 1 amp) for other electrical apparatus. Five position switch provides intensities from 12.2 to 202 ft. candles. Uses G.E. 1133 bayonet bulbs. With one #1133 bulb. Med. Beige. 5 lbs.

Stk. No.	1-11	12-23	24-up
65F035	47.65	42.36	35.30



Model 7176. All purpose high intensity lamp with 2X precision ground 4½" optical magnifier. Versatile enough to operate in an infinite number of positions with arm extending to 12". Lens tilts back when use as a lamp only is desired. Hi-Lo intensity switch. Use wherever close work is required. The perfect lamp for engineers, assemblers, hobbyists, etc. Compact, lightweight, functional. Plugs into any outlet. All-metal construction, one # 1133 bulb included.

Stk. No.	1-11	12-23	24-up
65F037	23.95	20.21	19.96



Model 7500. Engineer's Lamp. Specifically designed to overcome limitations of conventional lamps. Features a 24" long arm, with a 4¼" diameter reflector to illuminate a much wider area. Can be used on desk or mounted on wall. Hi-Lo intensity switch. 5 friction joints provide for unlimited reflector positioning. All metal construction. Has 110 Volt convenience outlet in base.

Stk. No.	1-11	12-23	24-up
65F038	23.85	21.20	17.66

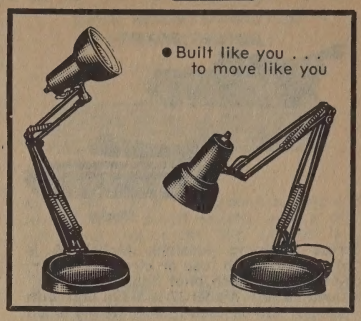
Adjustable Lamps and Brackets

LUXO LIL

Mini-LUXO LIL Lamp is now built with all the ideal precision-engineered features for office, home or school. The New LUXO LIL sets perfectly on a desk and glides into position and holds it thanks to flexible spring-tension balancing. Scientifically balanced to give you perfectly even distribution of light exactly where it is needed. Lift LUXO LIL off her base and slip into clamp, peg board or wall mount brackets and is then ready for use where space is not available. Colors; red, black, and white. Size: Fully extended, 24"; Base 7". Individually Boxed. Comes with 40S11 bulb. Shpg. wt. 7½ lbs.

Stk. No.	Type	Color	1-5	6 Up
99F1116	LIL	Black with Base		
99F1117	LIL	White with Base	14.95	13.95
99F1118	LIL	Red with Base		
99F1119	AL	Clamp Black		
99F1120	AL	Clamp White		
99F1121	AL	Clamp Red	1.88	1.67
99F1122	BL	Wall Bracket Black		
99F1123	BL	Wall Bracket White		
99F1124	BL	Wall Bracket Red		

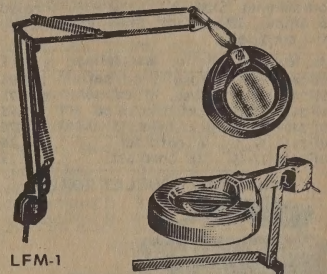
Stk. No.	Type	Description	1-9	10-Up
25F088	40S11	Replacement Bulb	.60	.48



LUXO-O-LAMPS COMPLETE WITH BULBS AND TUBES
LFM-1 ILLUMINATED MAGNIFIERS

Large magnification, cool fluorescent light, and maneuverable. Lamps can be raised or lowered, tilted or turned to any direction. Sweep and movement same as All Angle Lamp L-1 listed below. 3 Diopter 5" ground grass lens. Dove gray finish: Brackets listed below. Shpg. wt. 8 lbs.

Stock No.	Type	Description	Net	3-Up
99F1100	LFM-1	Illuminated Magnifier	41.46	38.96



ACCESSORIES FOR LFM MAGNIFIERS

Stock No	Description	Net	3-Up
99F1102	Lens attachment #1 increase to 7 diopter	7.35	6 86
99F1103	Lens attachment #2 increase to 11 diopters	9.49	8.86

FC 8T 9CW. Replacement circline tube. 25F169. Net .....3.34 10-Up Net..... 2.67

HMF-ST HAND MAGNIFIER WITH AUXILIARY STAND

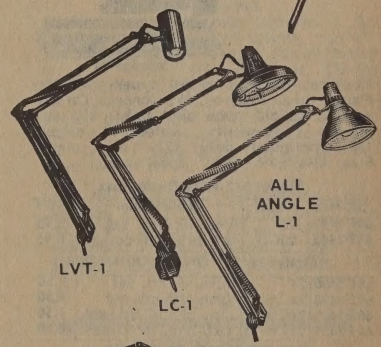
General specifications for shade and lenses identical to LFM-1. Adjustable stand. 8 lbs.
99F1104. Net ..... 42.62 Lots of 3. Net 40.05

LUXO LOW VOLTAGE LAMP

Type LVT-1-12V. Plugs into 110-120V supply. Has built in 12V Vimr. Type 1383 inner reflector bulb included. Less brackets. Shpg. wt. 6 lbs. Gray.
99F1105. Net .....33.71 Lots of 3; Net 31.73
25F184 Type 1383 replacement bulb. Net 2.70

LC-1 COMBO LAMP

Combines 60 W incandescent with 22 W fluorescent for balance of light, close to daylight quality. 500 ft. candles at 12 in.; 2 arms make 45" extension. Famous Luxo spring balance. Styled in dove gray. Less brackets. Shpg. wt. 8 lbs.
99F1106. Net .....30.55 Lots of 3; Net 28.80



L-1 ALL ANGLE LAMP

Tubular steel fixture raises, lowers, tilts, traverses, and turns in 45" radius, 360° sweep. 60 watt incandescent bulb, dual cool shade for greater light output and cool operation. With bulb, less brackets. Shipping weight 5 lbs.

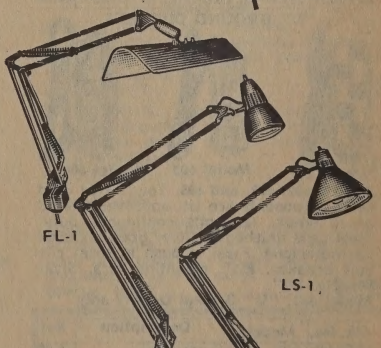
Stock No.	Type	Description	Net	3-Up
99F1109	L-1	All Angle Lamp	17.40	16.26

FL-1 FLUORESCENT LAMP

All angle/all purpose lamp with "feather touch" positioning. Unique spring extension arm and 360° sweep. 19" x 4" shade for excellent reflecting control. U.L. approved. With fluorescent tubes, less brackets. Shpg. wt. 9 lbs.
99F1107. Net .....30.88 Lots of 3; Net 29.01
F15T8 Type 25F168/W Replacement Bulb Net .....1.25 10 Up 1.00

LB-1 MACHINE TOOL LAMP

Designed for use in shops where work area must be well lit to provide safe and efficient operation. The lamp arm will not change position due to machinery vibration because of spring-balanced construction. Disposable inner reflector for cool shade and quick replacement. 4½" dia.; 2 extension arms for 45" reach. With bulb, less bracket. Shpg. wt. 5 lbs.
99F1111. Net ..... 17.62 Lots of 3; Net 16.47

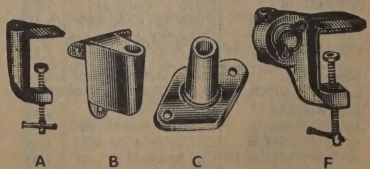


LS-1 FLAIR STYLED LAMP

60 watt incandescent lamp for 200 ft-candles of light and "feather touch" control 2 18" extension arms and 360° sweep for adjustments. Dual cool shade. On/off switch. Less brackets. 5 lbs.
99F1108. Net .....19.39 Lots of 3; Net 18.11

INTERCHANGEABLE BRACKETS

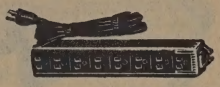
Type A. Clamps to level surface. 2¼" maximum. Shipping weight, ½lb.
99F1112. 1-5. .....2.25 6 Up 1.88
Type B. Screws to vertical surface. Shipping weight ½lb.
99F1113. 1-5. .....2.25 6 Up 1.88
Type C. Screw to level surface. Shipping weight, ½lb.
99F1114. 1-5. .....2.25 6 Up 1.88
Type F. Clamps to slanted surface. 2¼" maximum. Shipping weight, 1 lb.
99F1115. 1-5. .....3.50 6 Up 2.62



waber Powerline Outlet Boxes

OUTLET BOXES

Model 15

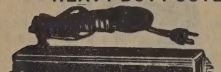


Model 17

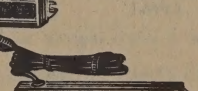
Series stringing possible. Model 15 is control unit, with fuse or circuit breaker, on-off switch, neon pilot light, and 7 "U" ground outlets. Model 17 is slave unit with 9 outlets; can be used independently when outlets only are required. UL approved components. Size 13⅛"x2⅜"x1⅜"; rated 15 amps., 130v. cont. Steel case, tough HSJ cord set.

Stk. No.	Model	Description	NET
60F2407	15	fuse, 6' cd. set	8.75
60F2408	15-15	fuse, 15' cd. set	9.75
60F2440	15CB	ckt. brkr.,6'cd. set	9.75
60F2409	15CB-15	ckt.brkr.,15'cd.set	10.75
60F2410	17	6' cord set	6.75
60F2411	17-15	15' cord set	7.75

HEAVY DUTY OUTLET BOXES



Model 20



Model 24

Features of both model types include: Panel mtd. fuse or ckt. brkr.; On-Off switch; Bright neon pilot light; UL approved components; Rated 15 amps, 130V continuous duty; 12¾" mtg. ctrs.; Size, 13⅛"x2⅜"x1⅜"; Steel case.

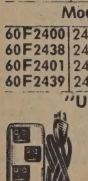
Model 20 2-Wire Outlet Box

Stock No.	Model	Description	NET
60F2402	20	fuse, 10' crd. set	5.95
60F2403	20CB	ckt. brkr., 10' cd. set	6.95

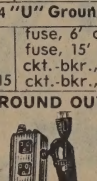
Model 24 "U" Ground Outlet Box

60F2400	24	fuse, 6' cd. set	8.50
60F2438	24-15	fuse, 15' cd. set	9.50
60F2401	24CB	ckt.-bkr., 6' cd. set	9.50
60F2439	24CB-15	ckt.-bkr., 15' cd. set	10.50

"U" GROUND OUTLETS



Model 602



Model 603

Model 605

Models 602, 603, and 605. Tough HSJ cord set. Components are UL approved. Rated at 15 amps, 130 volts continuous duty. Steel case finished in silver gray textured harmmertone. Fuse or push to reset circuit breaker. 8¼" mounting ctrs. Size: 8⅝x2¼x1½".

Model 602: "U" Ground Outlets only

Stk. No.	Model	Description	Net
60F2420	602	6' cord set	4.80
60F2421	602-15	15' cord set	5.80

Model 603. "U" Ground Outlets—Fuse or Circuit Breaker

60F2422	603	Fuse 6' cord set	5.25
60F2443	603-15	Fuse 15' cord set	6.25
60F2444	603CB	Ckt.brkr.6'cord set	6.25
60F2445	603CB-15	Ckt.brkr.15'cd.set	7.25

Model 605. "U" Ground Outlets Pilot Light On-Off Switch Fuse or Circuit Breaker

60F2446	605	Fuse 6' cord set	5.95
60F2447	605-15	Fuse 15' cord set	6.95
60F2448	605CB	Ckt.brkr.6'cd.set	6.95
60F2449	605CB-15	Ckt.brkr.15'cd.set	7.95

COLOR..CODED SWITCH-OUTLET BOXES

Model 30

Model 32

Four color keyed switch-outlet groups. Both models available with panel mounted fuse or circuit breaker. Model 30 is the two wire type with a rugged 10' Neoprene cord-set. Model 32 is the "U" ground type with a choice of six or fifteen foot Waber high quality HSJ cord-set.

Model 30-2 Wire Type

Stk. No.	Model	Description	Net
60F2404	30	Fuse, 10' cord set	5.95
60F2405	30CB	Ckt. brkr.10'cd.set	6.95

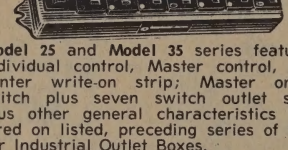
Model 32-"U" Ground Type

60F2412	32	Fuse 6' cord set	8.50
60F2413	32-15	Fuse 15' cord set	9.50
60F2414	32CB	Ckt. brkr.6' cd. set	9.50
60F2415	32CB-15	Ckt. brkr.15' cd.set	10.50

Model 32P. "U" Ground Type with neon lite for each switch to show power is on.

60F2450	32P	Fuse 6' cord set	10.50
60F2451	32P-15	Fuse 15' cord set	11.50
60F2452	32PCB	Ckt.brkr 6' cd. set	11.50
60F2453	32PCB-15	Ckt.brkr 15'cd. set	12.50

DELUXE COLOR CODED POWER CONTROL CENTER OUTLET BOXES



Model 25 and **Model 35** series feature: Individual control, Master control, and Center write-on strip; Master on-off switch plus seven switch outlet sets. Plus other general characteristics featured on listed, preceding series of Waber Industrial Outlet Boxes.

Model 35-2 Wire Type

Stk. No.	Model	Description	Net
60F2418	35	Fuse 10' cord set	13.50
60F2419	35CB	Ckt.brkr.10'cd.set	14.50

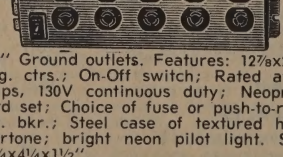
Model 25. "U" Ground Type

60F2416	25	Fuse 6' cord set	15.50
60F2417	25-15	Fuse 15' cord set	16.50
60F2441	25CB	Ckt.brkr.6'cd.set	16.50
60F2442	25CB-15	Ckt.brkr.15'cd.set	17.50

Model 25P. "U" Ground Type with neon lite for each switch to show power is on.

60F2454	25P	Fuse 6' cord set	19.50
60F2455	25P-15	Fuse 15' cord set	20.50
60F2456	25PCB	Ckt.brkr.6'cord set	20.50
60F2457	25PCB-15	Ckt.brkr.15'cd.set	21.50

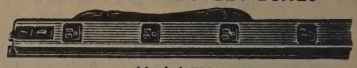
800 SERIES DUPLEX MASTER POWER CONTROLS



"U" Ground outlets. Features: 12⅞x2⅞" mtg. ctrs.; On-Off switch; Rated at 15 amps, 130V continuous duty; Neoprene cord set; Choice of fuse or push-to-reset ckt. bkr.; Steel case of textured hammertone; bright neon pilot light. Size, 13¼x4¼x1½".

Stk. No.	Model	Description	Net
60F2429	800	Fuse 6' cord set	13.50
60F2430	800CB-15	Ckt.brkr.15'cd.set	15.50
60F2458	800-15	Fuse 15' cord set	14.50
60F2459	800CB	Ckt.brkr.6'cord set	14.50

"LONG JOHN" SERIES HEAVY DUTY OUTLET BOXES



Model 700

Model 705

Giant 4' outlet boxes. Features: 48¾" mtg. ctrs.; Size, 49x2x1½"; UL app'd. components; Rated at 15 amps. 130V continuous duty; Neon pilot light; HSJ cords; On-Off switch; Steel case finished in silver gray textured hammertone.

Model 700 Series, 8 "U" Ground Outlets On-Off Switch, Bright Pilot Light

Stk. No.	Model	Description	Net
80W220	700	Fuse 6' cord set	14.95
80W201	700-15	Fuse 15' cord set	15.95
80W200	700CB	Ckt.brkr.6'cd.set	15.95
80W222	700CB-15	Ckt.brkr.15'cd.set	16.95

Model 705 Series, 15 "U" Ground Outlets On-Off Switch, Bright Pilot Light

80W202	705	Fuse 6' cord set	18.95
80W203	705CB	Ckt.brkr.6'cd. set	19.95
60F2427	705CB-15	Ckt.brkr.15'cd.set	20.95
80W205	705-15	Fuse 15' cord set.	19.95

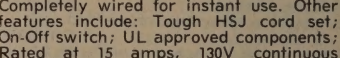
Model 710 Series, 8 "U" Ground Outlets Only

60F2428	710	6' cord set	12.95
80W206	710-15	15' cord set	13.95

Model 715 Series. 15. "U" Ground Outlets Only

80W207	715	6' cord set	16.95
80W208	715-15	15' cord set	17.95

"STRING BEAN" SERIES OUTLET BOXES



Space-saver size in a sturdy steel case. Completely wired for instant use. Other features include: Tough HSJ cord set; On-Off switch; UL approved components; Rated at 15 amps, 130V continuous duty; Size, 49x1½x1⅛"; Steel case finished in silver gray textured hammertone.

Model 1000 Series, 12. "U" Ground Outlets On-Off Switch, Bright Pilot Light.

Stk. No.	Model	Description (Set)	Net
80W209	1000	Fuse 6' cord	15.95
80W210	1000-15	Fuse 15' cord	16.95
80W221	1000CB	Ckt. brkr. 6' cord	16.95
80W212	1000CB-15	Ckt. brkr. 15' cd.	17.95

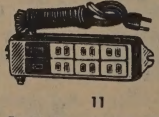
Model 1002 Series 12. "U" -Ground Outlets Only

80W213	1002	6' cord	13.95
80W214	1002-15	15' cord	14.95

Model 1010 Series. Master On-Off Switch Pilot Light & 8 Sets of "U" Ground Outlets. Pilot Lights and On-Off Switches.

80W211	1010	Fuse 6' cord	19.95
80W215	1010-15	Fuse 15' cord	20.95
80W204	1010-CB	Ckt. brkr. 6' cord	20.95
60F2472	1010CB-15	Ckt. brkr. 15' cd.	21.95

COLOR CODED CONTROL CENTER



11

12

Built-in circuit breaker protection. 15 amps. 130v continuous duty rating. 10-ft. tough neoprene cord set. Plated steel case. U.L. approved components. Four 3 wire outlets.

Model 11. On-Off Switch and Pilot Light

60F2494. NET **6.95**

Model 12. Separate On-Off Switch for each outlet.

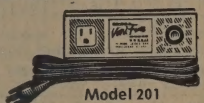
60F2495. NET **6.95**

VARI-FINE AC-DC MOTOR SPEED CONTROLLER

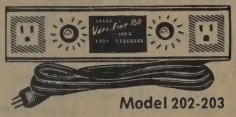
Model 205

Model 205. Now you can dial the speed you want; the light intensity you want with this newest addition to the Vari-Fine Motor Controller family. 6'3 wire AC wire cord, "U" ground outlet. Works on universal AC/DC motors. 5 Amps, 130 Volts.
60F2574. NET 9.95

"VARI-FINE" SOLID STATE AC-DC MOTOR SPEED CONTROLLERS



Model 201

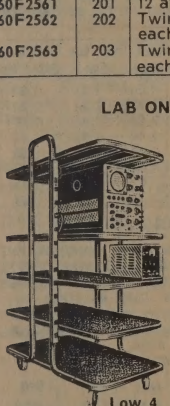


Model 202-203

Space savings "twins" tops for test and production application!
Solid state devices for speed and light control, featuring stepless changes from zero to maximum. Provide infinite control of motor speed and light intensity, and can be used to vary the speed of AC/DC motors of the universal type. Handle load currents up to the maximum rating at 117 volts, 60 hz. Self contained units may be plugged into any wall outlet and are fused for circuit protection. Compact... portable. Ideal for applications in the home, laboratory, school, or industry where regulation of motors or light is desirable.

Stock No.	Type	Rated@ 117 VAC	NET
60F2473	200	7 amp	14.95
60F2561	201	12 amp	19.95
60F2562	202	Twin: 7 amp each side	26.95
60F2563	203	Twin: 12 amp each side	34.95

LAB ON WHEELS



Low 4

Low 6

Lab on Wheels. For school, lab, or industrial plant. Features 1 inch square steel tubing for rigidity, strength and durability. Beautifully finished in bright chrome plating. Heavy duty, 5 inch wheels with heavy plate casters. Quiet, fast, easy swiveling. Adjustable shelves. Provisions made for mounting Waber outlet boxes. NOTE: Low 3 & 4 each have 5 hardboard shelves. Equipment shown, not included.

Low-3 Single Cantilever.
Size: 28 x 26 x66"..
80W160 (less outlet box) NET ..149.00
Low-4 Double Cantilever.
Size: 48 x 26 x 71"..
80W161 (less outlet box) NET ..188.00
Low-6 "Scope" Dolly. Size 29½x19¼x36½"
80W162 (less outlet box) NET 89.00
80W163 ACC-1 Plug-in Shelf NET ...17.50

CONSOLE DESK TOP

Model 95

Console desk top gives you complete control over instruments and equipment. Available in 3 different sizes, these models have 4, 6, or 8 "U" ground outlets, each controlled by its own switch and pilot light. Outlets are in rear of units. All 3 models come with circuit breaker and 15' cord set. Rated at 15 amperes, 130 volts. Model 95 (7½" x 2-¾" x 2-¾"). Model 96 (9¼" x 2-¾") x 2-¾"). Model 97 (11" x 2-¾" x 2-¾").

Stock No.	Type	NET
60F2575	95CB-15	14.95
60F2576	96CB-15	17.50
60F2577	97CB-15	21.50

CARRIERS

Carriers for use in the lab for equipment mobility, audio-visual applications, or for any other job requiring a sturdy, mobile carrier with shelves. Constructed of one-inch square chrome-plated steel tubing. Shelves are made of durable one-half inch thick plywood laminated with black ribbed non-slip top. All models are 21" x 29", with heights varying from model to model. Capacity of all models is 600 pounds, except the LOW 17 which is 400 pounds. All models feature an outlet box with 3 "U-Ground" outlets, on-off switch, pilot light, fuse protection, and a fifteen-foot HSJ cord set. The outlet box is rated at 15 amps, continuous duty. All models are also equipped with large rubber casters mounted in swivels for easy movement.

MODEL LOW-13
Four-shelf model with a guard rail along the long dimension of the top shelf. Height: 60", Shpg. Wt. 102 lbs.
80W166. NET 125.00

MODEL LOW-15
Dual shelf cart with push handle on one end. Height: 36". Shpg. Wt. 40 lbs
80W168. NET 110.00

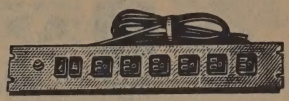
MODEL LOW-17
Dual-shelf model. Height: 32". Shpg. wt. 40 lbs.
80W169. NET 90.00

PORTABLE SCOPE DOLLYS

Model Low 8. Versatile, roll-around scope dolly with built-in 3 section outlet box. The top shelf will take a large variety of instruments and can be adjusted for convenient viewing angles. Size is 34" H. x 19" W. x 31" L. Outlet box has pilot light, on-off switch, and a panel-mounted fuse. Rated 15 amps, continuous rating. Shpg. Wt. 38 lbs.
80W164. NET 79.50

MODEL LOW-25
Rolls in any direction and adjusts to take various sizes of instruments. Equipped with an outlet box featuring a fuse post, switch, pilot light, and 3 grounded outlet. Size: 28" x 32" x 19". Top shelf is at a 20° angle. Shipping weight 32 pounds.
80W165. NET 42.50

RACK MOUNTS—MASTER POWER CONTROLS



odel 900

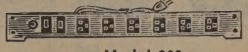
Model 900. Has 6 "U" ground outlets controlled by an on-off switch, with a pilot light, and fuse or ckt. bkr. Cordset is of tough HSJ. Size 3½"x9".

Stk. No.	Model	Description	Net
60F2431	900	Fuse, 6' cord set	10.95
60F2490	900-15	Fuse, 15' cord set	11.95
60F2432	900CB	Ckt. bkr. 6' cd. set	11.95
60F2491	900CB-15	Ckt. bkr. 15' cd. set	12.95

Model 904 series very similar to 900 series, but with 2 outlets in front, 4 in back. Made to be mtd. on a rack panel for remote control of other Waber power outlet boxes mtd. inside the rack cabinet. Size, 3½x19".

Stk. No.	Model	Description	Net
60F2433	904	Fuse, 6' cord set	12.95
60F2434	904-15	Fuse, 15' cd. set	13.95
60F2492	904CB	Ckt. Bkr. 6' cd. set	13.95
60F2493	904CB-15	Ckt. Bkr. 15' cd. set	14.95

RACK PANELS

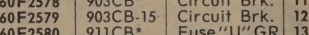


Model 903

Model 903. Rack panels features 6 "U" ground outlets (in the front) "on/off" switch, pilot light, fuse or circuit breaker, 6 or 15-foot HSJ cord set. Component parts UL approved. Size: 1-¾" x 19". **Model 911** has the same features except outlets are in back and is available in "U" ground, locking, or crow's foot type. (*Have 6-foot cord, remaining have 15-foot cord).

Stock No.	Type	Description	NET
60F2578	903CB*	Circuit Brk.	11.95
60F2579	903CB-15	Circuit Brk.	12.95
60F2580	911CB*	Fuse"U"GR	13.95
60F2581	911CB-15	Fuse"U"GR	14.95

OUTLET BOXES



Model 1040

Model 1040-CB-15. Provides 15 "U" ground outlets, on-off switch, neon pilot light, push-to-reset circuit breaker, and 15-foot HS cord set.
80W216. NET 21.95

Model 1041-15. Fifteen "U" ground outlets are provided with a pilot light to show when power is on. Available with 15-foot cord-set.
80W217. NET 17.95

80W218. NET 18.95

Model 1043-15. Eight "U" ground outlets provided in a 72" outlet box. Features a neon pilot light to indicate power is on. Available with a 15' cord.
80W219. NET 14.95

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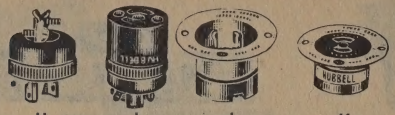
TWIST-LOCK CONNECTORS



H I J K

10 AMP 2-WIRE CONNECTORS MIDGET SIZE—UNPOLARIZED

Cord-grip connectors accommodate .312" to .500" diameter cords. Brown bakelite, with metal casings plated to resist corrosion. Female receptacles will accept either polarized or non-polarized caps. 250 volts at 10 amps; 125 volts at 15 amps. U. L.

Stk. No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
38F500	7428	H	Male Plug	50	10	.60	.54	.47
38F501	7427	I	Fem. Con.	50	10	1.10	.98	.86
38F521	7465	H	Male Cap	50	10	.60	.54	.47
38F522	7464	I	Fem. Con.	50	10	1.09	.97	.85
38F502	7466	J	Male Base	50	10	1.31	1.16	1.02
38F503	7468	K	Fem Base	50	10	1.58	1.41	1.23
38F518	7479*	H	Male Cap		10	.72	.64	.56

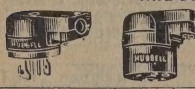
*Has one wide and one narrow blade to fit corresponding polarized slots of receptacles.

MIDGET TWIST LOCK

7500 series twist lock for 15 amp 115 volt Cylindrical hollow brass split ring for ground provision. Non-interchangeable unit with UL requirements.

Stk. No.	Type	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F742	7593	50	10	2.51	2.23	1.95
32F743	7594	50	10	1.87	1.66	1.46
38F523	7595	50	10	2.27	2.02	1.77
38F524	7596	50	10	2.68	2.38	2.08

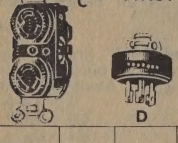
MIDGET SIZED CONNECTORS



10 ampere, 3 wire connectors, midget size and polarized. Accomodate .281" to .421" cable. Rated 250 volts at 10 amps; 125 volts and at 15 amps.

Stk. No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F747	7432	....	Male Plug	....	....	2.59	2.30	2.02
32F748	7433	....	Fem. Con.	....	....	3.24	2.88	2.52
38F504	7485	H	Male Plug	50	10	1.43	1.27	1.11
38F505	7484	I	Fem. Con.	50	10	2.06	1.83	1.60
38F506	7486	J	Male Plug	50	10	1.82	1.62	1.42
38F507	7487	K	Fem. Con.	50	10	2.23	1.98	1.73

TWIST-LOCK PLUGS AND SOCKETS



C D

Exposed metal parts finished to resist corrosion. All meet requirements for 125 volt grounding. Molded material is general purpose phenolic type. Conform to National Electric Code UL approved. 3 wire grounding type 15 amperes.

Stk. No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F721	4700	C	Receptacle	50	10	4.01	3.56	3.12
32F722	4713	....	Receptacle	50	10	2.68	2.38	2.08
32F723	4715	....	Receptacle	50	10	2.94	2.61	2.29
32F724	4716	I	Plug	50	10	2.27	2.02	1.77
32F725	4720	D	Plug	50	10	1.94	1.73	1.51
32F726	4726	D	Plug	50	10	1.61	1.43	1.25

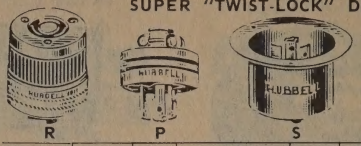
STANDARD SIZE—POLARIZED

L M N

10 amp. 3-wire cable connectors accommodate .296" to .562" dia. cables. Type 7572 is armored cap. Rated: 250 volts at 10 amps; 125 volts at 15 amps.

Stk. No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
38F509	7572	L	Male Plug	50	10	1.69	1.50	1.32
38F510	7555	M	Fem. Con.	50	10	2.68	2.38	2.09
38F511	7556	N	Male Base	50	10	2.23	1.98	1.73
38F512	7557	N	Fem. Base	50	10	2.46	2.19	1.91

SUPER "TWIST-LOCK" DEVICES



R P S

Rated: 600 volts at 10 amps; 250 volts at 20 amps. Take .437" to .750" cables. 20 amp.-3 wire connectors.

Stk. No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
38F513	7311	P	Male Plug	30	10	2.43	2.16	1.89
38F514	7313	R	Fem. Con.	30	10	3.74	3.33	2.91
38F515	7327	S	Male Base	30	10	2.88	2.56	2.24
38F516	7328	S	Fem. Base	30	10	4.43	3.94	3.44

SCREW BASE ADAPTER

Type 5612. Converts Medium Screw Base socket to female Edison. Double T-slotted to accept polarized plugs. 660 watts, 125 volts.

Stk. No.	Net Ea.	Net Ea. Ctn.—10	Net Ea. Std. Pkg.—100
32F706	.97	.86	.75

FEMALE GROUNDING-TYPE MOTOR BASE OUTLET

Type 5256. A good, standard grade outlet meeting FED. SPEC. W-C-596(S). Parallel-blade with U-ground. Rated: 15 amps, 125 volts AC or DC. Nickel-plated brass construction. U.L. approved.

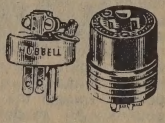
Stk. No.	Net. Ea.	Net Ea. Ctn.—10	Net Ea. Std. Pkg.—100
32F746	2.14	1.90	1.66

A.C. PILOT LIGHT PRESSWITCH SWITCH

Type 1277. Operates simultaneously with pilot light. Single pole, 15 A 120 VAC pilot light "presswitch" with red handle. Brown front, yellow back. Size: 3.281" x 2.437". Shpg. wt., 4 oz.

Stk. No.	Net Ea.	Net Ea. Ctn.—10	Net Ea. Std. Pkg. 100
32F720	2.97	2.64	2.31

3-WIRE GROUNDING TYPE SINGLE OUTLETS

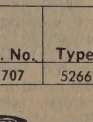


E F

Polarized for grounding exposed metal parts of portable electrical equipment. 5279 has flush housing with permanent type mounting plate (2.437 Dia.). Male recessed 5278 may be permanently attached. 5207 (Dia. 1.531) is "insulpdene" connector body 5280 (1.531 Dia.) grounding cap may be anchored permanently by thumb screw. All are 15A., 125 V.

Stk. No.	Type	Description	Std. Pkg.	Net Ea. Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F727	5278	Male Base	50	10	1.54	1.37	1.20
32F728	5279	Female Base	50	10	2.97	2.64	2.31
32F729	5280	Male Cap.	50	10	2.04	1.81	1.59
32F730	5207	Fem. Con.	50	10	2.14	1.90	1.66
38F525	5920	Male Cap.	50	10	1.13	1.00	.88
38F526	5208	Male Cap.	50	10	1.51	1.34	1.17
38F528	5275	Male Cap.	50	10	.97	.86	.75
38F527	5264	Male Cap.	50	10	1.14	1.02	.89

DUPLEX GROUNDING ADAPTER



Type 5291. Converts existing parallel or "T" slot duplex receptacles to 3 wire, 15A., 125V. grounding receptacles. Captive mounting screw threads into existing receptacles. Phosphor bronze prongs connect metal plate to ground circuit. 3.328" x 1.750"x1.421". Shpg. wt., 6 oz.

Stk. No.	Type	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Std. Pkg.
32F731	5291	Brwn. Bak.	50	10	2.79	2.48	2.17

Type 5266. 3-Wire grounding type caps and bodies, polarized. 15 amps, 125 v. Fitted with "U" shaped blade for grounding.

Stk. No.	Type	Description	Std. Pkg.	Net Ea. Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F707	5266	Rubber Cap	50	10	1.21	1.08	.94

3-WIRE GROUNDING TYPE ADAPTER

Type 5273-L. For grounding exposed metal parts of portable electrical equipment. Designed to adapt standard 2-wire convenience outlets for use with new 3-wire grounding caps. 15 amps. 125 volts. Shpg. wt., 4 oz. Std. pkg.—50; Carton—10.

Stk. No.	Type	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
38F517	5273-L	50	10	1.29	1.14	1.00

HARVEY HUBBELL

RUBBER FINGER GRIP CAPS

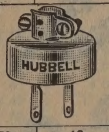
Type 9972. 15 amps. 125V. Parallel Blades. Without cord-grips. Cord hole dia. .312" to .437".

Stk. No.	Type	Description	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
38F520	9972	Par. blades	100	25	.49	.43	.38

38F508. 9754. Standard rubber plug with cord-grip. For .296" to .625" diameter cord. Rated: 125 volts at 15 amps.

38F508	9754	Rubber plug	50	10	.80	.71	.62

2-WIRE PLUG—ARMORED



Type 7057. Metal body, parallel-blade. Rated: 15 amps, 125V ac/dc. Accepts cord dia. .296-.562. Exposed metal, finished to resist corrosion. Caps feature molded-in blade anchoring inserts.

32F705	7057	Par. Blades	50	10	.87	.78	.68

CONVENIENCE OUTLETS

Type 95995. Duplex convenience outlets. Side wired double T-Slots. 15 amps, 125 volts. Breakoff feature for two-circuit installations. Washer ears.

Type 5252. 3-Wire grounding type convenience outlets. Polarized side wired only. Duplex flush mounting receptacle. For grounding exposed metal parts of portable electrical equipment. Unit is side wired with 2 grounding terminals and with parallel slots.

Stock No.	Type	Description	Std. Pkg.	Ctn.	Net Ea. Brkn. Ctn.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F700	9595	Brn. Bakelite	100	10	.71	.63	.55
32F701	5242	Brn. Bakelite	50	10	1.40	1.25	1.09

SAFETY GROUNDING RECEPTACLE

Type SG-62. Accepts all U-shaped or round-pin std. grounding caps. Shunts current harmlessly around objects inserted in slots by children. Grounds tools and appliances equipped with std. grounding caps. 15 amps, 125 v. silver plated contact springs. Shpg. wt., 4 oz.

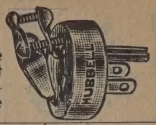
Stk. No.	Type	Descrip.	Std. Pkg.	Ctn.	Net Ea.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F717	SG-62	3-Wire	50	10	3.32	2.95	2.58

TYPE 'T' GROUNDING DEVICE

For use in conjunction with circuits up to 20 amps. Provides for grounding as well as polarized connections. Ideal for use with kitchen appliances and movable equipment.

Stk. No.	Type	Description	Std. pkg.	Ctn.	Net Ea. Brkn. Ctn.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F732	5361*	Sin. rect. slt. & U grd.	50	10	2.23	1.98	1.74
32F733	5362	Dux. rect. slt. & U grd.	50	10	3.12	2.78	2.43
32F734	5364	Am. cap					
32F735	5374	Conn. body	50	10	1.88	1.67	1.46
32F736	5375	Insulprene Cap	50	10	3.18	2.82	2.47
			50	10	2.16	1.92	1.68

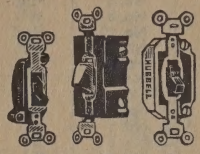
ANGLE CAP



4 position angle cap permit cord entrance from one of four different angles without bending or squeezing behind heavy equipment which often damages or severs the power cord.

Stock No.	Type	Net Each	Ctn. of 10 Net Each	Std. Pkg. 50 Net Each
32F737	5287	1.90	1.69	1.48

SWITCHES



Type 9711. Mercury silent switches. 10 amp, 125 v. 15 amp, 120 v. AC-5 amp, 250 v. Single pole indicating.
Type 1251. 15 amp, AC single pole 120-277 v. Presswitch with feed through terminal.
Type 8801. Flush toggle switches. T-rated—porcelain base—Bakelite handles. 125 v. 10 amp; 250 v., 5 amp.

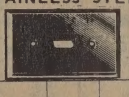
Stock No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea. Brkn. Ctn.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F708	9711	C	Brn. Handle	50	10	1.17	1.04	.91
32F709	1251	D	Brn. Button	50	10	1.62	1.44	1.26

AC SWITCHES—1121 SERIES

For use in shallow base 1¼" boxes. Conforms with MIL-Spec. W-S-896-A; Silver alloy contacts for long life and smooth operation, 20 amps. 120-277V.

Stk. No.	Type	Description	Std. Pkg.	Ctn.	Net Ea. Brkn. Ctn.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F738	1121	S.P.	100	10	1.78	1.58	1.38
32F739	1122	D.P.	10	2	2.10	1.87	1.68
32F740	1123	3-Way	50	10	2.10	1.87	1.68
32F741	1124	4-Way	10	2	5.35	4.76	4.16

CHROME-X (STAINLESS STEEL) PLATES

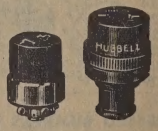

F

G

Type 97071. Toggle switch plates.
Type 97101. Convenience outlet plates.

Stock No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea. Brkn. Ctn.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F711	97071	F	1-Gang	100	10	.49	.43	.38
32F712	97101	G	1-Gang	100	10	.49	.43	.38

CORD CONNECTORS



Type 7084. Cord connector bodies with double T-Slots—Blk. Bakelite. 15 amps, 125 v. With cord grip.
Type 9952. Rubber cord connector bodies with double T-Slots. 15 amps, 125 v. Cord diameter: .312" to .468".
Type 5269. 3-Wire cord connectors grounding type 15 amps, 125 v. With cord grip. Cord diameter: .296" to .625".

Stock No.	Type	Fig.	Description	Std. Pkg.	Ctn.	Net Ea. Brkn. Ctn.	Net Ea. Ctn.	Net Ea. Std. Pkg.
32F702	7084	A	Body	50	10	1.42	1.26	1.10
32F703	9952	B	Body	50	10	.91	.81	.71
32F704	5269	A	Body	50	10	1.78	1.58	1.38

ARROW-HART

MIDGET CONNECTORS AND RECEPTACLES

80328

80329

80330

80331

Bakelite bodies, nickel plated brass shells. U.L. Listed.

80324

80325

80326

80327

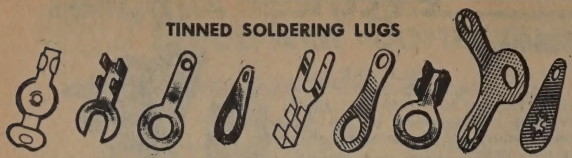
All connectors and receptacles are rated for 10A at 250V.

Stk. No.	Type	Description	1-9	10-99	100-Up
60F2378	80324	Recp. Cap	.97	.86	.61
60F2379	80325	Female Recp.	.97	.86	.61
60F2380	80326	Female Fl. Recp., 2 scr. mt.	1.15	1.02	.73
60F2381	80327	Female Fl. Recp., lock nut	1.88	1.67	1.19
60F2382	80328	Rec. Male Recp., 2 scr. mt.	1.28	1.14	.81
60F2383	80329	Rec. Male Recp., lock nut	1.94	1.72	1.23
60F2384	80330	Third Term. Cvr.	.35	.29	.21
60F2385	80331	Rec. Fem. Recp., lock nut	1.94	1.72	1.23

NEWARK FLOURESCENT STARTER

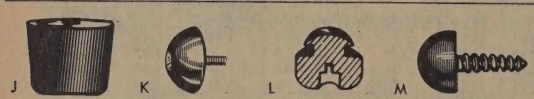
Stk. No.	Type	Description	1-9	10-99	100-Up
32F713	FS-2	14, 15 & 20 Watt	.27	.24	.21
32F714	FS-4	13, 30 & 40 Watt	.27	.24	.21
32F715	FS-850	90, 100 Watt	1.14	1.02	.89
32F716	FS-40	40 Watt	.76	.67	.59

TINNED SOLDERING LUGS



A B C D E G H I L

Stock No.	Hole Size	Length	Fig.	Per 100	Per 1000
31F2293	No. 6	19/32"	E	2.00	15.95
32F1300	No. 6	21/32"	B	1.35	10.77
31F2271	No. 8	5/8"	B	1.53	12.18
31F2296	No. 10	11/16"	B	1.49	11.90
32F1301	No. 6	9/16"	C	1.14	9.09
31F2074	No. 8	9/16"	C	2.14	17.07
31F2075	No. 10	13/16"	C	2.14	17.07
32F1302	No. 6	11/16"	C	1.18	9.38
32F1303	No. 6	9/16"	D	1.18	9.38
32F1304	No. 8	9/16"	D	1.12	8.96
32F1305	No. 6	7/8"	D	.84	6.72
32F1306	No. 8	7/8"	G	1.10	8.82
32F1307	No. 10	7/8"	G	1.10	8.82
32F1308	No. 6	5/8"	L	1.37	10.92
32F1309	No. 8	5/8"	L	1.37	10.92
31F2076	No. 4	9/16"	D	2.13	17.07
32F1310	No. 8	13/16"	D	2.13	17.07
32F1311	No. 6	13/16"	D	2.13	17.07
31F2269	No. 6	11/16"	H	1.50	12.03
31F2270	No. 8	11/16"	H	1.42	11.34
32F1312	No. 10	11/16"	H	1.42	11.34
32F1313	No. 6	.....	I	1.55	12.45
32F1314	No. 8	.....	I	1.65	13.16
32F1315	No. 10	11/16"	D	1.07	8.54
32F1316	TV Line Lugs		A	2.10	16.79



J K L M

RECESSED BUMPER Fig. J

Stock No.	Ht.	O.D.	Hole Size	Per 100	Per 1000
32F1317	1/4"	3/8"	.....	2.22	17.73
32F1318	1/2"	5/8"	5/16"	2.56	20.39
32F1319	5/8"	5/8"	5/16"	3.47	27.72
32F1320	19/64"	3/4"	7/16"	3.59	28.66
32F1321	7/16"	3/4"	7/16"	3.39	27.06
32F1322	5/8"	15/16"	7/16"	6.67	53.31
32F1323	3/16"	3/8"	3/16"	1.24	9.86
32F1324	5/32"	7/16"	1/4"	1.66	13.19
32F1325	1/4"	1/2"	1/4"	1.79	14.26
32F1326	5/16"	5/8"	1/4"	2.11	16.79
32F1327	3/8"	3/4"	5/16"	3.14	25.06
32F1328	1/2"	13/16"	5/16"	3.92	31.32
32F1329	1"	1"	5/16"	7.95	63.57

RECESSED BUMPERS WITH STEEL WASHER INSERTS Fig. J

Stock No.	Ht.	O.D.	Hole Size	Per 100	Per 1000
32F1330	1/2"	5/8"	5/16"	3.71	29.59
32F1331	5/8"	5/8"	5/16"	5.07	40.52
32F1332	19/64"	3/4"	11/32"	6.07	48.51
32F1333	7/16"	3/4"	7/16"	5.60	44.78
32F1334	5/8"	15/16"	7/16"	9.90	79.17
32F1335	1/4"	1/2"	1/4"	3.07	24.52
32F1336	5/16"	5/8"	1/4"	3.69	29.46
32F1337	3/8"	3/4"	5/16"	5.00	39.98
32F1338	1"	1"	5/16"	10.25	81.97

RUBBER MACHINE SCREW BUMPER Fig. K

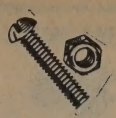
Stock No.	Width	Height	Screw	Per 100	Per 1000
32F1339	1/2"	1/4"	8-32	4.07	32.52
32F1340	5/8"	5/16"	8-32	5.06	40.38
32F1341	3/4"	3/8"	8-32	6.33	50.65
32F1342	7/8"	1/2"	10-32	7.12	56.91
32F1343	1"	1/2"	10-32	7.55	60.38
32F1344	1 1/8"	1/2"	10-32	11.70	93.56

RUBBER BUTTON BUMPER Fig. L

Stock No.	O.D.	Hole Size	High	Per 100	Per 1000
31F2284	3/8"	3/16"	7/16"	1.81	14.42
31F2285	1/2"	1/4"	7/16"	2.70	21.56
31F2286	5/8"	3/8"	9/16"	4.34	34.70

RUBBER FEET SCREW TYPE Fig. M

Stock No.	O.D.	Height	Per 100	Per 1000
31F2006	3/8"	3/16"	1.68	13.43
31F2007	1/2"	1/4"	2.23	17.78
31F2008	5/8"	5/16"	3.13	25.05
32F1345	3/4"	3/16"	3.59	28.69



ROUND HEAD MACHINE SCREWS & NUTS ASSORTMENT

Assorted machine screws from size 2-56 x 1/2" to 10-32 x 1". Approximate 100 screws, and 100 hex nuts. Packaged in reuseable plastic box.
32 F 1365. NET..... 1.10

FIBRE WASHER ASSORTMENT

Selection of in-demand extruded and flat fibre washers. Approximate total quantity, 200. Packaged in handy, reuseable plastic box.
32 F 1366. NET..... 1.10

SHEET METAL SCREW ASSORTMENT

Approximately 125 assorted sizes of sheet metal screws, from #4 x 3/8" to #10 x 3/4". Packaged in handy, reuseable plastic box.
32 F 1367. NET..... 1.10

METAL WASHER ASSORTMENT

Variety of popular sizes and types—plain, lock, external lock cadmium-plated and split lock type, cadmium plated. Approximate total quantity, 250. Packaged in reuseable plastic box.
32 F 1368. NET..... 1.10

ROUND HEAD WOOD SCREW ASSORTMENT

Approximately 100 assorted wood screws in sizes from #4 x 1/2" to #14 x 1 3/4". Packaged in utility plastic box.
32 F 1369. NET..... 1.10

SPRING ASSORTMENT

Hard to get compression and extension springs that you need for repairs on dial cords, push buttons, etc. Packaged in a plastic hinged cover box.
32 F 1371. NET..... 1.08

SOLDER LUG ASSORTMENT

Approximately 125 assorted sizes and styles. All popular types of solder-type spade lugs and ring tongue terminals. Packaged in reuseable plastic box.
32 F 1372. NET..... 1.10

CORD STRAIN RELIEFS

Will fit P.O.S.J. cord. Approximately 100 per package.

Stock No.	Type	Per 100	Per 1000
32F1346	6675-C	6.70	53.60

RUBBER GROMMETS

Stock No.	Mfg. Hole Dia.	I.D.	O.D.	Per 100	Per 1000
32F1347	13/64"	7/64"	11/32"	1.35	10.80
32F1348	3/16"	1/8"	11/32"	1.50	12.00
31F2000	1/4"	1/8"	11/32"	1.42	11.34
31F2001	5/16"	3/16"	7/16"	1.62	12.87
32F1349	5/16"	3/16"	1/2"	4.83	38.62
32F1350	5/16"	1/4"	1/2"	2.24	17.86
31F2282	3/8"	1/4"	1/2"	3.12	24.91
31F2002	3/8"	1/4"	9/16"	2.12	16.94
32F1352	5/16"	9/32"	9/16"	2.85	22.80
32F1353	3/8"	1/4"	5/8"	4.50	36.00
32F1354	7/16"	5/16"	5/8"	4.35	34.80
31F2004	1/2"	3/8"	5/8"	2.42	19.31
32F1356	17/32"	3/8"	5/8"	2.85	22.80
32F1357	9/16"	1/4"	3/4"	3.90	31.20
31F2082	15/32"	5/16"	3/4"	5.00	40.00
32F1358	17/32"	3/8"	3/4"	4.95	39.60
31F2081	9/16"	7/16"	3/4"	6.54	52.34
31F2003	5/8"	1/2"	13/16"	3.65	29.25
31F2080	3/4"	9/16"	7/8"	4.48	35.83
31F2283	13/16"	3/8"	11/16"	7.31	58.50
32F1360	23/32"	7/16"	11/16"	8.33	66.64
32F1361	13/16"	1/2"	11/16"	7.05	56.40
32F1362	13/16"	1/2"	11/16"	7.05	56.40
31F2083	7/8"	5/8"	1 1/8"	7.28	58.22
32F1363	15/16"	13/16"	1 1/8"	10.50	84.00
31F2084	1"	11/16"	15/16"	14.66	117.27
32F1364	1 3/4"	1 1/2"	2 1/8"	21.90	175.20

VINYL GROMMETS

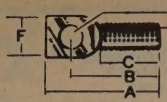
Resistant to temperature, oils, chemicals. Approx. 100 per pkg.

Stock No.	Chassis Hole	O.D.	I.D.	Per 100	Per 1000
30F743	1/4"	11/32"	3/8"	1.16	9.38
30F744	5/16"	7/16"	3/16"	1.28	11.55
30F745	1/8"	9/16"	1/4"	1.70	12.56
30F747	1/2"	5/8"	3/8"	1.86	13.53
30F748	5/8"	13/16"	1/2"	2.91	21.41

RUBBER GROMMET ASSORTMENT

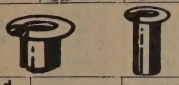
Approximately 50 in assorted sizes from 3/16" I.D. to 7/16" I.D. and 7/16" O.D. to 13/16" O.D. Packaged in plastic box.
32 F 1370. NET..... 1.10

SPADE BOLTS FOR MOUNTING SCREWS STEEL-NICKEL PLATED



Stock No.	Tread Size	Overall Length	Overall Width	Screw Length	Per 100	Per 1000
35F2121	6-32	3/4"	1/4"	11/32"	3.62	28.97
31F2122	6-32	7/8"	1/4"	13/32"	3.62	28.97
31F2123	8-32	1 5/32"	11/32"	7/11"	8.39	67.03

EYELETS BRASS



Stock No.	Shank Dia.	Length	Head Dia.	Per 100	Per 1000
31F2221	.087	1/8"	.145	.37	2.94
31F2222	.087	5/32"	.145	.49	3.92
31F2223	.087	7/32"	.145	.61	4.89
31F2224	.087	11/32"	.180	1.42	11.34
31F2225	.123	5/32"	.197	.68	5.46
31F2226	.123	7/32"	.195	.55	4.34
31F2227	.123	1/4"	.195	.71	5.73
31F2228	.123	9/32"	.195	.71	5.73
31F2231	.182	.145	.315	.42	3.36

FAHNSTOCK SPRING CLIPS

Stock No.	Fig.	Length	Width	Max. Wire	Mtg. Hole	Per 100	Per 1000
32F631	A	1/2"	7/32"	16 GA	4	7.91	15.26
32F632	B	3/4"	5/16"	14 GA	6	2.18	17.49
32F633	B	1"	3/8"	10 GA	8	3.78	30.23
32F634	C	1 1/2"	5/16"	10 GA	6	14.00	111.95
32F635	A	3/4"	5/16"	14 GA	6	6.30	50.40

HEXAGON NUTS BRASS NOT PLATED

Stock No.	Thread	Width	Thick	Per 100	Per 1000
31F2214	2-56	3/16"	1/16"	1.26	10.08
31F2216	4-36	1/4"	3/32"	1.52	12.18
31F2217	4-40	1/4"	3/32"	1.50	12.03
31F2218	6-32	1/4"	3/32"	1.49	11.90
31F2071	6-32	5/16"	7/64"	1.79	14.27
31F2072	8-32	1/4"	3/32"	1.49	11.90
31F2219	8-32	5/16"	7/64"	1.79	14.27
31F2220	10-32	3/8"	1/8"	1.96	15.68
32F636	1/4-20	7/16"	3/16"	4.18	33.44
31F2215	3-48	3/16"	1/16"	1.14	9.09

EXTRUDED FIBRE WASHERS

Stock No.	Screw Size	I.D.	O.D.	Thick	Per 100	Per 1000
30F357	No. 4	1/8"	9/32"	1/16"	1.12	8.96
31F2171	No. 6	9/64"	5/16"	1/16"	1.12	8.96
31F2172	No. 8	11/64"	3/8"	1/16"	1.12	8.96
31F2173	No. 10	13/64"	7/16"	1/16"	1.21	9.66
31F2174	No. 1/4	1/4"	1/2"	1/16"	1.21	9.66
31F2175	No. 3/8	3/8"	5/8"	1/16"	1.26	10.08

FLAT FIBRE WASHERS

Stock No.	Screw Size	I.D	O.D.	Thick	Per 100	Per 1000
30F355	No. 4	.120"	1/4"	1/32"	.63	5.04
31F2165	No. 6	9/64"	1/4"	1/32"	.63	5.04
31F2166	No. 8	11/64"	3/8"	1/32"	.63	5.04
31F2167	No. 10	.196"	3/8"	1/32"	.63	5.04
31F356	No. 1/4	1/4"	1/2"	3/64"	.68	5.46
31F2169	No. 3/8	25/64"	39/64"	3/64"	.99	7.83

SET SCREWS HARDENED STEEL-SLOTTED HEADLESS

Stock No.	Screw Size	Length	Per 100	Per 1000
32F637	6-32	1/8"	2.29	18.33
32F638	6-32	3/16"	2.29	18.33
32F639	6-32	1/4"	2.29	18.33
32F640	8-32	3/16"	2.29	18.33
32F641	8-32	1/4"	2.29	18.33
32F642	10-32	1/4"	2.29	18.33

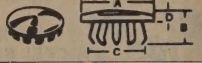
INTERNAL LOCKWASHERS CADMIUM PLATED STEEL

Stock No.	Screw Size	O.D.	Mat. Thk.	Per 100	Per 1000
31F2243	2	.....	.013	.91	7.28
31F2244	3	.....	.....	.79	6.30
31F2245	4	.....	.015	.58	4.62
31F2246	6	9/32"	.018	.56	4.47
31F2247	8	21/64"	.020	.61	4.89
31F2248	10	3/8"	.022	.61	4.89
31F2249	1/4	13/32"	.025	.81	6.44
31F2250	5/16	19/32"	.....	1.03	8.25
31F2251	3/8	11/16"	.035	1.21	9.66
31F2252	3/8	9/16"	.....	1.60	12.74
31F2253	15/32	19/32"	.....	2.00	15.95
32F643	5/16	.430"	.....	1.03	8.30

HEXAGON NUTS STEEL-NICKEL PLATED

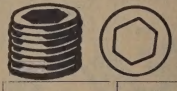
Stock No.	Tread Size	Width	Thick	Per 100	Per 1000
31F2207	2-56	3/16"	1/16"	.87	6.99
31F2208	3-48	3/16"	1/16"	.87	6.99
31F2105	4-36	1/4"	3/32"	.87	6.99
31F2106	4-40	1/4"	3/32"	.87	6.99
31F2107	6-32	1/4"	3/32"	.87	6.99
31F2209	6-32	5/16"	7/64"	.95	7.56
31F2108	8-32	1/4"	3/32"	.87	6.99
31F2210	8-32	5/16"	7/64"	.95	7.56
32F6414	8-32	11/32"	1/8"	.92	7.41
32F6445	10-32	3/8"	5/64"	1.23	9.80
31F2111	10-32	3/8"	1/8"	1.12	8.96
31F2211	1/4-20	7/16"	3/16"	1.55	12.45

SNAP BUTTON HOLE PLUGS STEEL-NICKEL PLATED



Stock No.	Hole Size	Per 100	Per 1000
31F085	1/4"	2.84	22.67
32F646	5/16"	3.05	24.35
31F2015	3/8"	3.22	25.75
31F2016	1/2"	3.91	31.21
32F6417	5/8"	4.20	33.59
31F2018	3/4"	4.23	33.86
32F648	7/8"	5.88	47.02
32F649	1 1/8"	7.52	60.18
32F650	1 1/4"	8.20	65.64
31F086	1"	5.63	45.07

ALLEN HEX SET SCREWS HARDENED STEEL-HEADLESS

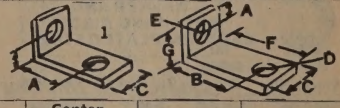


Stock No.	Screw Size	Length	Per 100	Per 1000
32F651	4-40	1/4"	6.38	61.08
32F652	6-32	1/8"	6.27	50.10
32F653	6-32	3/16"	6.27	50.10
32F654	8-32	1/8"	6.27	50.10
32F655	8-32	3/16"	6.27	50.10

CUP FINISHING WASHERS NICKEL-PLATED

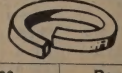
Stock No.	Screw Size	O.D.	Per 100	Per 1000
31F2142	No. 6	7/16"	.60	4.76
31F2143	No. 8	1/2"	.63	5.04
31F2144	No. 10	9/16"	.71	5.73

ANGLE BRACKETS



Stock No.	Mfg.	Center Bend	Per 100	Per 1000
31F2152	1/4"	3/16"	1.42	11.34
31F2153	3/8"	1/4"	1.77	14.13
31F2154	1/2"	7/16"	2.00	15.95

SPLIT TYPE LOCK WASHER CADIUM PLATED STEEL



Stock No.	Screw Size	Per 100	Per 1000
31F2160	No. 4	.74	5.88
31F2161	No. 6	.60	4.76
31F2162	No. 8	.60	4.76
31F2163	No. 10	.68	5.46

Hardware

EXTERNAL LOCK WASHER CADMIUM PLATED STEEL

Stock No.	Screw Size	Per 100	Per 1000
30F644	No. 4	.56	4.47
30F646	No. 6	.56	4.47
30F648	No. 8	.61	4.89
30F448	No. 10	.61	4.89
30F650	No. 1/4	.81	6.44
30F652	No. 3/8	1.21	9.66

SPRING FRICTION WASHERS SPRING STEEL

Stock No.	Hole Size	Diam.	Per 100	Per 1000
32F603	5/32"	5/16"	2.49	19.88
32F604	3/16"	3/8"	2.10	16.79
32F605	3/16"	7/16"	2.07	16.52
32F606	17/16"	9/16"	2.38	19.04
32F607	1/4"	9/16"	1.12	8.96

CONTROL AND SWITCH MOUNTING NUTS STEEL-NICKEL PLATED

Stock No.	Thread Size	Width	Thick	Per 100	Per 1000
32F608	3/8-32	9/16"	3/32"	1.87	14.97
31F2113	15/32-32	9/16"	5/64"	2.28	18.33
31F2114	15/32-32	19/32"	1/16"	4.41	35.27
31F2112	3/8-32	1/2"	3/32"	2.80	22.39

WING NUTS NICKEL PLATED STEEL

Stock No.	Thread	Per 100	Per 1000
31F2183	6-32	3.38	27.01
31F2184	8-32	3.38	27.01
31F2185	10-32	3.38	27.01

TINNERMAN SPEED NUTS

Stock No.	Screw Size	Per 100	Per 1000
31F2116	No. 6	1.00	7.98
32F609	No. 8	1.00	7.98

KNURLED THUMB NUTS BRASS-NICKEL PLATED

Stock No.	Thread Size	Per 100	Per 1000
31F2180	6-32	2.89	23.09
31F2181	8-32	2.89	23.09

ACORN NUTS SOLID METAL-NICKEL PLATED

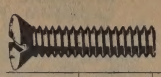
31F2102	6-32	3.52	23.13
31F2103	8-32	3.73	29.81
31F087	10-32	4.54	36.25

C-WASHER AND RETAINING RINGS CADMIUM PLATED STEEL

Stock No.	Shaft Dia.	Per 100	Per 1000
31F2145	3/16"	1.21	9.66
32F610	1/4"	1.40	11.19

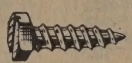
FLAT METAL WASHER NICKEL PLATED STEEL

Stock No.	Screw Size	O.D.	Per 100	Per 1000
31F2138	No. 4	9/32"	.58	4.62
31F2139	No. 6	3/8"	.58	4.62
31F2140	No. 8	7/16"	.63	5.04
31F2141	No. 10	1/2"	.63	5.04
32F611	No. 12	7/16"	.60	4.76
32F612	No. 1/4	5/8"	.87	6.99
30F094	No. 1/4	1/2"	.79	6.30



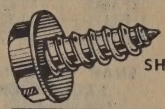
FLAT HEAD RACK AND CABINET SCREWS

Stock No.	Screw Size	Length	Per 100	Per 1000
31F2176	6-32	1/2"	.79	6.30
31F2177	6-32	3/4"	.92	7.41
31F2066	8-32	5/8"	1.21	9.66
31F2178	8-32	3/4"	1.19	9.69
31F2313	10-32	1/2"	1.21	9.66
31F2067	10-32	5/8"	1.31	10.50
31F2179	10-32	3/4"	1.42	11.34



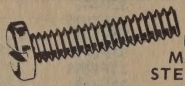
SHEET METAL SCREWS SLOTTED HEX HEAD SELF-TAPPING NICKEL PLATED

Stock No.	Screw Size	Length	Per 100	Per 1000
30F092	No. 4	3/8"	.99	7.83
31F2124	No. 4	1/2"	1.07	8.54
31F2125	No. 6	1/4"	1.12	8.96
31F2126	No. 6	3/8"	1.14	9.09
31F2127	No. 6	1/2"	1.21	9.66
31F2128	No. 6	3/4"	1.30	10.35
31F2291	No. 8	1/4"	1.30	10.35
31F2129	No. 8	3/8"	1.34	10.77
31F2130	No. 8	1/2"	1.39	11.06
31F2132	No. 10	1/2"	1.65	13.16
31F2133	No. 10	3/4"	1.79	14.27
31F2070	No. 8	5/8"	1.40	11.19



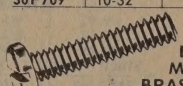
WASHER HEAD SHEET METAL SCREWS CADMIUM PLATED

32F613	No. 6	5/8"	.95	7.56
32F614	No. 8	3/4"	1.49	11.90
32F615	No. 8	1/2"	1.39	11.06



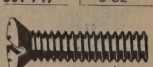
BINDING HEAD MACHINE SCREWS STEEL-NICEL PLATED

30F695	2-56	1/4"	.65	5.18
30F696	2-56	1/2"	.71	5.73
32F616	2-56	3/4"	.79	6.30
32F617	4-36	1/4"	.79	6.30
32F618	4-36	1/2"	.79	6.30
30F698	4-40	1/4"	.67	5.31
30F699	4-40	1/2"	.70	5.60
30F700	4-40	3/4"	.83	6.57
31F2196	6-32	3/16"	.71	5.73
31F2197	6-32	1/4"	.68	5.46
31F2198	6-32	3/8"	.74	5.88
30F701	6-32	1/2"	.79	6.30
30F703	6-32	3/4"	.92	7.41
30F704	8-32	1/4"	.91	7.28
31F2201	8-32	5/16"	1.00	7.98
30F705	8-32	3/8"	1.00	7.98
30F706	8-32	1/2"	1.07	8.54
30F707	8-32	3/4"	1.19	9.51
30F708	10-32	1/2"	1.21	9.66
30F709	10-32	3/4"	1.46	11.61



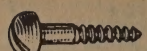
BINDING HEAD MACHINE SCREW BRASS-NICKEL PLATED

30F089	4-40	1/4"	1.30	10.35
30F090	4-40	1/2"	1.45	11.61
30F091	4-40	3/4"	1.70	13.58
30F710	6-32	1/4"	1.39	11.06
30F711	6-32	3/8"	1.49	11.90
30F712	6-32	1/2"	1.68	13.43
30F713	6-32	3/4"	2.03	16.23
30F715	8-32	3/8"	2.15	17.21
30F716	8-32	1/2"	2.47	19.73
30F717	8-32	3/4"	3.03	24.21



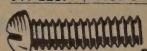
NYLON FLAT HEAD MACHINE SCREWS

32F619	4-40	1/2"	3.69	33.30
32F620	6-32	3/8"	3.79	34.50
32F621	4-32	1/2"	3.79	34.50
32F622	6-32	5/8"	3.79	34.50
32F623	8-32	1/2"	3.86	35.30
32F624	8-32	3/4"	3.86	35.30
32F625	10-32	1/2"	4.01	37.30
32F626	10-32	1"	4.31	40.00



ROUND HEAD WOOD SCREWS STEEL-NICKEL PLATED

Stock No.	Screw Size	Length	Per 100	Per 1000
31F2134	No. 4	1/2"	1.00	7.98
31F2136	No. 6	1"	1.54	12.32
31F2137	No. 8	3/4"	1.49	11.90
31F2287	No. 8	1 1/4"	2.54	20.30



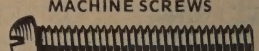
ROUND HEAD MACHINE SCREW STEEL-NICKEL PLATED

Stock No.	Screw Size	Length	Per 100	Per 1000
31F2188	2-56	1/4"	.60	4.76
31F2189	2-56	1/2"	.63	5.04
31F2190	2-56	3/4"	.76	6.02
31F2187	3-48	3/4"	.76	6.02
31F2085	4-36	1/4"	.63	5.04
31F2191	4-36	3/8"	.68	5.46
31F2089	4-36	1/2"	.70	5.60
31F2090	4-36	3/4"	.89	7.14
31F2086	4-40	1/4"	.63	5.04
30F082	4-40	3/8"	.63	5.04
31F2087	4-40	1/2"	.70	5.60
31F2034	4-40	5/8"	.74	5.88
31F2088	4-40	3/4"	.83	6.57
31F2091	6-32	1/4"	.68	5.46
30F083	6-32	3/8"	.68	5.46
31F2092	6-32	1/2"	.79	6.30
31F2035	6-32	5/8"	.87	6.99
31F2093	6-32	3/4"	.92	7.41
31F2094	6-32	1"	1.07	8.54
31F2192	6-32	1 1/4"	1.30	10.35
31F2195	6-32	2"	1.93	15.39
32F627	8-32	1/4"	.91	7.28
31F2096	8-32	3/8"	1.00	7.98
31F2097	8-32	1/2"	1.07	8.54
31F2098	8-32	3/4"	1.19	9.51
31F2099	8-32	1"	1.37	10.92
31F2193	8-32	1 1/4"	1.58	12.60
31F2100	10-32	1/2"	1.21	9.66
31F2037	10-32	5/8"	1.33	10.64
30F2084	10-32	3/4"	1.46	11.61
31F2101	10-32	1"	1.60	12.74
31F2194	10-32	1 1/2"	2.12	16.94
31F2033	4-36	5/8"	1.54	12.32

ROUND HEAD MACHINE SCREW BRASS-NOT PLATED

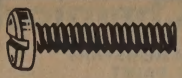
Stock No.	Screw Size	Length	Per 100	Per 1000
31F2039	2-56	1/2"	1.02	8.12
31F2041	2-56	3/4"	1.19	9.51
31F2042	3-48	3/4"	1.34	10.77
31F2048	4-40	1/2"	1.31	10.50
31F2050	4-40	3/4"	1.65	13.16
31F2297	6-32	1/4"	1.39	11.06
31F2051	6-32	3/8"	1.54	12.32
31F2298	6-32	1/2"	1.68	13.43
31F2052	6-32	5/8"	1.94	5.53
31F2299	6-32	3/4"	2.03	16.23
30F086	6-32	1"	2.42	19.31
31F2053	6-32	1 1/4"	2.80	22.39
31F2054	6-32	2"	4.73	37.79
30F087	8-32	3/8"	2.15	17.21
31F2302	8-32	1/2"	2.47	19.73
31F2303	8-32	3/4"	3.03	24.21
31F2304	8-32	1"	3.60	28.83
31F2057	8-32	1 1/4"	4.22	33.73
31F2058	10-32	1/2"	3.12	24.91
30F088	10-32	3/4"	3.80	30.37
31F2061	10-32	1"	4.54	36.25

NYLON ROUND HEAD MACHINE SCREWS



Stock No.	Screw Size	Length	Per 100	Per 1000
30F1000	2-56	1/4"	3.69	33.30
32F628	2-56	1/2"	3.69	33.30
30F1004	4-40	1/4"	3.69	33.30
30F1006	4-40	1/2"	3.69	33.30
32F629	4-40	3/4"	3.79	34.50
30F1008	6-32	1/4"	3.69	33.30
30F1010	6-32	3/8"	3.79	34.50
30F1012	6-32	1/2"	3.79	34.50
32F630	6-32	5/8"	3.79	34.50
30F1014	6-32	3/4"	3.79	34.50
30F1018	8-32	3/8"	3.86	35.30
30F1020	8-32	1/2"	3.86	35.30
30F1022	8-32	3/4"	3.86	35.30
30F1025	10-32	1/2"	3.86	35.30
30F1027	10-32	1"	4.02	37.30

NYLON BINDING HEAD MACHINE SCREWS



Stock No.	Screw Size	Length	Per 100	Per 1000
30F1001	2-56	1/4"	3.69	33.30
32F656	2-56	1/2"	3.69	33.30
30F1005	4-40	1/4"	3.69	33.30
30F1007	4-40	1/2"	3.69	33.30
32F657	4-40	3/4"	3.79	34.50
30F1009	6-32	1/4"	3.69	33.30
30F1011	6-32	3/8"	3.79	34.50
30F1013	6-32	1/2"	3.79	34.50
32F658	6-32	5/8"	3.79	34.50
30F1015	6-32	3/4"	3.79	34.50
30F1019	8-32	3/8"	3.86	35.30
30F1017	8-32	1/4"	3.86	35.30
30F1023	8-32	3/4"	3.86	35.30
32F659	10-32	1/2"	3.86	35.30
32F660	10-32	1"	4.02	37.30

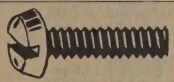
NYLON HEX NUTS

Stock No.	Screw Size	Width	Thick.	Per 100	Per 1000
30F1033	2-56	3/16"	1/16"	6.13	57.12
30F1034	4-40	1/4"	3/32"	6.26	58.07
30F1035	6-32	5/16"	7/64"	6.37	59.33
30F1036	8-32	1 4/32"	1/8"	6.49	60.38
30F1037	10-32	3/8"	1/8"	6.57	61.32

NYLON WASHERS

Stock No.	Screw Size	O.D.	I.D.	Per 100	Per 1000
30F1040	No. 4	9/32"	.050	.70	6.51
30F1041	No. 6	5/16"	.050	.78	6.13
30F1042	No. 8	3/8"	.050	1.04	9.45
30F1043	No. 10	7/16"	.060	1.20	11.03

NYLON FILLISTER HEAD MACHINE SCREWS



Stock No.	Screw Size	Length	Per 100	Per 1000
32F661	2-56	1/4"	3.69	33.30
32F662	2-56	1/2"	3.69	33.30
32F663	4-40	1/4"	3.69	33.30
32F664	4-40	1/2"	3.69	33.30
32F665	4-40	3/4"	3.79	34.50
32F666	6-32	1/4"	3.69	33.30
32F667	6-32	3/8"	3.79	34.50
32F668	6-32	1/2"	3.79	34.50
32F669	6-32	5/8"	3.79	34.50
32F670	6-32	3/4"	3.79	34.50
32F671	8-32	3/8"	3.86	35.30
32F672	8-32	1/2"	3.86	35.30
32F673	8-32	3/4"	3.86	35.30
32F674	10-32	1/2"	3.86	35.30
32F675	10-32	1"	4.02	37.30

2, 2.6 and 3mm METRIC HARDWARE ASSORTMENT

Replacement metric hardware assortments can be used on all Japanese and European recorders, TV sets, radios, etc. *All assortments contain ten each of the following items: slotted machine screws, Phillips head machine screws, nuts, washers, and lock washers. All hardware nickel-plated brass.

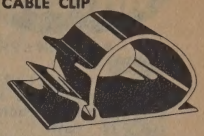
Stock No.	Description	Quantity	Net Pkg.
32F600	2mm Hardware	*50 Asst.	.49
32F601	2.6mm Hardware	*50 Asst.	.49
32F602	3mm Hardware	*50 Asst.	.49

CABLE CLAMPS

***Translucent White Nylon and Clear Cellulose (Light Amber) Rigid Wire and Cable Clamps**

Stock No.	I.D.	Width	Height	Per 100	Per 1000
32F676*	1 1/32"	.53"	27/64"	5.16	41.32
32F677*	1 5/32"	.56"	9/16"	5.61	44.92
32F678*	1 1/16"	.63"	49/64"	6.38	51.05
32F679	1 1/32"	.53"	27/64"	4.78	38.25
32F680	1 5/32"	.56"	9/16"	5.16	41.32
32F681	1 1/16"	.63"	49/64"	5.86	46.91

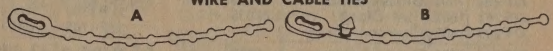
ADHESIVE MOUNTED LOCKING CABLE CLIP



Unique cable clip offers easily mounted, neat appearing fastening device. Exclusive patented lock/release design allows easy insertion of cable and a positive holding action. Long aging adhesive backing on clip holds to almost any clean surface and has an average pull-off strength of 12 pounds. High-impact, stable PVC temp. range −20° to +180°F. Sizes available to accommodate cable or wire from 3/16" to 3/4".

Stock No.	I.D.	Width	Length	Per 100	Per 1000
32F682	3/4"	1.5"	1.5"	30.49	243.90
32F683	5/8"	1.25"	1.25"	21.19	169.53
32F684	1/2"	1"	1.25"	16.38	131.01
32F685	3/8"	1"	1"	14.21	113.69
32F686	1/4"	1"	1"	12.20	97.64
32F687	3/16"	1"	3/4"	11.18	89.43
32F688	3/8"	1/2"	1"	10.00	79.97
32F689	1/4"	1/2"	1"	8.46	67.71
32F690	3/16"	1/2"	3/4"	7.70	61.57

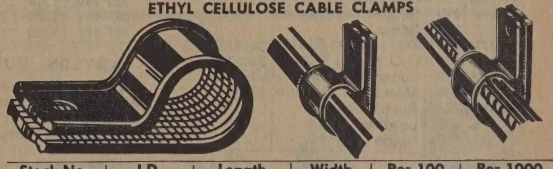
WIRE AND CABLE TIES



Efficient, cost cutting and unique method of binding together loose wire and cable in equipment. Easily utilized by skilled and unskilled manpower. Unique beaded design provides a positive fastening action and may be released should it become necessary to add or remove wire or cable. Available in plastic and *nylon material for a wide variety of applications.

Stock No.	Fig.	Length	Color	Per 100	Per 1000
32F691	A	4 1/4"	Green	1.38	11.10
32F692	A	4 1/4"	Red	1.38	11.10
32F1250	A	4 1/4"	Yellow	1.38	11.10
32F1251	A	4 1/4"	Blue	1.38	11.10
32F1252	A	8"	Green	2.27	18.15
32F1253	A	8"	Red	2.27	18.15
32F1254	A	8"	Yellow	2.27	18.15
32F1255	A	8"	Blue	2.27	18.15
32F1256	A	10"	Red	2.69	21.60
32F1257	A	10"	Yellow	2.69	21.60
32F1258	A	10"	Blue	2.69	21.60
32F1259	A	10"	Green	2.69	21.60
32F1260	A	12"	Yellow	3.12	24.90
32F1261	A	12"	Red	3.12	24.90
32F1262	A	12"	Blue	3.12	24.90
32F1263	A	12"	Green	3.12	24.90
32F1264	B	4 1/4"	Red	1.75	13.95
32F1265	B	4 1/4"	Yellow	1.75	13.95
32F1266*	B	4 1/4"	Blue	1.75	13.95
32F1267*	A	4 1/4"	White	1.87	14.90
32F1268	A	10"	White	4.23	33.85

ETHYL CELLULOSE CABLE CLAMPS



Stock No.	I.D.	Length	Width	Per 100	Per 1000
32F1269	1/8"	0.328"	1/2"	2.33	19.80
32F1270	3/16"	0.390"	1/2"	2.40	19.92
32F1271	1/4"	0.421"	1/2"	2.58	21.97
32F1272	5/16"	0.453"	1/2"	2.85	24.23
32F1273	3/8"	0.483"	1/2"	3.00	25.50
32F1274	7/16"	0.531"	1/2"	3.30	27.83
32F1275	1/2"	0.562"	1/2"	3.60	29.63
32F1276	9/16"	0.625"	1/2"	4.20	34.68
32F1277	5/8"	0.610"	1/2"	4.50	36.00
32F1278	11/16"	0.666"	1/2"	4.80	38.40
32F1279	3/4"	0.765"	1/2"	5.10	40.80
32F1280	7/8"	0.812"	1/2"	5.40	43.20
32F1281	1"	0.906"	1/2"	5.70	45.60
32F1282	1 1/8"	0.986"	1/2"	6.00	48.00
32F1283	1 1/4"	1.060"	1/2"	6.30	54.40

NYLON (DU-PONT) CABLE CLAMPS

Stock No.	I.D.	Length	Width	Per 100	Per 1000
32F1284	1/8"	0.328"	3/8"	3.60	28.80
32F1285	3/16"	0.390"	3/8"	3.90	31.20
32F1286	1/4"	0.421"	3/8"	4.20	33.60
32F1287	5/16"	0.453"	3/8"	4.65	37.20
32F1288	3/8"	0.483"	3/8"	4.80	38.40
32F1289	7/16"	0.531"	3/8"	5.10	40.80
32F1290	1/2"	0.562"	3/8"	5.40	43.20
32F1291	9/16"	0.625"	1/2"	6.60	52.80
32F1292	5/8"	0.610"	1/2"	7.20	57.60
32F1293	11/16"	0.666"	1/2"	7.50	60.00
32F1294	3/4"	0.765"	1/2"	8.10	64.80
32F1295	7/8"	0.812"	1/2"	8.70	69.60
32F1296	1"	0.906"	1/2"	10.20	81.60
32F1297	1 1/8"	0.968"	1/2"	12.00	96.00
32F1298	1 1/4"	1.060"	1/2"	13.80	110.40

KRYLON Spray Paints & Chemicals

KRYLON SPRAY PAINT

- Time and Labor Saver
- Reaches Hard-to-Reach Areas
- Professional Finishes at Low cost.

For coating all metal, wood, etc. Sprays will seal any surface against oil, moisture, and chemicals. Colors meet Fed. Spec. TT-L-0048(GSA-FSS). 1 pt. dispenser. Shpg wt. 1½ lbs.

Stock No.	Type	Color	Fed.Std. No. 595	NET
32F290	1401	Bright Silver	17178	
32F513	1403	Dull Aluminum	.....	
32F292	1501	Gloss White	.....	
32F150	1502	Flat White	37875	
32F151	1503	Antique White	17778	1.19
32F293	1601	Glossy Black	17038	
32F282	1602	Flat Black	37038	
32F283	1603	Charcoal Grey	.....	
32F284	1604	Shadow Grey	16099	
32F276	1605	Dove Grey	.....	
32F080	1608	Smoke Grey	16187	
32F285	1701	Bright Gold	.....	
32F081	1704	Spanish Brown	.....	1.19
32F286	1801	Chrome Yellow	.....	
32F152	1802	Pastel Yellow	.....	
32F082	1803	Marigold Yellow	.....	
32F083	1804	Bright Yellow	.....	
32F506	1809	Schl. Bus Yel.	13432	
32F084	1810	Pineapple Yel.	.....	
32F1106	1811	Harvest Gold	.....	
32F287	1901	Regal Blue	.....	1.19
32F085	1902	Baby Blue	.....	
32F176	1903	Metallic Blue	.....	
32F1100	1910	True Blue	.....	
32F086	1911	Pennant Blue	. . .	
32F288	2001	Hunter Green	14062	
32F087	2002	Pastel Aqua	. . .	
32F088	2004	Moss Green	. . .	
32F1101	2005	Erin Green	. . .	1.19
32F1102	2008	Aqua Turq.	. . .	
32F1109	2009	Avocado	. . .	
32F089	2010	Mint Green	. . .	
32F289	2101	Cherry Red	11136	
32F090	2103	Am. Beauty Red	. . .	
32F091	2108	Banner Red	. . .	
32F092	2109	Pastel Pink	. . .	
32F1107	2110	Hot Pink	. . .	
32F296	2201	Bright Copper	. . .	
32F177	2202	Brass	. . .	1.19
32F277	2301	O.D. Khaki Glossy	14087	
32F093	2302	O.D. Khaki Flat	34087	
32F278	2401	Sunset Orange	. . .	
32F514	2404	Mandarin Orange	12215	
32F1108	2406	Burnt Orange	. . .	
32F178	2501	Leather Brn	. . .	
32F507	2504	Beige	. . .	

Carton of 12 ..... 12.89

GLOWING FLUORESCENT SPRAY PAINT

For sure, quick attention and dazzling color effects. Attracts attention of great distances. Makes any surface with white base up to 4times brighter. Colors stand out sharply from their surroundings. For use in daylight or artificial light. Gives neon effect in black light. For maximum brightness, white base is necessary. For use in industry, aviation, military, business, and the home where strong visual impact is necessary. For outdoor use, spray Krylon Crystal-Clear protective coating on dry glowing fuorescent film. *Made to meet MIL-P-21600. 1 pt. cans. Shpg. wt. 1½ lbs.

Stk. No.	Type	Description	NET
32F165	3101	Red Orange-633*	
32F166	3102	Yellow Orange-634*	
32F167	3103	Sunset-Gold	1.86
32F168	3104	Lemon-Yellow	
32F169	3105	Cerise	
32F170	3106	Green	
32F171	3107	Blue	

Carton of 12 cans 20.09

HIGH HEAT RESISTANT SPRAY PAINT

High heat spray paint is best applied when surface is not in excess of 120°F and will withstand 600°F constant temperature and up to 1200°F intermittently. Special formulation to give exceptional film thickness. Dries quickly. Can be recoated at any time using suggestions above, increasing heat gradually to normal operating conditions. In 1 pint spray cans. Shpg. weight 1½ lbs.

Stk.No.	Type	Color	NET
32F180	1402	Aluminum	
32F1103	1505	White	1.66
32F1104	1614	Black	
32F1105	2107	Red	

Carton of 12 cans 17.93

HEAT RESISTANT SPRAY PAINT

Special formulation Krylon spray paint for high heat conditions on pipes, radiators, boilers, motors, engines, up to 1 pint can. Shipping weight 1½lbs.

Stk. No.	Type	Color	NET
32F515	1611	Gray	
32F516	1612	Black	
32F517	1909	Blue	1.19
32F518	2007	Green	
32F519	2106	Red	

Carton of 12 cans..... 12.89

KRYLON METAL PRIMER

The quick, easy to prepare surfaces for painting. The green and yellow are rust inhibitive zinc chromate primers specially for metal and are manufactured in accordance with Spec. MIL-P-8585-A Type 1. Grey, black & white are for wood, metal, plastic, etc. In 1 pt. spray cans. Shpg. wt., 1½ lbs.

Stk. No.	Type	Color	Each	12 For
33F094	1315	White	1.19	12.89
33F095	1316	Black	1.19	12.89
32F160	1318	Grey	1.19	12.89
32F161	1319	Yellow	1.30	14.04
32F297	1320	Green	1.30	14.04

KRYLON RUST MAGIC PRIMER

Type 1317. A quick drying anti-rust metal primer. Space age Phenolic Resin G1-358 gives Krylon Rust Magic Metal Primer piercing power through heavy rust. Seals out moisture, air, and neutralizes porous rust. Dry to the touch in 20 minutes, apply finish coat in 2 hours. Compatible with Krylon Spray Paints. 1 pt. spray can. Shpg. wt., 1½ lb
32F172. NET 1.19
Carton of 12 cans 12.89

KRYLON DULLING SPRAY

Type 1310. Dulling spray eliminates glare from reflecting surfaces. Spray dries in seconds. It is harmless to high polish—removes easily.
32F273. 1 pt. can. EACH 1.30
Carton of 12 cans 14.04

KRYLON MATTE FINISH

Type 1311. A permanent, non-gloss finish that eliminates glossy sheen and light reflection. Gives soft satin finish to glossy photos, glossy negatives, reprints, etc. Dries in minutes.
32F1110. 1 pt. can NET 1.30
Carton of 12 cans 14.04

RED INSULATING VARNISH

Type 7004. Will penetrate through multiple layers of taped coils, increasing dielectric strength, leaving a tough flexible oil-proof film with high adhesion characteristics, exceptional arc-resistance, and non-tracking properties. Maximum oil-proofness and chemical resistance. Excellent sealer on pitted windings. Shpg. wt. 1½ lbs.
35F510 1 pt. can NET 1.30
Carton of 12 cans 14.04

CRYSTAL-CLEAR ACRYLIC

Type 1302. Protects and preserves metal, wood, paper, and leather surfaces. Dries in minutes, goes on clear, and stays clear. Prevents tarnish, rust corrosion. Resists fungus chemicals, dilute acids, dirt and grease. Gives lasting protection against electrical failures, less down time. Acrylic film with its high dielectric strength is made for electronics specialty applications. Will not affect resistance values or conduct current. Prevents moisture breakdown. Also, electrolysis between various metals. Meets TT-L0048 (GSA-FFS). 1pt. can. Shpg. wt., 1½ lbs.
32F291. NET 1.30
Carton of 12 cans 14.04

KRYLON CONTACT CLEANER

Type 1333. 1 pt. Non-flammable, greaseless contact cleaner in spray can. Does not attack plastic. Cleans volume controls, switches, and tuners. Removes dirt and gummy deposits from electrical contacts and provides a non-drying film which lubricates the contact surfaces. Long lasting protection from corrosion and oxidation. Comes with 5" plastic hose.
32F154. NET. . . .1.99 Carton of 12.....21.46
Type 1333A. 8 ozs.
32F155. NET. . . .1.32 Carton of 12.....14.26

CLEANER LUBRICANT

Type 1326. 1 pt. Non-flammable, balanced blend of grease and oil solvent and lubricant. Protects against corrosion and keeps surfaces self-cleaning. Minimizes surface friction, dissipates generated heat. For use on arcing as well as non-arcing contacts. Low electrical resistance. (For plastics use Type 1333). 5" hose included.
32F521. NET. . . .1.30 Carton of 12. . . .14.04
Type 1326A. 7 ozs.
32F522. NET. . . .65 Carton of 12. . . .7.06

ELECTRIC MOTOR CLEANER

Type 1327. Cleans grease, oil, and tar from inside electric motors without harming insulation, paint, or lacquer. Evaporates completely. Contains no carbon tet. Shpg. wt. 1½ lbs.
32F508. 1 pt. can. NET 1.13
Carton of 12 cans 12.17

ANTI-RUST WAX SPRAY

Type 1321. Leaves a dry, waxy film coating that protects any stored metal parts, bearings, gauges, tools, etc. Shpg. wt. 1½ lbs.
32F511. 1 pt. can. NET 1.30
Carton of 12 cans 14.04

HEAVY DUTY SILICONE SPRAY

Type 1329. Silicone spray for electrical and mechanical uses. Dielectric strength 350V. mil. Excellent lubricant for many electronic devices. Shpg. wt., 1½ lbs.
32F181. 1 pt. can NET 1.30
Carton of 12 cans 14.04

SILICONE MOLD RELEASE

Type 1328. Silicone mold release spray releases parts faster, cuts rejects in blow and injection molding of plastic, rubber, ceramic, and glass. Contents: 20 oz. by weight.
32F512. 1 pt. can. NET 1.30
Carton of 12 cans 14.04

KRYLON LET-GO PENETRATING OIL SPRAY

Type 1332. Super penetrant oil spray lubricates as it penetrates into rusty threads, etc. Spray reaches all areas. Shpg. wt. 1½ lbs.
32F509. 1 pt. can. NET 1.13
Carton of 12 cans 12.17

Spray Paints and Chemicals

NEWARK EXCLUSIVE! MOISTURE-FUNGUS RESISTANT VARNISH

MEETS MIL SPEC. MIL-V-173-A

No. 277. Distributed only by Newark in U.S. Conforms to MIL-V-173-A. Always ready for instant use, simply press the trigger and get professional finishes at low cost. Does the job in minutes. It is inherently fluorescent and a treated chassis may be checked with an ultra-violet light-keyed for 3500 A. U's Viscosity 0.85 poises. 16 oz. cans.

Stk. No.	Type	1-11	12-23	24-47	48-96
32F427	277	1.30	1.20	1.10	1.00

PLASTI-KOTE

PLASTI KOTE ARMOR PLATE EPOXY SPRAY PAINT

Spray paint provides a tile-hard, porcelain-like finish to both inside and outside equipment. Will not chip, peel, or crack. Ideal for refrigerators, washers, dryers, bowls, sinks, tubs and tile, as well as window sills and iron railings. Also applicable to lawn and garden fixtures. Comes in 13 oz. cans.

Stk. No.	Type	Color	1-5	6-11	12-Up
32F1005	191	Appliance White	1.87	1.66	1.40
32F1007	193	Black			
32F1008	194	Copper			
32F1017	187	Harvest	1.41	1.26	1.13
32F1018	188	Avocado			
32F1019	189	Flame			

SPRAY HAMMER FINISH

Stk. No.	Type	Description	NET
32F431	212	Silver Hammer	1.17
32F432	213	Gray Hammer	
32F433	214	Green Hammer	
32F434	215	Blue Hammer	
32F435	216	Copper Hammer	

PLASTIC SPRAY

No. 274. Plasti-Kote Clear Acrylic Plastic Spray. Durable, flexible coat against dirt, water, weather. High dielectric strength. Seals connections, protects aerials. 16 oz. cans. Shpg. wt. 1 lb.
32F400. NET 1.20

• NEW SPRAY CAN HANDLE

Handle snaps onto all makes and sizes of aerosol spray cans. Unlimited uses — employ on paint and spray starch cans. Quickly detached. Shpg. wt.: ¼ lb.

Stock No.	Type	NET
32F1000	SC-500	.49

ILLINOIS BRONZE WRINKLE FINISH SPRAY PAINT

leal for both indoor and outdoor use. ives any surface a factory rich, distinc-ve, textured metallic finish without ex-ensive equipment or processing.

Stk. No.	Type	Color	NET
60F980	331	Smoke Silver	1.49
60F981	336	French Grey	
60F982	327	Jet Black	

You Can Depend on NEWARK For Everything in Industrial Electronics

EPOXY PRODUCTS CO., DIV. OF ALLIED PRODUCTS CORPORATION

SILVER FILLED ELECTRICALLY CONDUCTIVE COATING

-Kote 40. Silver conductive paint in spray-on aerosol an. Quickly, electrically shields circuit modules and ompounds. Will adhere to plastic, glass ceramic and ost other materials. Tack-free in 3-5 minutes, com-letely dry in 16 hours. Fully conductive within min-tes after application. Volume resistivity of dried lm is .001 OHM-CM. Cure schedule: 30 min. at 75°C., 16 hrs. at 25°C. 8 oz.

2F556 ..... 15.00

EPOXY SILVER E-SOLDER

Conductive silver epoxy used to bond dissimilar materials no flux or residue to contaminate sensitive electronic components. Jar size: 2 oz. except 32F552 which is 3 oz. Maximum operating temperature, °C: 125-150 for 32F550.

Stk. No.	Type	Description	Ohm-Cm Resist.	Cure Schedules	NET Per Jar
32F550	3021	2 Part Paste Pure Silver	.001	27C—24 Hrs. 65C— 3 Hrs.	15.00
32F552	3030	Pure Silver Paint	.1	Air Dry	

LOCTITE® SEALANT

Meets Military Specifications Mil-S-22473C, Mil-P-11268D, Mil-E-5400F, Mil-T-21200D, Mil-E-16400D and Mil-E-8189B.

GUIDE FOR SELECTION OF PROPER GRADE

Measure engaged length of screw (L in diagram), and diameter of screw (D in diagram). Divide L by D to get engagement ratio. Select proper grade letter from table below. Use A on snug fits; V grades on loose fits. Suffix V indicates higher viscosity of grade.

APPLICATION	ENGAGEMENT RATIO				
	0.5	1.0	1.5	2.5	5.0
Nuts on steel screws	A	A	C	...	...
Steel Screws in tapped holes	A	A	C	C	E
Steel studs	...	A	A	C	C
Steel adjustment screws	A	C	E	H	H
Adjustment nuts on steel screws	A	C	E		
Nuts on aluminum or brass screws	A	C	C		
Aluminum or brass screws	A	C	C	E	H
Aluminum or brass adjustment screws	C	E	E	H	...
Adjustment nuts on aluminum or brass screws	C	E	E	...	...

2CC

Stock No.	Grade	Color Code	Maximum Clearance	Vics. (cent.)	Strength psi	1-9	10-Up
57F000	C	Blue	.003"	10-15	300-400	.89	.85

10CC

Stock No.	Grade	Color Code	Maximum Clearance	Vics. (cent.)	Strength psi	1-9	10-Up
57F001	C	Blue	.003"	10-15	300-400	2.35	1.90
57F002	AA	Green	.003"	10-15	1150-1500	2.55	2.05
57F003	A	Red	.003"	10-15	750-1000	2.35	1.90
57F005	AV	Red	.005"	100-150	750-1000	2.35	1.90
57F006	B	Yellow	.005"	20-30	525-700	2.55	2.05
57F007	CV	Blue	.005"	100-150	300-400	2.35	1.90
57F008	E	Purple	.003"	10-15	150-200	2.00	1.63
57F010	H	Brown	.003"	10-15	75-100	2.00	1.63

50CC

57F012	C	Blue	.003"	10-15	300-400	7.50	6.10
57F014	A	Red	.003"	10-15	750-1000	7.60	6.20
57F019	E	Purple	.003"	10-15	150-200	6.15	5.15
57F021	H	Brown	.003"	10-15	75-100	6.20	5.15

SEALANT

Loctite anaerobic compounds are single component resins furnished as liquids which self-harden into tough plastic bonds when confined between close fitting parts. When used with standard fasteners, Loctite will provide shock and vibration proof assemblies superior to mechanical fasteners. When Loctite is used with aluminum parts, plated parts or with thermoset plastic materials, the Locquic Primer is recommended for optimum performance.

MAINTENANCE KIT

Type 1-50. Contains one 50cc plastic bottle of Loctite Sealant general purpose grade B, applicator nozzle and aerosol spray can of Locquic primer for use on oily or plated parts. Parts will not loosen from vibration.
57F026. 1-9 ..... 10.50 10-up 8.50

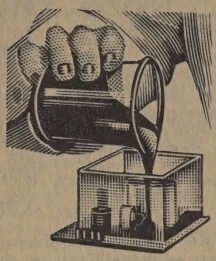
LOCQUIC PRIMER

Type 47-56. Primary rinse which speeds hardening of the sealant and effectively cleans oily parts, 6 ounce "ready to use" aerosol can. Grade T.
57F025. 1-9 ..... 2.10 10-up 1.90

Emerson & Cuming Plastics

STYCAST CASTING RESINS

MILITARY GRADE EPOXY RESIN 2651



- High Mechanical Strength
- Meets Mil. Spe. MIL-1-16923 B, C & D

Medium viscosity rigid epoxy. Choice of two catalysts allows cure at room or oven temperatures. Excellent general purpose encapsulant and adhesive. High mechanical strength and thermal shock capability combined with exceptional electrical insulation capacity. Service temperatures: —70°F to +350°F. Wt. 2 lbs.

32F372. NET 10.00

HIGH THERMAL CONDUCTIVITY RESIN 2850 FT

- Cryogenic
- High Thermal Conductivity—Low Shrinkage

Has a coefficient of thermal expansion matched to copper. Low shrinkage makes it possible to encase glass diodes without fear of breakage. High thermal conductivity and excellent electrical insulation make it ideal for transformer potting. Used to as low as 1.2°K. Shows no appreciable outgassing in high vacuum up to 10-12 mm. Hg. service temperature to 390°F. Wt. 3 lbs.

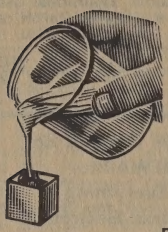
32F455. NET 12.00

LOW VISCOSITY RESIN STY CASE 2651MM

Module encapsulant, free machining rigid opaque epoxy. For easy handling in potting tightly packed components. Choice of two catalysts allows room or oven temperature cure. Service temperature: —70°F to +350°F. Wt. 2 lbs.

32F373. NET 10.00

CLEAR STYCAST 1266



- Transparent
- Low Viscosity—High Impact

High impact low viscosity epoxy. For electrical encapsulation where component visability is desired. It can also be used for display embedments or bonding sheets of glass for good visibility. Cures in a few hours at room temperature or minutes at 150°F. Service temperature: —70°F to +200°F. Wt. 2 lbs.

32F456. NET 12.00

CLEAR URETHANE RESIN CPC-16

- Flexible Casting Resin
- Transparent and Repairable

Low viscosity, room temperature cured flexible casting resin. Use to pot fragile components without fear of fracturing at cold temperatures. Transparent and repairable; components can be seen, dugout, and resealed with drop of resin. Flexible temp. —60°F to +300°F. Wt. 2 lbs.

32F457. NET 12.00

ECCOBOND EPOXY ADHESIVES

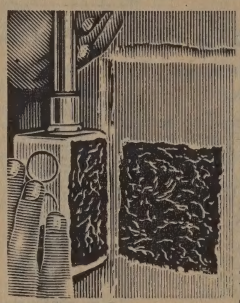
ECCOBOND 26

- Water and Chemical Resistant

Two component, 100% white epoxy resin, mechanical adhesive. For use in labs, and on production lines, for repair and manufacture of tools furniture, boats, hardware items, bowling pins and electronic sub assemblies. Bonds permanent adhesion to metals, plastics, paper and ceramics. Good resistance to water and chemicals. Supplied as a two-part system. Equal amounts are mixed and applied. Cure is completed in 4 hours at room temperature.

32F371. NET 2.50

ECCOBOND 285



General purpose black rigid adhesive paste which may be cured with one of three curing agents supplied; Catalyst 24LV — room temp. cure — 30 min. pot life — lowest thixotrophy and viscosity and will soften above 250°F; Catalyst 9 — room tem. cure — 45 min. pot life — highest thixotrophy and viscosity may be used up to 300°F; Catalyst 11—requires oven cure—4 hr. pot life—high thixotrophy with medium viscosity and may be used up to 350°F continuous duty, with short time exposure to 400°F. When cured produces high strength bond to most materials including metals, glass, ceramics, and most plastics, performs equally well on porous or non-porous surfaces and has excellent resistance to water and chemicals. Coefficient of thermal expansion is much lower than commonally available adhesives. High thermal conductivity. Combination works well to overcome bond failure due to thermal cycling.

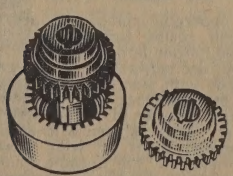
32F460. NET 12.00

ECCOBOND 45

Liquid epoxy with controlled flexibility epoxide adhesive. Designed for use where shock-peel resistance is desired, is a good water and chemical resistant. Excellent adhesion to metals, glass, ceramic and plastic. Flexibility can be adjusted to suit needs by changing ratio of Eccobond and Catalyst. Can be cured at room temp. or quicker at elevated temps. Temp. range for use—70°F to 300°F. Clear is same as Black except it's a two-part epoxy liquid and has adhesion to "hard to bond" plastics. Has been proven to be useful in ahering two materials with widely different coefficients of thermal expansion. Is a good vibration damper. Temp. range use for —70° F to 250°F.

32F458. Black. NET 10.00
32F459. Clear. NET 10.00

RTV SILICONE RUBBER

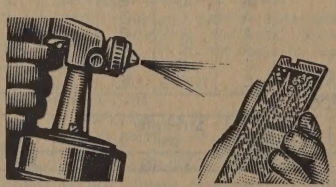


- Ideal for Making Flexible Molds
- Used for Potting and Encapsulation

Ecosil 4850. Pourable resin which cures to a 60 durometer flexible silicone rubber. Used for potting and encapsulation, as a caulk and sealer, and widely used in the making of flexible molds. Its flexibility, self releasing property, and good dimensional stability, make it an ideal prototype mold material. It can be subjected to temperatures up to 450°F for prolonged periods. Wt. per can 2 lbs.

32F461. NET 12.00

ECCOCOAT SURFACE COATINGS



CLEAR EPOXY SURFACE COAT—ECCOCOAT EC200

A two part brush or spray coating that cures to a transparent, tough, moisture impervious film. Chemical and corrosion resistance and high electrical insulation make this an ideal circuit board and general purpose protective coating. Service Temp.:—70°F to +275°F. 2 lbs.

32F463. NET 10.00

MOLD RELEASE 1225—SPRAY

A silicone type release agent used to prevent adhesion of epoxies to molds. Handy aerosol spray can. Wt. ¼ lb.

32F464. Spray Can. NET 5.00

ECCOSTRIP 57-EPOXY SOLVENT

Excellent for use in clean-up of uncured epoxy on tools and in containers. It will soften cured epoxy resin very slowly. Items must be submerged in the solvent for several days.

32F396. NET 1.48

You can depend on Newark for everything in industrial electronics Newark grown with your growing needs

General Electric Silicones

RTV SILICONE RUBBER

TWO PART RTV SYSTEMS

General Electric RTV two-package silicone rubber compounds (liquids or pastes) cure to strong durable, resilient material at room temp. after addition of a curing agent. Cure times 10 min. to 24 hrs. Physical toughness and insulating ability retained over -75°F to 600°F range. Resists ozone, weathering, aging, and will absorb shock and vibration. Physical properties using standard ASTM test procedures; hardness. Shore A: 45-65. Tear resistance 15-75 pound/inch.

RTV SILICONE RUBBER PROPERTIES

RTV Types, Dimethyl	630	11	21	30	41	60	77	88	90
Shelf Life, Months	6	6	6	6	6	6	6	6	6
Specific Gravity	1.28	1.18	1.31	1.45	1.31	1.47	1.33	1.48	1.50
Tensile Strength, psi	850	350	550	750	500	800	500	750	750
Elongation, %	300	180	180	130	200	130	220	110	150
Brittle Point, °F					Below -75				
Dielectric Strength Volts/Mil.	500	500	500	475	500	500	475	450	500
Dielectric Constant 60HZ	3.2	3.6	3.4	4.0	3.8	3.7	4.0	4.0	4.0
Volume Resistivity, Ohm-CMx10_{14}	6.0	6.0	8.8	2.9	1.5	1.3	1.0	1.0	1.3

MAJOR USES

Potting, Encapsulation		√	√	√	√	√			
Sealing and Bonding				√		√	√	√	√
Flexible Molding	√	√	√	√	√	√			
Aerospace				√		√		√	√

Best physical, chemical and heat resistant properties of any RTV compound. Used for encapsulation of transformers, coils and motors; for fabrication of rubber parts where toughness provides maximum protection. Widely used for release applications and flexible molds due to low shrinkage.

1. Weigh Compound
2. Add Curing Agent
3. Mix
4. Deaerate
5. Pour
6. Cure

Mixing

Pouring

Stk. No. 1 lb. Container	Type	Color	1-5	6-11	12-Up
57F053	RTV-11	White	10.10	8.40	7.55
57F054	RTV-21	Pink			
57F055	RTV-30	Red			
57F056	RTV-41	White	8.05	6.70	6.05
57F057	RTV-60	Red			
57F058	RTV-77	White			
57F059	RTV-88	Red			
57F060	RTV-90	Red			

Stk. No. 1 lb.	Type	Color	1-5	6-11	12-UP
57F061	RTV-630	Blue	12.14	10.15	9.10

CURING AGENTS

Dibutyl Tin Dilaurate-preferred for most applications. Tin Octate-fastest cure generally available. RTV-9910, RTV-9930, RTV-9950-paste curing agents-greater accuracy and greater control offer curing rate can be achieved with paste curing agents.

Stk. No.	Type	Color	1-5	6-11	12-Up
57F050	RTV-9910	Orange-Tan			
57F051	RTV-9930	Yellow	12.80	10.70	9.60
57F052	RTV-9950	White			

1.25 lb. Jars

RTV-630. Molding compound is excellent for short-run or prototype parts, thermoforming punch dies, intricate molding, and embossing. Precise reproduction of detail, can be used with automatic equipment, ideal for production line use. High strength RTV-630 is packaged as a kit containing the silicone rubber base compound, designated "Part A" and a catalyst, "Part B". Cure by mixing 10 parts "A" to 1 part "B" by weight.

Zinc-oxide filled compound for grease applications where lubrication is not a factor, but good electrical properties are needed. Ideal for heat transfer and shock resistance use in semiconductor manufacturing applications. For extreme temperature applications. Non-corrosive, water resistant, and non-solidifying. 4-oz. jars.

TYPICAL PROPERTIES OF G-640

Sp. Gravity	Service Temp.	Thermal Conductance (BTU/hr./Ft²/°F/Ft.	Evaporation (% 24 hrs-/150°C)	Solidification Point of	Dielectric Constant	Dissipation Factor[3]
2.3	-50°F to 400°F	0.300	1 Max.	-50	3.94	0.005 Max

RTV-615. A low viscosity silicone liquid that cures at room temp. RTV-615 offers improved physical properties as well as a faster cure system. The curing agent is always added to base polymer in a straight 1 to 10 ratio. RTV-615 maintains its phycial properties from -65°C to 200°C. Has a viscosity of 3500 centipoises. Well suited for production line use, material can be cured within 15-30 minutes at 150°C or at a longer time at room temp. The RTV-615 will cure in deep sections and in completely enclosed assemblies without exotherm without damaging stresses on potted assemblies.

Shelf Life	6"
Specific Gravity	1.02"
Tensile Strength psi	925"
Elongation, %	150"
Brittle Point, °F	90"
Dielectric Strength, Volts/Mil	500"
Dielectric Constant, 60HZ	3.0"
Volume Resistivity, Ohm-CM (x10^{15})	1"

Stk. No.	Description	1-5	6-11	12-Up
57F049	RTV-615 Clear HB	13.00	10.80	9.75

One package silicone rubber adhesive/sealants for an unlimited number of industrial applications. Packaged in collapsible aluminum squeeze tubes. Cures to resilient rubber at room temperature. Will withstand temperatures up to 300°F, for extended periods and up to 500°F. for shorter time periods. Resists moisture weathering, and aging effects. Remains flexible at -75°F. Ideal for industrial applications ranging from assembly line production work to fast, effective electrical maintenance and repair. Hardness, Shore A:30. Tear resist. 45 lb./in.

Stk. No. 3 oz. tube	Type	1-5	6-11	12-Up
57F039	RTV-102	2.02	1.69	1.52
57F040	RTV-103	2.02	1.69	1.52
57F043	RTV-106	2.58	2.15	1.99
57F041	RTV-108	2.02	1.69	1.52
57F042	RTV-109	2.02	1.69	1.52
57F044	RTV-112	2.58	2.15	1.99
57F029	RTV-116	2.58	2.15	1.99
57F030	RTV-118	2.58	2.15	1.99

Stk. No. 12 oz. tube	Color	1-5	6-11	12-Up
57F031	White	7.80	6.50	5.85
57F032	Black	7.80	6.50	5.85
57F035	Red	10.00	8.35	7.50
57F033	Trans.	7.80	6.50	5.85
57F034	Alum.	7.80	6.50	5.85
57F036	White	10.00	8.35	7.50
57F037	Red	10.00	8.35	7.50
57F038	Trans.	10.00	8.35	7.50

12 oz. Caulking Cartridge. Packed in high pressure caulking cartridge rather than squeeze tube. Can be used with any standard or auto caulking gun.

Stk. No.	Type	Color	1-5	6-11	12-Up
57F045	RTV-102	White	4.40	3.65	3.17
57F046	RTV-108	Trans.	4.40	3.65	3.17

CAULKING CARTRIDGE

RTV-Silicone Types	RTV 102	RTV 103	RTV 106	RTV 108	RTV 109	RTV 112	RTV 116	RTV 118
Shelf Life, Months	12	12	12	12	12	12	12	12
Specific Gravity	1.07	1.07	1.07	1.07	1.07	1.05	1.05	1.05
Tensile Strength, psi	350	350	350	350	350	300	300	300
Elongation, %	400	400	400	400	400	350	350	350
Brittle Point, °F	-90	-90	-90	-90	-90	-90	-90	-90

RTV-Silicone Types	RTV 102	RTV 103	RTV 106	RTV 108	RTV 109	RTV 112	RTV 116	RTV 118
Dielectric Strength, V./Mil.	500	500	500	500	500	500	500	500
Dielectric Constant, 60 HZ	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Volume Resist. Ohm-CM x 10^{15}	3	3	3	3	3	2	2	2
Consistency	Soft Spreadable Paste					Self Leveling		

GC ELECTRONICS Chemicals

Pliobond

Acrylic Cement

Epoxy

Varnish

De-oxid

Cleaner

Plastic Repair Kit

Radio Service Cement. Mends speaker cones, tube bases, grid caps, etc. Can also be used for bakelite cement. Vibration-proof, water-proof and fast drying.
32F214. 2-oz. bottle. 30-2. NET .....**.59**
32F216. 8-oz. bottle. 30-8. NET 1.59

32F215. 2-oz. tube. 34-2. NET ..... .59

Bakelite Cement. Made for cementing bakelite to bakelite, and bakelite to other materials. Also for repairing broken molded pieces, knobs, panels, etc.
32F220. 2-oz. bottle. 32-2. NET .....**.99**

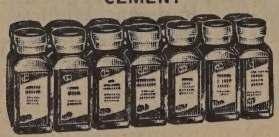
Vinylite Cement. For metals, plastics, paper, leather, etc. Can also be used as a thermoplastic cement for non-porous materials.
32F221. 2-oz. bottle. 58-2. NET .....**.59**

Rubber to Metal Cement. For cementing rubber dial drives to metal shafts, rubber mounting to chasis, or for any rubber material to metal, wood, etc. Waterproof.
32F225. 2-oz. bottle. 35-2. NET .....**.60**

Acrylic Cement. Specially prepared for cementing Lucite, plexiglass and other acrylic materials. Fast-drying; welds the materials together.
32F228. 2-oz. bottle. 40-2. NET .....**.60**

Plastic Cement. Excellent for cementing broken plastic cabinets, dial and glass crystal assemblies, knots in dial cord, etc. Very fast drying, water-proof.
32F217. 2-oz. bottle. 32-2A. NET .....**.59**

CEMENT



Type 345. Cement Sampler Lab Kit. 14 bottles contain cement and adhesive for every application. Cements of all types are included with instructions. Tops for lab's and engineer's use and handy for the shop or factory. 2-oz. bottles.
32F257. NET **9.05**

Pliobond Cement. Cold setting thermoplastic liquid. Dries quickly, waterproof. For steel, glass, iron.
32F256. 2-oz. bottle. 43-2. NET .....**.60**

•New Epoxy Glue. No. 347. Dimensionally stable. Won't shrink or expand. Chemically stable. Resists acids, alkali, grease, gas, water, etc. High electrical resistance. Equal parts from two tubes, hardens in 5 min. under 150°F. heat lamp or 2 to 4 hrs. at room temp.
35F3378. Kit of 2 tubes, 4 ozs. NET...**2.50**

Radio Service Cement Solvent. For loosening cement on speaker cones, frames, etc.
32F233. 8-oz. bottle. 31-8. NET **1.10**

Q-Dope Thinner. Solvent for polystyrene Q-Dope and other polystyrene coil dopes, cements, rods, sheets, etc.
32F241. 4-oz. bottle. 41-4. NET .....**.83**

Q-Dope. Pure polystyrene dissolved in Q-Dope Thinner. Will not change RF circuit values. Fully moisture-repellent. 2-oz. bottle.
32F208. 37-2. NET.....**.55**
32F209. 4-oz. bottle. 37-4. NET .....**.83**

High Voltage and Corona Dope. Prevents corona shorts on high voltage circuits. High insulating qualities.
32F206. 2-oz. bottle. 47-2. NET .....**.78**
32F207. 8-oz. bottle. 47-8. NET 2.15

• NEW INSULATING AND DIPPING VARNISH

High quality, clear insulating varnish that produces a smooth, tough insulating film that is non-corrosive. Recommended for field coils, transformers, choke coils, etc. Easy to use either by dipping or applying with brush applicator attached to bottle cap.
35F3379. No. 56-2. 2 oz. NET .....**.60**
35F3380. No. 56-8. 8 oz. NET 1.35

RED INSULATING VARNISH

Most common of all protective insulating coatings, used on all solder connections, high voltage points, etc. 2-oz. bottle.
32F332. Type 90-2. NET .....**.63**

Chloro-Kleen Cleaner. A solvent for all purpose cleaning of any electronic component, switch, chassis, etc. Dissolves grease, dirt, oils, tar and waxes. Safe indoors . . . no sickening fumes. Completely non toxic. Similar to carbon tetrachloride.
32F378. 16-oz. bottle 213-16. NET 1.79

• NEW DE-OX-ID

All Purpose electronic contact clean but consists of active ingredients in light oil base. Use it on volume controls, tone controls, audio mixers relays etc. Small drop lasts for months.
35F3381. 2 oz. bottle. NET **1.03**
35F3382. 6 oz. aerosol can. NET 2.45

Carbon - tetracholride. For mechanical and electrical parts. Removes oils, grease, etc. Will not burn.
32F261. 16-oz. bottle. 211-16. NET.....**1.79**

• NEW PLASTIC AND GLASS CLEANER

Contains ammonia. For industrial and commercial use. Spray-on container. Wipes off dirt, dust and grime from all glass surfaces without any or dulling residue. Convenient and economical to use.
35F3383. No. 9082. 16 oz. Aersol NET...**.79**

"G-C 60". Glass Treatment Compound. Makes all glass and plastics cleaner and brighter, degreases, removes static, waterproofs, and keeps surfaces cleaner longer. Easy to use, just spray on and wipe off. Comes with handy spray applicator for easier application.
32F201. 6 oz. bottle. 175-6NET.....**1.15**

NO NOISE

VOLUME CONTROLAND CONTACT RESTORER

Cleans, lubricates, restores all tuners including water type. Non-toxic, non-inflammable. Ideal for volume control and Contact restorer. Complete with a 5" plastic extender for getting into close areas in both Television and radio sets. Prevents gumming and eliminates binding in automatic turn tables. May also be used for noisy tube sockets and other components and will not change capacity.
32F269. 6 oz. spray can. NET **2.25**

RELAY CLEAN

Dry contact cleaner. Excellent for cleaning relays and contacts in switchboards, automatic pinball or bowling games, rocket and satellite circuitry. Cleans without leaving any oily residual deposit. Also an excellent degreaser and general solvent for gummy deposits. Non-flammable. Shpg. wt. 6 oz.
32F349 NET.....**1.89**

32F184. 16 oz. can NET 3.49

SPRA-KLEEN

Electrical cleaner and lubricant. Eliminates noise due to dust, dirt and corrosion on electrical contacts. Lubricates in 1 operation.
32F343. 6 oz. can. 8666-6 NET .....**.99**
32F347. 16 oz. can. NET.....1.95

SILVER PRINT

No. 21-1. "Pure silver" compound used by manufacturers in printed circuit design. Tops for repair work or touching up a circuit. Wt., ½ Troy ounce.
32F355. NET **4.75**

PRINT-KOTE SILICONE RESIN

No. 14-2. Silicone resin used by manufacturers to protect their printed circuits. Fast drying. With brush. 2 oz.
32F359. NET **1.40**

DIAL CORD

Dial cord in popular sizes. The following service spools cover 90% of all replacement needs. Nylon cord with a fiberglass core. Treated to prevent stretching and slipping. Wt., 4 oz.
Type 75-A. Extra thin cord. 025" dia., 30 lbs. brk. stgh.

25F800. 10 ft. length. NET .....**.39**
25F801. 25-ft. spool. NET .....**.83**
25F802. 100-ft. spool. NET **2.60**

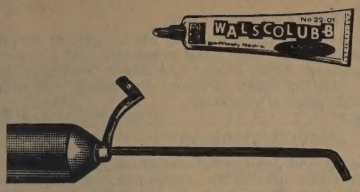
Type 75. Standard cord, .028" diameter. 30 lbs. breaking strength.
25F803. 10-ft. length. NET .....**.39**
25F804. 25-ft. spool. NET .....**.83**
25F805. 100-ft. spool. NET **2.60**

Type 74. Medium cord, .040" diameter. 35 lbs. breaking strength.
25F806. 10-ft. length. NET .....**.39**
25F807. 25-ft. spool. NET .....**.83**
25F808. 100-ft. spool. NET **2.60**

PLASTIC REPAIR KIT

46-975—Useful, easy-to-use plastic repair kit with unlimited possibilities. Everything included to do repair work. Plastic material can be molded to almost any shape, like putty, to form new parts. May be used as a powerful glue to cement cracks in plastic or may find use as a waterproof bonding agent. When dry, the plastic may be sanded, polished or drilled, just as any other plastic surface. Does a professional, stronger-than-new repair job.
32F333. NET 1.65

GC ELECTRONICS



•NEW WALSCOLUB-B

Electrically neutral lubricant that prevents corrosion. For smooth noise free operation of electrical contacts band switches, attenuators, push button tuners, and others. Reduces wear to a minimum, will not change electrical properties of conductors or insulators. Clings to metal surfaces and effectively seals them against oxidation and corrosion.
35F3384 No. 22-02W. 2 oz. bottle. NET .63

• NEW ZOOM-SPOUT OILER

All purpose oiler with telescoping spouts that spouts out for long shots or zooms for short ones, even zooms around corners. Entire oiler is made of plastic and won't short out around electrical connections. Contains four ounces of premium quality paraffin base non-gumming turbine oil.
35F3385 No. 9409. 4 oz. oiler. NET 99

REACH-ALL PEN OILER

Type 984. Highest quality non-gumming instrument oil; meets MIL-L-6085A specs. Tube extends and retracts; dispenses a drop or a fraction of a drop. When not in use, tube is capped and oiler may be carried in pocket for convenience. Excellent for lubricating instruments gears, timers, clocks, guns, fishing reels, etc.
32F186. NET ..... .99

ELECTRONIC OIL ASSORTMENT KIT

Type 9400. Oil Assortment Kit contains all oils commonly used in electronic work. Included is recorder, penetrating, phono, radio-TV, and dripless oil. The other tube is liquid graphite. Shpg. wt., 1 lb.
32F364. NET 3.50

•NEW AUDIO VIDEO MAGNETIC TAPE HEAD CLEANER

Quickly removes dirt and oxide build-up; won't harm tape, tape coating or paint finish. Cleaner will not interfere with transmission and may be used on running tape. Eliminates applying with brush or swab. 6" spray extension is furnished.
35F3386 No. 10-620. 16 oz. aerosol. NET..... 2.35

Red Electricronic Contact Cleaner. For switch or relay contacts, volume controls, etc. with brush.
32F250. 2-oz. bottle. 210-2. NET 60
32F252. 8-oz. bottle. 210-8. NET 1.65
Type 5555. Nuvi-Tran tuner cleaner formulated for TV tuners with critical transistor and nuvistor circuitry. 8 oz. spray can with pin-point extention.
32F335. NET 2.29

•NEW SUPER FREEZE MIST

"Dry" cooler because it leaves no liquid residue. Cooling agent which is nontoxic and non-flammable, has a pleasant odor, and does the job three times faster than other coolers. Super Freeze Mist enables the technician to pin point bad capacitors, transistors, oxidized joints, by cooling components. Comes supplied with the new pin point extension for hard to reach places.
35F3387 No. 8668.6 oz. areosol. NET 1.44
34F610 No. 8667 16 oz. aerosol. NET ..2.19

•NEW INSUL-VOLT

Positive insulation against hi-voltage leaks, arcing and corona shorts. Recommended for use on transformers, electrical windings. Meets Military Specification MIL-V-1137A, Grade BA, types M&N. Maximum operating temperature 275F. 35F3388 No. 10-608.6 oz. spray.
NET 1.99

"Strip-Ex". Strips enamel from magnet wire, enabling it to be soldered immediately.
32F255. 2-oz. bottle. 26-2. NET 78

TRANSISTOR Z5 SILICONE COMPOUND

Type 8101-S maintains effecient transfer of heat from transistor to chassis.
32F365. 1 oz. tube NET 2.39

DCZ9 SILICONE HEAT INK COMPOUND

Increases the efficiency of electronic devices lowering overall temperature level. High heat conductive metallic oxides suspended in silicone dissipate "hot spots." and compound will not dry out or harden.
35F3389 No. 8-109S. 1 oz. tube.
NET 2.63

HAMMER-KOAT

Achieves a professional air-drying hammer finish that's perfectly adapted for use on panels, racks, instruments, chassis, etc. Extremely easy to use. . . dries in a matter of minutes. 16 oz. can.
32F328. 84-12. Blue. NET 2.30
32F329. 85-12. Silver. NET 2.30
35F3390 148-06 6 oz. Gray. NET 1.38

RUF KOTE SPRA-KOAT

The only finish that will air dry and give a professional wrinkle job without baking. Employed by many manufacturers on PA equipment, chassis, panels, and racks. Easy, simple to use. 16 oz. can.
32F325. 60-12. Black. NET 2.25
32F326. 60-13. Gray. NET 2.25
35F3391 60-14 Charcoal Gray. NET ...2.25

TELEPHONE SPRA-KOAT

A high grade satin finish lacquer that covers evenly, dries quickly. Available in a rich ebony black for telephone devices panels, or gray that is excellent for panel work, instrument finishes, etc. Easy to use. . . just spray on 16 oz. can.
32F330. 62-12. Black. NET 2.30
32F331. 62-13 Gray. NET 2.30

COLOR-CODE KIT

E.I.A. colors: Black, brown, red, orange, yellow, green, blue, purple, gray and white. Includes brushes and E.I.A. coloring chart. Shpg. wt., 1 lb.
32F350. 677. NET 2.50

Dial Lite Color Kit. Instant drying lacquer for 5 colors and solvent, multi-colored dials, signals, lighting. Shpg. wt. 1 lb.
32F351. 66-6. NET 1.43

K-27 PRINT-KOTE

TV silicone resin used by many manufacturers on all printed circuit sets. A wonder-performing chemical that insulates, protects and prevents shorts. . . insures a truly satisfactory job. Air-dries. . . requires no baking. 6 oz. can.
32F357. 14-6. NET 2.42

SILVER PRINT

No. 21-1. "Pure silver" compound used by manufacturers in printed circuit design. Tops for repair work or touching up a circuit. Wt., ½ Troy ounce.
32F355. NET 4.75

NO. 20-2 COPPER PRINT

For repairing printed circuit. High conductive, fast drying compound. Complete with brush-top cap.
32F346. 2 oz. bottle. 1.95

PRINT-KOTE SOLVENT

No. 13-2. Solvent for No. 14-2. Print-Kote Silicone Resin. Dissolves and removes silicone resin from printed circuit. Shipping wt., 2 oz.
32F360. NET 42

•NEW CONTACT BURNISHING TOOL KIT

A complete kit for the servicing of relays, switches, etc., where critical contact points must be kept clean for ideal operating conditions. Contains one two-ounce bottle No. 210-2 Contact Cleaner and Burnishing Tool.
35F3392 No. 9339. Complete Kit.NET ...97

MASTER DELUXE CABINET REPAIR KIT

Type 900. All essentials to fix wood and plastic cabinets, knobs, refrigerators, appliances, etc.: Spirit stains, varnishes, enamels. Make quick repair without spoiling. adjoining finish. Shpg. wt. 5 lbs
32F353. NET 9.65

DURICON

Type 3100. Leaves permanent thin, clear insulation. Repels moisture, salt air, oil, acids, alkali. Prevents corrosion and fungus. Will resist temperatures ranging from —100°F to +500°F. Seals non-ferrous metal surfaces instantly. Will not lift, peel, crack, or chip. Acts as superior primer and bonder. Ideal for printed circuit boards and precision components. Meets Mil., Spec. MIL-V173-A.

Stk. No.	Type	10 oz. can	Carton-12 cans
32F549	3100	4.00	45.00

PROPERTIES

Viscosity: 1.34 centistokes
Dielectric Strength: 900 volts/mil at 3/10 mil
Dielectric Constant: 2.75 at 100 Kc
Thermal Stability: Infinite to 300°F
Salt Spray: Exceeds 1,000 hours 20% salt solution
Coverage: Approximately 125 sq. ft. per spray can.
Dry Time: 3 to 5 minutes

Chemicals

CROWN

•NEW COLD GALVANIZING COMPOUND

Provides two way protection from rust and corrosion. It provides a long lived coating of practically pure zinc. A coating that even if scratched continues to protect thru galvanic action continues as long as Zinc remains. Offers protection for truck fleets, garages, planes, road machinery, and anywhere that rust and corrosion sets in. Meets Mil-Specs MIL-P-46105.

32F1070 #7007 1 lb. **NET** **2.98**

•NEW BOX SAVER

Available in white or tan. Reuse old cartons and boxes. A neat and easy way to cut costs. Sprays out old print with an even, fast drying color that matches carton, saves the box for reuse for many jobs. Pigment gives covering capacity, no rub off and is fast drying conforms to Mil. Spec TT-1-559B.

32F1071 7090 Tan. **NET** **1.39**

32F1072 7091 White. **Net** **1.39**

•NEW ELECTRICAL 88

Displaces water; moisture-proofs all electrical and electronic equipment. Stop moisture-caused corrosion, the greatest cause of electric and electronic equipment failures. Electrical-88 drives out moisture, repels water, deposits hydrophobic film on surface. Spreads to cover surface completely; improves electrical properties and protects metal surfaces; cleans as it lubricates, dissolving rust and corrosion. A remarkably stable product, it is effective from —50°F to +400°F. It will not emulsify or harden, will not flake and is non-staining. Its anti-moisture, anti-corrosion protection depends on relative degree of exposure to moisture of equipment being protected. Conforms to MIL-C-81309 (WP).

32F1073 8070 **NET.** **1.98**

•NEW FLUX REMOVER

Removes rosin type fluxes and spots in production and prototype work, or with fragile and delicate circuitry. Provides a constant source of fresh solvent. Avoids recontamination, as in the bath method of flux removal. The force of the spray will loosen any heavy soiled areas of dirt or wash dirt away from horizontal surfaces. Spray may be pinpointed for more precise application, using 6" spray nozzle.

32F1074. 7011. **NET.** **1.49**

•NEW GENERAL PURPOSE ADHESIVE

Pressure sensitive adhesive that will stick to almost any surface, rough or smooth! Will adhere to paper, fabric, plastic, lightweight metal pieces neatly and firmly, without mess or waste. No drying time required . . . no cleanup. Just spray it on and press the piece into place. Saves time; makes tedious glue jobs easy. Can also be used for light production work where temporary "pinning" or alignment of parts is required to final assembly.

32F1075. 8090. **NET** **1.95**

•NEW TAPPING FLUID

Cooland...lubricant...extends tool life up to 200%. Special formula speeds cutting, reduces tool wear, and breakage, and prevents galling, eliminates hang-up, holds closer tolerances. Pinpoints the spray to end mess. Use for deep drilling, threading, reaming, tapping, punching, and general maching.

32F1076. 9106 1 lb. **NET.** **1.95**

•NEW CUTTING OIL

An all-purpose lubricant and coolant for use on drills and cutting tools of all types. Cools and lubricates. . .prolongs life of the tool. "Sticky" consistency keeps it in place, on the work where it is needed. . .even overhead, without excess dripping.

32F1077. #7020. 1 lb. **NET.** **1.50**

•NEW SLIX-IT

A 6% silicone lubricant with pinpoint spray! This new greaseless lubricant stops anything from sticking. Odorless, colorless, nonstaining. High silicone content makes a little go a long way and last a long time. Pinpoint spray directs lube exactly where you want it . . . eliminates overspray. May be used anywhere without gumming, running, or forming residues.

32F1078. #8035. 1 lb. **NET.** **1.95**

•NEW ANTI-STATIC SPRAY

Paintable—nonflammable—nonstaining—nontoxic. A unique formula designed to neutralize static electricity generated by friction or atmospheric conditions of low humidity. It is also effective in inhibiting airborne dust accumulation. Tested and proven on both materials and production equipment in plastic, printing, packaging, and textile industries.

32F1079 9040 1 lb. **NET.** **1.66**

•NEW HIGH TEMPERATURE SILICONE GREASE

Especially useful for high temperature grease applications, such as fluid clutches, heat transfer applications, applications requiring extreme temperature operation. For mechanical damping in thermostats. This product may be used effectively as a high temperature mold release. It may be used up to 550°F. in the presence of air for extended periods; it has a high resistance to oxidation, is non-toxic and virtually odorless.

32F1080 #7036 1 lb. **NET.** **1.98**

•NEW MOLY OIL

Superior lubrication under higher pressure or temperatures. Use for hoist chains, chain saws, conveyors, link and roller assemblies, sprockets, cutter bars, hinges, clippers. . .any other application where a high grade light oil is necessary. This is a heavy duty petroleum-based lubricant containing other special additives to give superior lubrication.

32F1081 7043 1 lb. **NET.** **1.49**

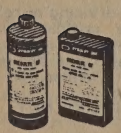
•NEW DRIPLESS OIL

Sprays like oil . . . sticks like grease! Dripless lube is for use wherever conventional oils cannot be retained and greases cannot be used, as in the textile industry where it prevents spoting of fabrics where lubrication must cling to high speed rubbing surfaces . . . or food industries where cleanliness is of extreme importance . . . in exhaust or blower fans, ring oil bearings, wire gear mechanisms, vertical shafting, guides and rapidly reciprocating parts.

32F1082 #7047 1 lb. **NET.** **1.29**

DYNALOG, INC.

CURED RESIN SOLVENTS



Now remove most cured Hermoset resins from assemblies, modules, IC, components, cables for: Failure analysis; Repair; Reclaim; Salvage. Solvents do the job easily, cleanly, quickly."

CONCENTRATED (Can be diluted for Spray on)

DECAP

Removes any cured epoxy; especially transfer molded expoxies. Most effective when used hot (90-150°C). Will not attack metals but does tarnish silver and tin compounds on prolonged heating.

99F1400. Quart **10.00**

99F1401. Gallon **20.00**

DYNASOLVE 160

Distintegrate most cured liquid epoxy systems. Dynasolve 160 is acidic and extremely effective when used at room temperatures. Does not attack most commonly used metals.

99F1402. Quart **5.00**

99F1403. Gallon **16.00**

URESOLVE PLUS

Will dissolve most urethane coatings and elastomers, transfer mold silicones, silicone varnishes, RTV silicone elastomers, anhydride cured epoxy resins and many urethane foams. A basic solution that will not attack most construction metals, including aluminum. Use to 135°C.

99F1404. Quart **10.00**

99F1405. Gallon **20.00**

URESOLVE PLUS SEMI CONDUCTOR GRADE

Similar to Uresolve Plus. Recommended for dissolving silicone transfer molded packages and silicone varnishes at 60-100°C.

99F1406. Quart **10.00**

99F1407. Gallon **20.00**

ELECTRICALLY CONDUCTIVE COATINGS

Use for RF shielding, electroplating base, component grounding. Lead termination, capacitor coating etc.

TYPICAL PROPERTIES

Type	Vol. Resis. (Ohm-em baked)	Temp. Range	Cure Cycle	Solvent Thinner
300	.001	—65 + 120°C	air dry	Water
305	100.	—65+120°C	air dry	Water
340	.001	—65+175°C	air dry	Toluene
350	.0005	—65+175°C	+125°C, 10 min.	Xylene
375-1	.0005	—65+200°C	+125°C, 4 hrs.	Cello-Solve Acet.
	.003	—50+750°C	+250°C, 15 min.	.....

CONCENTRATED (Can be diluted for Spray on)

Type	Description	Stk. No.	3 oz.	Stk. No.	8 oz.
300	Water base silver	99F1416	15.00	99F1417	32.00
340	Air dry silver	99F1420	15.00	99F1421	32.00
350	Solderabel silver	99F1422	15.00	99F1423	32.00
2510	High temp. silver	99F1424	25.00	99F1425	48.00
.375-1	Poly alloy silver	99F1426*	15.00	99F1427	48.00

*2 ounce size

Type	Description	Stk. No.	Qt.	Stk. No.	Gal.
305	Conductive carbon	99F1418	10.00	99F1419	15.00

Digital Test Equipment

Simpson

DIGITAL MEASURING SYSTEM

Ranges	1, 10, 100, 1000 DC VOLTS
Accuracy	±0.05%, ±1 digit
Temperature Range	+20°C to +30°C maintain rated accuracy
Temperature Influence	Less than 0.05% for each 20° change
Overrange	Linear to 110% of range
Polarity	Automatic selection, with indication
Response Time	3 seconds, maximum, to reach rated accuracy after 0 to full range step change
Sampling Rate	Variable, 5 per second to "hold"
Imput	Floating, up to 500 Volts DC
Noise Rejection Common Mode (with 1 k unbalance)	DC: 120 db AC: 90 db (60 Hz.)
Normal Mode	AC: 60 db (60 Hz.)

PLUG-IN FUNCTION MODULES

Accuracy of plug-in modules: ±0.05% of reading (except 10 Meg. Ohms range of resistance module: ±1.0% of reading). Accuracy of 2700 system after interchanging plug-in module: ±0.1% of reading (without recalibration). ±0.05% of reading (with recalibration).

Model 22901. Resistance 1 Kohm, 10 Kohm, 100 Kohm, 10 megohm. AC volts, 1, 10, 120, 1000.
62F2316. **NET** **100.00**

Model 22903 DC current: 1ma, 10ma, 100ma, 1 Ampere
62F2317. **NET** **100.00**

- Accuracy within ±0.01% ± 1 Digit
- Fully automatic Polarity Selection With Indication
- 4 Full Time Digits, Plus 10% Linear
- Fast: Up to 5 New Readings Per Second

Model 2700. Basic unit has 4DC voltage ranges capable of precise measurements from 0.0001 to 1000.0 volts. Plug-in units for DC current, AC voltage, resistance, and capacitance measurements are available. Includes push-button front panel calibration check and automatic polarity selection. Components are well-engineered to assure reliability. The circuit utilizes integrated Circuits, and field-effect-transistor input. Read-out lights are of long-life (200,000 hours) design. Accuracy is within ±0.5%, ±1 digit. Adjustable display time permits reading rates up to 5 per second. Ranges of basic unit: (DC voltage), 0-1.00-10.00-1000.0 volts full scale 115/230 VAC=10%, 50-60 Hz., at 11.5 watts. Size: 4x8x11". Shipping wt.: 8 lbs.
62F2267. **NET** **615.00**

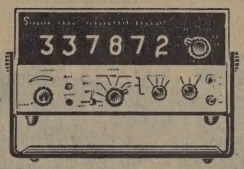
Accessories For 2700, 2725, 2726

Stk. No.	Type	Description	NET
62F2357	22915	Rack Mounting Kit Complete With Standard 5¼x9" panel.	20.00
62F2358	22925	Dual Rack Mounting Kit (Mounts Two Unit Side-By Side). 5¼x9" panel.	25.00
62F2359	07511	Replacement Leads (For 2700 Only).	3.25
62F2360	00238	Replacement Probe (For 2725, 2726 Only).	7.85

DIGITAL ELECTRONIC COUNTERS Models 2725A, 2726

Model 2725-2726. designed to provide accurate and fast digital readouts. Panel switch allows the fast complete and automatic check of counter's logic circuits. Have digit overrange indication. Provide accurate measurements. Direct readout of frequencies from 5 HZ to 20 HZ in 6 switch-selected ranges. Two inputs are provided for making comparisons of frequencies. The ratio between the two frequencies appears as a direct digital readout (1 to 199,999 with 5 digit model). Readouts from 300 microseconds to 0.2 sec, internal clock is crystal controlled for precise accuracy. Separate inputs are provided for each two pulses, time differential between pulses appears as a direct digital readout.
62F2361 **Model 2726.** Six Digit Readout.
NET **600.00**
62F2315. **Model 2725** Five Digit Readout
NET 525.00

	2725	2726
Ranges: Frequency/Period	5Hz to 20 MHz (300 seconds to 0.2 seconds)	
Frequency Ratio	1 to 1.99999x	1 to 1.99999 x 10^6
Time Interval	300μ sec to 1.99999 x 10^5	300μ sec to 1.99999 x 10^6
Totalization	0 to 1.99999 x 10^5 counts	0 to 1.99999 x 10^6 counts
Input Impedance Channel A	1 Megohm shunted by 30 pf	
Channel B	10 k ohms shunted by 30 pf	
Input Sensitivity Channel A	0.1 volt RMS minimum from 30 0.5 volt RMS minimum form 5 Hz to 30 Hz.	
Channel B	0.1 volt RMS minimum form 200 Hz to 1 MHz. 0.5 volt RMS minimum form 5 hz to 200 hz.	
Power Required	115 or 230 volts AC ±10%, 50 to 60 Hz, 17 watts	



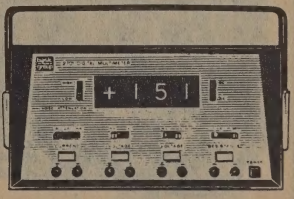
- Self-Test Circuitry
- Adjustable Display Time
- Accuracy within ±0.01% ± Digit
- Direct Frequency Readouts to 20 MHZ.

DIGITAL VOM MODEL 2701

Voltage Ranges	DC Range	DC Resolution	DC Input Impedance	AC Resolution	AC Input Impedance
Millivolt	0.01-9.99†	10 μV	0.2 MΩ	10 μV	5.0 MΩ 15 pf
	10.0-99.9	0.1 mV	2.0 MΩ	0.1 mV	
	100.-999.	1.0 mV	5.0 MΩ	1.0 mV	
Volts	1.00-9.99	10 mV	5.0 MΩ	10 mV	5.0 MΩ 15 pf
	10.0-99.9	0.1 V	5.0 MΩ	0.1 V	
	100.-999.	1.0 V	5.0 MΩ	1.0 V	

Current Ranges	DC			AC	
Nano Amps	100.-999.	1.0 nA	11 kΩ	1.0 nA	11 kΩ
Micro Amps	1.00-9.99	10 nA	3 kΩ	10 nA	3 kΩ
	10.0-99.9	0.1 μA	1 kΩ	0.1 μA	0.1 kΩ
	100.-999.	1.0 μA	0.8 kΩ	1.0 μA	0.8 kΩ
Milliamps	1.00-9.99	10 μA	2.4 Ω	10 μA	2.4 Ω
	10.0-99.9	0.1 mA	0.6 Ω	0.1 mA	0.6 Ω
	100.-.999	1.0 mA	0.4 Ω	1.0 mA	0.4 Ω

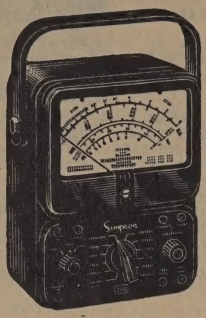
Resistance Ranges	Range	Resolution	
Ohms	0.00-9.99	0.01 Ω	Test Current Less Than 1.4 mA
	10.0-99.9	0.1 Ω	
	100.-999.	1.0 Ω	
k Ohms	1.00-99.9	10 Ω	
	10.0-99.9	0.1 KΩ	
	100.-999.	1.0 KΩ	
Meogohms	1.00-9.99	10 KΩ	
	10.0-99.9	0.1 MΩ	
	100.-999.	1.0 MΩ	



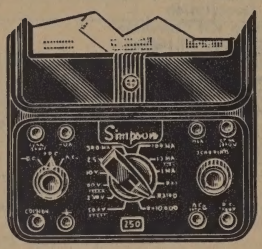
- Input impedance of a VTVM.
- Decimal point automatically switches over three decade ranges.

Model 2701. Displays AC and DC voltages in six ranges, AC and DC current in nine ranges, and resistance in seven ranges. DC accuracy ±1.0% of reading ±0.2% of F.S., AC ±1.5% of reading ±0.2% of F.S. Reading appears as a three digit number, complete with polarity sign and decimal point. Decimal point automatically switches over three decade ranges. No time consuming scale interpolation. Complete with test leads and operator's manual.
62F2388 **NET** **835.00**

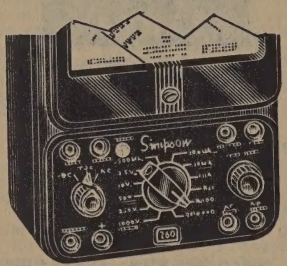
Simpson Voms



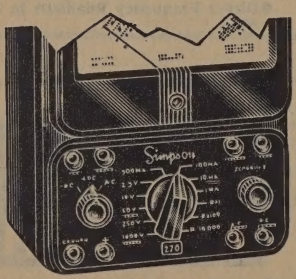
MODEL 260



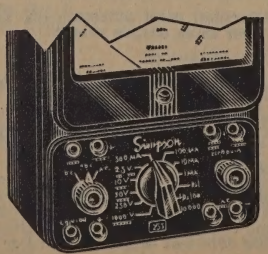
MODEL 250



MODEL 260-5P



MODEL 270-4+261-2



MODEL 255

VOM SERIES 6

Model 260. Volt-Ohm-Milliammeter. External access battery and fuse department. Handier, more sensitive, more accurate. Polarity Reversing Switch for faster, easier DC measurements. Full Wave Bridge Rectifier System gives more accurate VAC measurements. Easy access to all components. Ranges—VDC (20,000 ohms-per-volt); 0-250 MV, 0-1 0-2-5 V, 0-10V, 0-50V, 0-250V 0-500V 0-1000V, VAC (5000 ohms-per-volt): 0-2.5V, 0-10V, 0-50V, 0-50V, 0-250V, 0-500V, 0-1000V; VAF (0.1 uf internal series capacitor): 0-2.5V, 0-10V, 0-50V, 0-250V; DB Vol. (0 DB to 1 MW across 600-ohm line): —20 to +10DB, —8 to +22DB, +6 to +36DB, +20 to +50DB; DC Resistance: 0-2000 ohms (12 ohms center), 0-2000,000 ohms (1200 ohms center); Direct Current: 0-50 ua, 0-1 MA, 0-10 MA, 0-100 MA, 0-500 MA, 0-10 amp. Size: 5"x7"x3⅛". 3½ lbs. with Leads.

62F300. NET **65.00**

62F305. 260 Series 6M. As above but mirror scale. NET 67.00

Model 260-6MRT. As above but with roll-top case and mirrored scale.

62F2269. NET 73.00

ROLL-TOP SIMPSON 260-RT

Lightweight, carry-anywhere unit, same as Model 260 above, but has bakelite roll-top cover and convenient test-lead compartment. Shipping weight, 9 lbs. Note: "Add-A-Tester" adapters (listed below) cannot be used with the roll top model.

62F303. NET **71.00**

LOW MILLIVOLT DROP VOM

Model 250 Perfect VOM for transistor circuitry. Model 250 contains all of the built-in features of Simpson's well-known model 260. and includes low millivolt drop on current ranges. Has provision for using the entire line of "add-a-tester" adapters high voltage probes, and other 260 series accessories. Ranges: DC volts: 0-50, 0-2050 mv; 0-2.5, 10, 250, 500, 1000 volts at 20K-ohms/v.; AC volts0-2.5, 10-50, 250, 500, 1000 volts at 5,000 ohms/v. DC microamperes:0-50 (with both 50 and 250 mv drop); DC ma: 0-1, 10, 100, 500 (50mv drop); DC amps; 0-10 (50 mv drop). AC volts: 0-2.5, 10, 50, 250, 500, 1000; DB (1 mw into 600 ohms ref. level): —20 to +10; —8 +50. Resistance: 0-2K, 200K, 20 meg-to±22;±6 to±36; ±20 to ohms. Self-shielding, diode-protected, taut-band movement. Complete with test leads and operator's manual. Size: 5¼x7x3⅛". Wt. 3½ lbs.

62F1692. NET **70.00**

OVERLOAD PROTECTED TAUT BAND

Model 260-6P A virtually "goof-proof" overload protected version of the world famous 260 VOM. The 260-6P incorporates electronic circuit protection which senses overload conditions and trips a protective relay. The entire tester is protected—even when 110 volts is applied to the 1 milliamp or 50 millamps range, no damage is caused. No chance of "fooling" this protection, either as with some other "burnout proof" V.O.M.'s. It can't be reset — even momentarily — until the overload has been removed. A "must" for labs, schools, shops or wherever mortality rate of V.O.M.'s is apt to be high. Complete with test leads and operator's manual. Size: 5¼ x 7. Wt. 9½ lbs.

62F1191. NET **97.00**

Model 260-6PRT. Roll top case and taut-band meter movement.

62F2270. NET 103.00

INCREASED ACCURACY VOM

Model 270-4 .30-range multi-scale instrument. Includes all excellent features of world famous 260, plus a mirrored scale; knife edge pointer;and printed circuit offers higher accuracy necessary for many production and laboratory applications. The instrument has an easy-to-read 4½" meter at top of front panel. 3 operating controls and 8 circuit jacks are located directly below the meter. 7 DC voltage ranges (at 20,000 ohms per volt) are: 0-250 MV, 2.5V, 10V, 50V, 250V, 500V, 1000V, and 5000V .6AC ranges (at 5,000 ohms per volt) include: 0-2.5V, 0-10V, 0-50V; 0-250V, 500V, 0-1000V AC and DC. 4 output voltages, with 0-1uf internal series capacitor are 0-2.5 V, 0-10V, 0-50V, 0-250V. Three resistance ranges: 0-2000 ohms center), 0-200,000 ohms (1200 ohms center), and 0-20 megohms (120,000 ohms center. 4 volume levels include —20 to +10 db., —8 to +22 db., +6 to +36 db, and +20 to +50 db. Variable resistance to ohmmeter circuit is used to compensate for aging of internal batteries. Heavy bakelite case is black with reinforced walls for maximum durability. Entire instrument slips in and out of case in one piece. Size 5¼x7x3⅛". Shpg. wt. 4.2 lbs.

62F380. NET **78.00**

Model 261.

62F309. NET **73.00**

255 VOM WITH TEMPERATURE SCALE

Designed to meet the specific needs of servicemen in the gas appliance, electrical heating, and appliance fields. This tester includes the VOM functions of the popular model 260, as well as providing a temperature measurement range of + 100 to +1050°F. Has low millivolt drop on the DC ranges; ideal for checking transistorized solid-state equipment. DC ranges: 0-50, 0-250 millivolts; 0-2.5, 0-10, 0-250, 0-1000 volts; 0-50 microamperes (with both 50 and 250 mv drop); 0-1, 0-10, 0-100, 0-500 MA with 50 mv drop. AC ranges: voltage: 0-2.5, 0-10, 0-50, 0-250, 0-1000; amps: adapter available to read to 500 amps. Resistance ranges: 0-2K, 0-200, 0-20 megohms. Diode-protected taut-band movement. Complete with test leads with probs 5 ft. thermocouple lead and operator's manual. Size: 5¼ x 7 x 3⅛"; shipping weight 3½ lbs.

62F1693. NET **90.00**

ACCESSORIES

Stk. No.	Type	Description	Net
62F369	8381	Test Probs and Elbow Terminals-For Model 230, 240, 260-2, 372.	3.25
62F2834	0015	Combination probe tipleads with removable clips	3.25
62F308	0789	Free Air Temp. Probe. For Models 385-3L, 389-3L, 652-3L, 260 Auaptor.	12.00

Test Equipment Specifications' Accessories Simpson

SPECIFICATIONS—20,000 OHM/V DC; 5,000 OHM/V AC

RANGES	250	255	260-6	260-6M	260-6P	261-2	270-3
DC Volts	0-0.050; 0-0.250; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.050; 0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-1000	0-0,0-1, .25; 0-2.5; 0-10; 0-50; 0-250; 0-500			0-0.25; 0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000	
AC Volts	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-500			0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000	
DC Microamperes	0-50 (Both 50 and 250 MV Drop)		0-50 (250 MV Drop)				
DC Milliamperes	0-1; 0-10; 0-100; 0-500 (50 MV Drop)		0-1; 0-10; 0-100; 0-500				
DC Amperes	0-10 (50 MV Drop)	None	0-10 (250 MV Drop)				
AC Amperes	Up to 250 AC Amps with Optional Amp-Clamp Adapter						
DB Scale (1 MW-600Ω)	—20 to +10; —8 to +22; +6 to +36; +20 to +50	None	—20 to +10; —8 to +22; +6 to +36; +20 to +50				
Output Ranges	None	None	0.1 mid capacitor in series with all AC voltage ranges through 250 volts.				
Resistance Ranges	R x 1 0-2000Ω (12Ω center)	R x 100 (0-200 KΩ (1200Ω center)			R x 10K 0-20 megΩ (120K Ω center)		
Temperature Range	None	+100°F. to +1050°F.		None			

ACCURACIES:

0-50 MV; 0-250 MV; 0-2.5 to 0-1000 V DC	±2% F.S.	±2% F.S.	±2% F.S.	±1.5% F.S.	±1.25% F.S.
0-5000 V DC	—	—	±3% F.S.	±2.5% F.S.	±2.25% F.S.
0-50 Microamperes	±1% F.S.	±1% F.S.	±1.5% F.S.	±1.0% F.S.	± .75% F.S.
0-1 MA to 0-10 A DC	±2% F.S.	±2% F.S.	±2% F.S.	±1.5% F.S.	±1.25% F.S.
R x 1 R x 100, R x 10,000	±2.5° of Arc ±2.0° of Arc	±2.5° of Arc ±2.0° of Arc	±2.5° of Arc ±2.0° of Arc	±2.0° of Arc ±1.5° of Arc	±1.5° of Arc ±1.0° of Arc
0-2.5 to 0-1000 V AC	±3" F.S.	±3% F.S.	±3% F.S.	±3% F.S.	±2.0% F.S.
0-5000	—	—	±4% F.S.	±4% F.S.	±3% F.S.

Movement Type	TAUT BAND Self Shielding Annular						
Temperature Compensated	No	No	No	No	No	No	Yes
Meter Movement Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Resetable Tester Circuit Protection	Not	Not	Not	Not	Yes	Not	Not
Mirror Scale	No	No	No	Yes	No	Yes	Yes

ADD-A-TESTER ADAPTORS

Stk. No.	Type	Description	Range	Accuracy	Net
62F382	650	Transistor Tester	Beta: 0-5, 50, 250. Ico 0-100 Ma.	Beta: ±5% Ico: ±3%	44.00
62F383	651	DC VTVM	Volts: 0-0.5, 1.0, 10, 25, 50, 100, 250, 500.	±3% F.S.	52.00
62F384	652	Temperature Tester	Input Impedance: 10meg△ on all ranges.	±2°F from -30 to 220 F.	49.00
62F385	653	AC Ammeter	-50°F to 100°F, 100°F to 250° F. sensing element: thermistor	±4°F over range. ±3% F.S.	30.00
62F386	654	Audio Wattmeter	0-0.25, 1.0, 2.5, 12.5, 25 Amps. Frequency: 50-3000 cycles.	±10% (±7% with 261 270)	34.00
62F2371	655	Microvolt Atten.	LOAD RANGES: 4, 8, 16, 600 ohms. Wattage: 25 (8,600Ω), 50 watts (4,16Ω) continuous, Intermittent duty: 50 and 100 w.	±1 DB	30.00
62F2372	656	Battery Tester	2.5 to 250,000 microvolts in decade steps. Freq: DC to 20kc.	±3% F.S.	30.00
62F393	657	Milliohmmeter	Up to 90 volts.	±2% F.S.	54.00
62F1194	661	DC Ammeter	0-0.1 (150 ma. max. output) 0.25 (103 Ma.), 0.5 (90 Ma.). DC AMPERES: 0-10, 2.5, 5. 10, 25.	±2% F.S.	33.00

ACCESSORIES

HIGH VOLTAGE PROBES

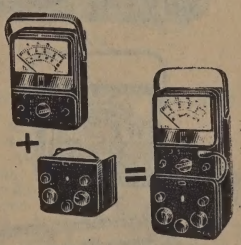
Stk. No.	Type	Description	Net
62F1727	00507	10 KV DC	17.00
62F346	00508	25 KV DC	17.00
62F1729	00509	50 KV DC	17.00
62F2375	00161	10 KV AAC	17.00

TEST LEADS

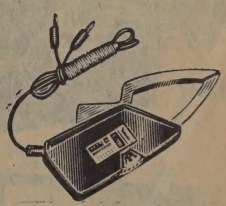
Stk. No.	Type	Description	Net
62F370	07500	Alligator Clip	2.75
62F325	07538	Probe Tip	3.25
62F2376	00163	Thermocouple	6.00

CARRYING CASES

Stk. No.	Type	Description	Net
62F302	0805	Vinyl	14.00
62F301	1818	Leather	12.00
62F1697	0549	Utility	20.00
62F1737	0249	Roll top	13.00



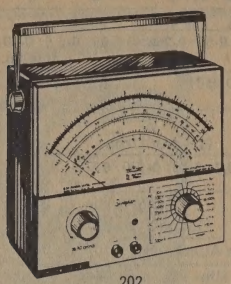
AMP-CLAMP



Model 150 Greatly increases range and versatility of 250, 255, 260, 160, and 270 series vom's; also can be used with any vom having a 2.5 or 3-volt AC scale. Permits measuring AC current up to 300 amps without opening circuit. On 3.0-volt scale vom's ranges are 6, 12, 30, 60, 120, 220, and 300 amps. On 2.5-volt scale vom's ranges are 5, 10, 25, 50, 100, and 250 amps. Accuracy is +3% of full scale. Easily attaches to model 260 vom, others. Easy to handle and use, entire unit weighs just 12 ounces. Rugged high impact plastic case. 7¾ x 3 x 1 1/16". Shipping wt. 16 oz.

62F2377 NET **30.00**

Simpson VOMs & Temperature Meters



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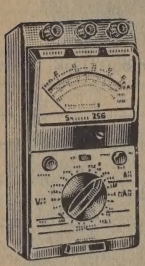

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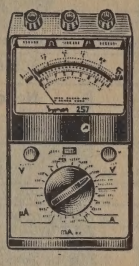

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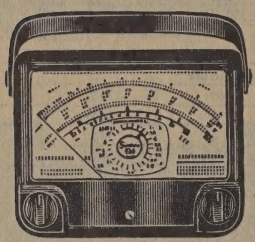

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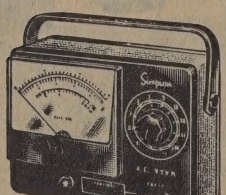

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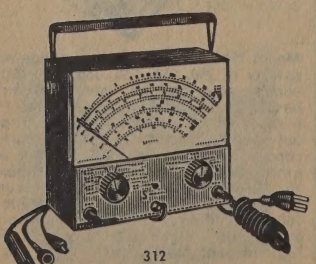


312

ACC-LOG VOLT-OHM-MILLIAMETER

Model 202. High accuracy VOM in which accuracy is specified as percentage of reading rather than percentage of full scale. Taut band suspension movement with mirror scale. Two-way meter movement protection—varistor diodes and fuse. External access battery compartment. Accuracy: DC Voltage: ±2% of Reading—DC Current: ±2% of Reading—AC Voltage: ±3% of Reading. Sensitivity: DC Voltage: 20K/Volt AC Voltage: 5K/V DC Current: Max Insertion Drop 0.3V. Ranges: DC Volts: 30-330 mV .1-.1.1V 1-11 V 10-110 V 30-330 V 100-1100 V. AC Volts: 1-11 V 10-110 V 30-330 V 100-1100 V. DC Current 10-110 uA 1-1.1 mA 1-11 mA 10-110mA .1-1.1 A. ohms: R x 1, R x 1 K, R x K, R x 100 K. Mid-Scale 4, 40, 7K, 70K, 700K. Low power ohmmeter ranges R x 1 Maximum Milliwatts in load 2.7 mW R x 10 Maximum milliwatts in load .27 mW. Size: 7¾"x6¾"x3¾". Shpg. wt: 4.6 pounds.

62F2321. NET **100.00**

SENSITIVITY VOM'S

Model 256. Overload protected circuit and movement for both models. Sensitivity of 25,000/volt DC and 2000 ohms/volts AC. Ranges: 0-0.1, 0.5-2.5, 10-25, 100-250, 500-1,000-5,000. AC, 2,000 ohms per volt 0-10-25, 100-250, 500-1,000-5,000. AC voltage, 400 ohms per volt 0-2.5. AC Volt, 100 ohms per volt 0-0.5. Resist: Ohms x 1, 40 ohms at center K ohms x 10 M ohms x 1. (0 to 50 M ohms) with external AC or DC power supply. AC Ranges: 0-0.5, 2.5, 10, 50 Milliamps; 0-0.25, 1, 5 Amps. Capacitance: 100pF to 20,000 pF, 2,000 pF to 5 uF.

62F2322. Model 256. NET..... **105.00**

Model 257. Sensitivity of 100,000 ohms per volt DC. 20,000 ohms AC. Operating ranges, DC Volt 100,000 ohms per volt 0-0.1, 0.5, 2.5, 10, 25, 100, 250, 1000, 5000. AC volts, 20K ohms per volt 0-10, 50, 250, 1000. Resist: Ohms x 1, 40 ohms at center K ohms x 1 K ohms x 100 M ohms x 1 with external AC supply M ohms x 10, with external DC supply. Capacitance: 2,000 pF to 5 uF

62F2323 Model 257. NET..... **95.00**

TAUT BAND VOM

Model 269-3. Has a self-shielded taut band meter movement that gives better repeatability, plus faster pointer action. This meter movement is combined with a mirror scale; and knife-edge pointer, eliminating parallax errors. Large, readable scale is over 6" long. Accuracy is ±2% DC and ±3% AC, with new range coverage. One switch selects all 27 ranges. Sensitivity is 100k ohms/volt on DC and 5k ohms/volt on AC. The available ranges are as follows: DC volts: 0-1.6-8-40-160-400-800-1600-4000, AC volts: 0-3-8-40-160-400-800, DC microamps: 0-16-160, DC milliamps: 0-1.6-16-160, DC amps. 0-1.6-8, DB scale, (1Mw-600 ohms): —12 to +45.5 in 4 ranges. Resistance: 0-200-20k -2meg-20meg 200meg. Comes complete with No. 00115 test leads, 4000 volt DC probe extension, and conprehensive operator's manual. Size: 6"x7½"x3". Shipping Weight: 5 pounds.

62F330. NET **98.00**

DUAL SENSITIVITY 7" VOM

Model 263. Dual sensitivity Volt-Ohm-Milliameter with accuracies of ±1½% DC and 3% AC (of full scale). Overlapping ranges offer greater accuracy expressed as a percentage of reading. Diode overload protection prevents meter movement burn-out even on 200,000% overload. External battery compartment makes battery replacement easier. Uses 1½ volt alkaline battery to insure greater stability on low ohms scale. Ranges: DC volts: 0.15-.75-3-7.5-30-75-300-750-3000 @ 20k ohms/volt, 0-0.3-1.5-6-15-60-150-600-1500-6000 @ 10k ohms/volt. AC volts: 0-2.5-7.5-30-150-750 @ 10k ohms/volt, 0-3-15-60-300-1500 @ 5k ohms/volt. DC current: 0-75ua-150ua-.75ma-7.5ma-75ma-750mg-1.5ma-15ma-150ma-.15a-7.5a-15a. DB scale: —20 to +75.5 in 10 ranges. Resistance: 0-500-5k-50k-500k-5meg ohms. Accuracy: 1½%, (2½%, 3000, 6000 ranges). Size: 6" x 7¼" x 4". Shipping weight, 5 pounds.

62F1193. NET..... **97.00**

HIGH SENSITIVITY AC VTVM

Model 715. Sensitivity: 10 millivolts full scale on lowest range. Input impedance: Minimum of one megohm at 1 KC. Frequency response offers a greater versatility for general purpose application flat within one decibel between 10 cps and 400 KC. Meter scale provides DB markings on both the voltage range positions. AC rms volts 0-0.1, 0.03, 0.1, 0.3, 1.0, 3.0, 10, 30, 100 and 300. Decibels: total range, — 52 to + 52 DBM (at Zero DBM, reading is one millivolt across 600 ohms). Scale reads —12 DB to +2 DB, Accuracy on all ranges: ±5% of full scale. Unit requires 110-125 VAC, 50-60 cycles Internal multipliers 1% precision resistors frequency response 10HZ to 400KHZ ±1db. Gray hammertone finish. Complete with operator's manual, and shielded input cable. Size: 7½"W x 5½"H x 3"D. Shpg. Wt. 3 lbs.

62F1182. NET..... **84.00**

312 EXTRA HIGH IMPEDANCE WIDE SCALE VTVM

Higher input impedance means 40% less circuit loading and correspondingly greater accuracy in readings. Has 500 mv scale. Voltage ranges DC-0-500 mv, 0-1.5, 5, 15, 50, 150, 500. 1500 volts at 16 megohms input resistance; AC RMS; 0-1.5, 5, 15, 50, 150, 500, 1500 volts. 1 meg minimum input impedance; peak-to-peak; 0-4, 14, 40, 400, 1400, 4000 volts. Resistance ranges: R x 1, x 10, x 100, x 1K, x 10K, x 100K, x 1 meg. 10 ohms center scale. Accuracies are ±3% of full-scale value on all voltage ranges; ±3% arc on resistance. Frequency response is flat ±3% from 51 cps to 3 megacycles on AC voltage ranges through 150 volts; with special RF probe, range can be extended to 250 mc. Operates from 105/125 VAC, 50/60 cycles. Complete with No. 0150 AC/ohms/DC probe and operator's manual. Size: 7¾x6¾x3⅜". Wt. 4¾ lbs.

62F1688. NET **95.00**

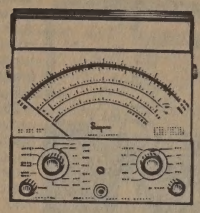
ACCESSORIES

Stock No.	Type	Description	Net
62F329	05262	Ever-Redy carrying case for Models 262, 267, 268, 269, 388-3L, 389-3L. Vinyl.	14.00
62F1684	00577	Vinyl Case for 312 high-impedance VTVM Models 313, 312.	17.00
62F1726	08463	Combination Test Prods with Removable Alligator Clips and Elbow Terminals. For 262, 269.	3.25
62F1737	00249	Roll Top Safety Case for 260-4, 261, 263, 270.	13.00
62F1695	00155	High Voltage. For Model 312 VTVM.	17.00
62F1694	00152	High Frequency. For Model 312 VTVM.	11.75

• NEW SOLID STATE VOM

Model 314. Designed for modern circuit designer and trouble shooter. Very low AC and DC voltage levels and low power ohmmeter circuits without burning out transistors or IC's. Measures ranges down to 10 microamps DC and AC. 10 megohm input impedence on all voltage ranges with large, easy-to-read 7" meter face. 70 microwatts on low power ohmmeter range. Frequency range from 30 Hz to 100K Hz. Accuracy ± 2% DC, ± 3% AC overload of 300 VDC on 50MV and 100 M ranges: 1200 VDC on 300 MV range and higher. DC voltage ranges: 0-0.15, 0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000; AC ranges: 0-0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000. AC/DC milliamperes: 0-0.010, 0.1, 1, 10, 100, 1000, Resistance: RX1 (10 ohm center), RX10, RX100, RX1D, RX10K, RX100K, RX1M. db: -40 to +60 Db. Size: 7¾" x 6¾" x 3¾". Shpg. Wt. 4.6 pounds.

62F2380. NET **150.00**

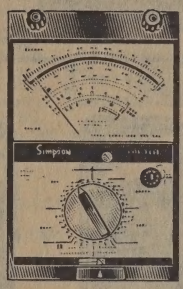


314

• NEW 2795 SOLID STATE FET VOM

Model 2795. Features complete overload protection, 10 Megohm input impedance (on AC & DC ranges above 10 volts). Measures AC & DC current from 1 microampere (full scale). Measures Ac & DC voltage from 1 millivolt full scale. Measures capacitance from 1 uA to 100 uA in 6 ranges. Taut band suspension with mirror scale. Temperature compensated with 1.0% accuracy both AC and DC. Ranges: AC/DC Voltage: 0-1, 3, 10, 30, 100, 300 mV; 0-1, 3, 10, 30, 100, 300, 1000 Volts. AD/DC Current; 0-1, 3, 10, 30m, 100, 300 uA; 0-1, 3, 10, 30, mA; 0-0, 1, 0.3, 1, 3 Amperes. Resistance: Rx (10 ohms at center scale), Rx10, Rx100, Rx1k, Rx10k, Rx100k. Capacitance: (mid scale values) 100, 10, o uF: 100, 10, 1 nF. Temperature: 18° C from ambient, 180° C from ambient; IC Thermocouple type input. Test leads and manual included. Shpg. wt: 8.53"x5.04"x3.49". Size: 4.2 pounds.

62F2381. Model 2795. Solid state FET VOM **NET** **230.00**
62F2382. Type 22923, ±18° C probe. **NET** **28.50**
62F2383. Type 22924, ±180° C probe. **NET** **28.50**
62F2384. Type 22927. Carrying case. **NET** **20.00**

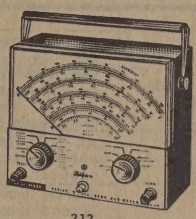


2795

MODEL 313 SOLID STATE VOM

Model 313. Has input impedance of a VTVM combined with convenience features of a battery operated VOM. So stable, rarely necessary to touch the zero or ohms adjustment knob. Saves time of calibration after each range change. FET input handles large overloads without damage and the taut-band meter movement is varistor protected from even 200, 000% overloads. The 313 uses just 1 9-volt transistor radio battery for over 300 hours of operation. A switch allows the battery condition to be checked constantly, and a "power on" indicator is provided. Large 7 inch scale designed for fast accurate readouts. Ranges: AC and DC volts: 0-0.3-1-3-10-100-300-1000. DC milliamps: 0.01-1-10-100-1000. Resistance: Rx, x10, x100, x1k, x10k, x100k, x1Meg, 10 ohm center scale. Accuracy: 3% of full scale on both AC and DC. Input impedance: 11 megohms on all ranges. Supplied with leads, istlating probe, battery, and manual. Sizes: 7¾" x 6¾" x 3¾". Shipping weight: 5 lb.

62F2273. NET **125.00**

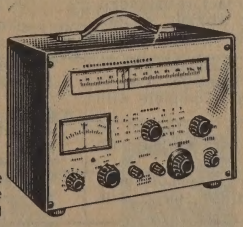


313

PRECISION R-L-C BRIDGE

Model 2785. Precision multi-purpose bridge for measuring capacitance, inductance, resistance and "Q". Powered by two long-life 9-volt batteries, built-in generator provides all the voltages needed for its wide range of measurements. Generator operates at the standard test frequency of 1kHz. External voltage input jack provided for testing components at other frequencies. DC used for all resistance measurements, with voltage directly from the batteries, or rectified from the generator for those ranges requiring higher voltage.

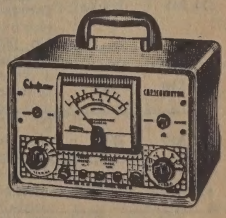
62F2318. Model 2785 ..... **350.00**



383A "CAPACOHMETER" CAPACITOR CHECKER

In-circuit capacitor leakage tester utilizes a pulse technique to detect many "marginal" capacitors. Measures the leakage resistance of defective paper, micra or ceramic capacitance of good ones over a range of 10.0 mf to 10.0 mf. All measurements are made under load conditions. Avoid tedious adjustment of bridge circuitry and balancing controls. Borderline capacitors which cause costly "callbacks" are detected immediately with the pulse test. Operates from 105/125 VAC, 50-60 cycle. Comes complete with test leads. Shpg. wt. 12 lbs.

62F345. NET **150.00**



PRECISION MILLI OHMMETER

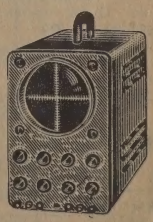
Model 1699. This instrument was designed to accurately measure low values of resistance. It determines the value of an unknown resistance by comparing it with a known standard internal resistance. The usual low-resistance measurement errors are avoided by using test leads terminating in Kelvin Clips coupled with a unique circuit which has separate current and voltage paths. This results in ±1% of full scale accuracy—even on the 0-0.05 ohm range. Ranges: 0-0.05-0.1-0.25-0.5-1.0-5.0-10.0-50.0 ohms. Size: 11⅜"x7⅜"x3¼". Shipping weight: 6 Pounds.

62F1189. NET **175.00**

466 5" PORTABLE OSCILLOSCOPE

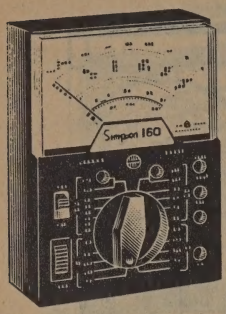
A small, handy scope designed to take on practically any radio-TV service job. Vertical amplifier: ±1 db 15c to 100 kc; 6 db down at 250 kc, usable to 1 mc. Maximum vertical deflec. sensitivity: 30 mv/inch. Sweep range: 15c to 80 kc. Maximum input voltage: 400 v. peak. Calibrating voltage (at 117.5 VAC source voltage) 1 v. peak-to-peak, ±10%. Horizontal amplifier has flat response within ±1 db, 15c to 20 kc; down 6 db at 100 kc. Maximum horizontal deflection sensitivity 150.7 volt inch. Sensitivity with Z-axs (intensity) modulaiton. 20 volts rms extinguishes beam. Input resistance (with attenuator set at x1) 0.1 megohm (with attenuator at x100) 0.5 megohm input capacitance, 40 mmf. Operates from 117 VAC 50/60 cycle, 50 watts. Supplied with input cable No. 0100 and operator's instruction manual. Wt. 19 lbs.; shpg. wt. 40 lbs. Size: 7⅞"x12"x16⅛".

62F347. NET **190.00**



Simpson Test Equipment

160 HANDI-VOM



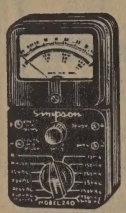
Model 160. +2% DC and +3% AC accuracy. Has the accuracy and sensitivity of a full size VOM. Self-shielded taut band movement features outstanding repeatability and freedom from stray magnetic fields. DB scale, 1nw into 600; -20 +10, -8 +22, +6 to +36, +20 to +50. The movement is varistor protected from even 200,000% overloads. With a scale length of 3 inches. built for today's vom needs, including solid-state circuit testing, 0.025VDC and 0-50 DCA ranges. Five resistance ranges are provided for easy and accurate ohms measurements. Complete with test leads and operator's manual. Size, 4 9/16" x 3 5/16" x 1 3/4" and shpg. wt. 12 oz.

62F1723 ..... **55.00**

(SPECIFICATIONS)

Ranges	DC Volts	0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000
	AC Volts	0-2.5, 10, 50, 250, 500, 100
DC Microamperes		0-50
DC Milliamperes		0-1, 10, 100, 500
DB Scale (1 mW into 600Ω)		-20 to +10, -8 to +22, +6 to +36, +20 to +50
DC Resistance		R x 1 (30Ω center), R x 10, R x 100, R x 1k, R x 10k
Accuracy	DC	±2%
	AC	±3%
Sensitivity	DC	20,000 Ω/volt
	AC	5,000 Ω/volt
Movement Type		Taut Band

MICRO-TESTER



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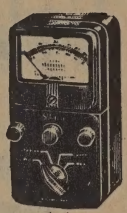
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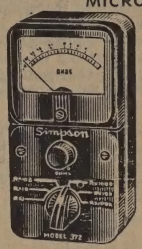

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Stk. No.	Type	Description	Ranges	NET
62F2379	230-2	**AC/DC VOM.** One of the smallest AC and DC service instruments, yet it contains sufficient ranges to do a complete servicing job. Designed for telephone, teletype, and marine use. Excellent troubleshooter. Case, including front panel, molded of black phenolic for protection against high voltages. Complete with tests leads No. 08375 and operator's manual.	1,000 Ohms per Volt AC-DC. Ranges DC: 10v; 50v; 250v; 1,000v. AC: 10v; 250v; 1,000v. DC: 10ma; 50ma; 250ma. Resistance 0-1,000Ω, 0-100k Ω.	45.00
62F360	371	**AC VOLTMETER** designed primarily for testing line voltages applied to motors, heating equipment and many other industrial applications.	1Ranges: 0-150, 0-300, 0-600 volts. Accuracy: ±3% of full scale.	39.00
62F313	240-4	**AC/DC VOM** the "Hammeter". Designed for general application around labs, classroom, hamshack, etc. Has voltage ranges of 3000 volts AC to DC to check high voltage on transmitters and receivers. Complete with tests leads No. 08375 and operator's manual.	1,000 Ohms per Volt AC-DC. Ranges DC: 15v; 75v; 300v; 750v; 3,000v. AC: 15v; 150v; 750v; 3,000v. DC: 15ma; 150ma; 750ma. Resistance	45.00
62F368	362-2	**Low-OHMMETER** the two ranges are essentially linear and permit highly accurate readings between 0.1 and 25 ohms. For checking motor armatures, switch and relay contact resistances; shorts between windings and grounds in radio chassis wiring; electrical equipment, etc. Complete with calibrated test leads No. 08376.	Ranges: 0-5, 0-25 ohms. Accuracy: ±3% of linear arc length.	39.00
62F318	372-2	**OHMMETER** provides wide range of resistance measurements in a small package. .2 ohm to 500 megohms. Ideal for use in schools, on test benches or at inspection facilities. Complete with test leads No. 08375 and operator's manual.	Ranges: 0-500, 0-5000, 0-50,000 0-500,000 ohms; 0-5, 0-50 megohms. Center Scales: 5, 50, 500, 5,000, 50,000 ohms.	39.00
62F362	375	**DC AMMETER** provides complete range from a fraction of an amp to 25 amps without external shunts. Ideal unit for use with unmetered power supplies.	Ranges: 0-1, 2.5, 5, 10, 25 amperes. Accuracy: ±3% of full scale.	39.00
62F319	370	**AC AMMETER** ideal for checking small motors, lineloads, etc., where AC current measurements are required. 60 Hertz. Self-contained current transformer.	Ranges: 0-1, 0-2.5, 0-5, 0-10, 0-25 amperes. Accuracy: ±5% of full scale.	39.00
62F323	373	**DC MILLIAMMETER** general purpose tester. Valuable in a number of applications. Provides DC current transformer and indicating instrument in one case.	Ranges: 0-1, 5, 10, 25, 50, 100, 250, 1,000 ma. Accuracy: ±3% of full scale.	39.00
62F365	378	**AC MILLIAMMETER** five separate ranges. Typical applications are transformer vacuum tube tests. Contains current transformer and indicating instrument in one case.	Ranges: 0-5, 25, 100, 250, 1,000 ma. Accuracy: ±5% of full scale.	39.00
62F366	379	**BATTERY TESTER** provides accurate indications of condition of all standard flashlight, hearing aid (mercury cells) radio batteries. Complete with test leads No. 08375 and operator's manual.	Ranges: 0-1.5, 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0, 67.5, 90.0v	39.00
62F361	374	**DC MICROAMMETER** can be used with external resisters of multipliers as high sensitivity voltmeter at 20,000 ohms per volt. Can be shorted out of circuit by use of selector knob.	Ranges: 0-50, 100, 250, 500, 1,000 microamperes. Accuracy: ±3% of full scale.	39.00
62F317	390	**AC VOLT-AMP-WATTMETER** the most popular tester AC/DC volts, AC amps and AC watts with one meter. Rugged. . .useful for practically any appliance. Complete with test cord assembly No. 08418 and operator's manual.	Volts: 0-150, 300. Amps: 0-3, 15. Watts: 0-300 600, 1,500, 3,000 Accuracy: ±5% of full scale.	70.00

ACCESSORIES

Stk. No.	Type	Description	NET
62F1682	2225	Carrying Case for Model 160 "Handi-VOM."	11.00
62F2385	02929	Vacuum formed case for 160.	11.00
62F1686	2055	Probe Tip Leads for 160 "Handi-VOM."	3.00
62F369	8381	Prods and Elbow Terminals for Model 230, 240, 260-2, and 372.	3.25
62F1725	8375	Alligator Clips and Elbow Terminals for Models: 230, 240, 260-2, and 372.	2.75
62F343	8376	Alligator Clips and Spade Terminals for 370, 371, 373, 374, 375, 376, 377, 378.	

•NEW PORTABLE TEMPERATURE RECORDER

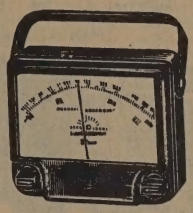
Model 413: Thermoscript. Sensor shock resistant bi-metal type, mounted internally. Does not require electrical power. Gives written temperature record of perishables. Interchangeable gears for 24, 48, or 96 mm per day. Operates by precision clock motor, better than 1% accuracy, unattended for up to 32 days. Response time of 15 minutes for 50% change, 40 minutes for 90% change. Supplied with two rolls of chart paper, which have 32 days of recording length at 24 mm per day speed, gears for the three chart speeds.

Size: 6.5 x 3.6 x 1.8 inches. Approximately 2.2 pounds.

62F2477 23310 **Model 413 +30° to +150° NET** 130.00
62F2478 23312 **Model 413 0° to 120° NET** 130.00
62F2479 23314 **Model 413 -30° to 90° NET** 130.00
62F2378 23300 **Model 413 +30° to +150°F NET** 18.00
62F2480 23302 **Model 413 0° to +120°F NET** 18.00
62F2481 23304 **Model 413 -30° to +90°F NET** 18.00

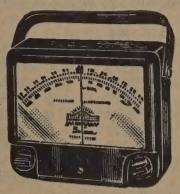
TEMPERATURE METERS

388-3L THERM-O-METER



The Therm-o-meter measures the temperature of air, gases, liquids, or solids by means of thermocouple type leads from —50°F to +1000°F. Both Fahrenheit & Centigrade readings can be made in 15 to 30 sec. and up to a distance of 7½'. A selector switch on the 388-3L connects any one of the three leads into the meter circuit. The lead wires are small enough to pass through a closed door and gasketing. The meter movement is self-shielding. A compensator circuit automatically corrects room temperature effects from 60 to 100°F. With one general purpose lead, battery, and operator's manual. $7\frac{15}{16}$x6x$2\frac{15}{16}$". Shipping weight. 4 lbs.
62F350. NET **84.00**

DUAL RANGE THERM-O-METER



Model 389-3L may be used to measure temperatures of gases, liquids, or solids in many fields; frozen food packaging, ice manufacturing, freezer storage, refrigeration, photo processing, air conditioning, and numerous others. Using the three leads, readings may be made in three different locations at once. There are two ranges. A low from —50°F. and a high from 100°F to 250°F. Accuracy is within 3°F in any position, near center of scale within 2°F or better. Compensation for room temperature effects. Large easy to read 7" meter. Self shielded core magnet, minimizes heavy electrical interference. Includes sensing probes with thermistors, tip and 15' lead, and batteries. Black bakelite case. $7\frac{15}{16}$x6x$2\frac{15}{16}$". Wt., 6 lbs.
62F391. NET **79.00**

APPLIANCE TESTER

DC MILLIVOLTMETER

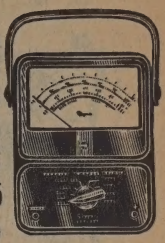
Model 387. Checks safety thermocouples on gas-fired units-Furances-Boilers-Heaters-Hot Water Heaters-Dryers-Refrigerators. Makes gas unit servicing faster, and more accurate. Simply place probe across thermocouple terminals and test for correct value. Ranges are 10, 30, 100, 300 and 100 millivolts. Accuracy 3% fullscale from 50° to 120°. With test prods and terminals. Alligator chips and spade terminals. Everedy vinyl carrying case. Operator's manual included. 3 x $5\frac{7}{8}$ x 2½". Shpg. wt., 3 lbs.
62F367. NET **39.00**

"MIDGETESTER"VOLT-OHMMETER

Model 355. VOM, ideal for radio, appliance and TV servicemen. Sensitivity 10,000 ohms per volt on both AC/DC. Accuracy 3% on DC, 5% on AC of full scale voltages. Ranges: AC/DC volts 0-3, 12, 60, 300, 1200; Ohms 0-10K, 100K, 1 meg, 10 meg. Compactness and sensitivity made possible by 100-micro-amp self-shielded core meter movement. Sturdy, polished styrene case. Size 2¾x4½x1". Complete with set of probe leads and instruction manual. Shpg. wt., 1 lb.
62F335. NET **50.00**

Model 355

AC CURRENT LEAKAGE TESTER



Model 229. Designed to test 120 volt AC appliances and electrical equipment by measuring amount of AC leakage current between appliance and ground. Measures current as low as 5 micoamperes. Detects shorts and near shorts. Provides AC current measurements from 1 - 10 mA ranges: 0-03, 1, 3, 10 milliamperes. ±2% accuracy at 60 Hz. Fully protected up to 150 Vac on all ranges. Resolution 5 μ A on 0-0.3 mA range. Complete with test leads, batteries, and operator's manual. 5x7x3½". Shpg. wt. 3½ lbs.
62F324. NET **90.00**

Model 805. Leather carrying case.
62F302. NET **14.00**

ACCESSORIES

METER SAFE/GUARD

Model 12621. Fast, easy to install. Provides meter movement protection for series 1, 2, 3, or 4, 260 (or any other 20,000 ohm per volt (VOM). Prevents electrical damage to the meter movement, regardless of polarity, even with currents of as much as 200 milliampers applied. Use with AC or DC. Has low leakage, sharp knee characteristics.
62F1698. NET **1.95**

CARRYING CASES

Model 0805. Ever-Redy carrying case for Model 303. Leather
62F302. NET 14.00
Model 5262. Ever-Redy carrying case for Models 262,267,268. Vinyl.
62F329. NET 14.00
Model 8073. For 385-3L-Ever-Redy. Leather.
62F1733. NET 12.00
Model 0549. New Utility Vinyl Case.
62F1697. NET 20.00
Model 0574. Probe Case.
62F1696. NET 6.00

PROBES—Miscellaneous Type

Model 0073. High Frequency. For Model 303.
62F342. NET **11.75**
Model 0731. 311 VTM. High Frequency.
62F1745. NET 17.00
Model 0732. 311 VTVM High Voltage.
62F1746. NET 17.00
Model 7594. 311 VTVM DC-AC Ohms.
62F1747. NET 12.00
Model 0505. 5000 VAC
62F2832 NET 4.50
Model 0506.. 5000 VDC
62F2833 NET 4.50
Model 0155. High Voltage. For Model VTVM.
62F1695. NET 17.00
Model 0152. High Frequency. For Model VTVM.
62F1694. NET 11.75

LEADS

Model 7538. Banana Plugs and Test Prods. For Model Series 3, 267, and 268.
62F325. NET 3.25
Model 0187. Surface Temperature Thermocouple (1000° F MAX.) For Model 388-3L.
62F351. NET 12.00
Model 0010.15 foot Themistor Lead. For Model 385-3L
62F396. NET 9.00
Model 0216. 30 foot Thermistor Lead. For model 385-3L.
62F397. NET 10.00
Model 8376. Alligator Clips and Spade Terminals. For 376,377.
62F343. NET 2.75
Model 8463. Combination Test Prods with Removable Aligator Clips and Elbow Terminals. For 262.
62F1726. NET 3.25

TEMPERATURE TEST LEADS AND PROBES

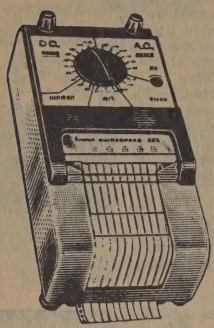
Model 0789. Free Air Temp. Probe. For Model 385-3L, 652-3L, Adaptor.
62F308. NET 12.00
Model 0790. Surface Temperature Probe. For Models 385-3L, 389-3L, 652-3L, Adapter.
62F398. NET 9.00

PROBES—High Voltage Types

Model 0074. 30,000 volts. For Model 303.
62F341. NET 17.00
Model 0507. 10,000 V. For 260 Series 3, 4, 4M, 261, 267,
62F1727. NET 17.00
Model 0508. 25,000 V. For Series 3, 4, 4M, 261, 267,
62F346. NET 17.00
Model 0509. 50,000 V. For 260 Series, 3, 4, 4M, 267,
62F1729. NET 17.00
Model 0158. 30KV@10K/V. 15V@20K/V. The 0141 is for the New 263 Dual Sensitivity VOM.
62F1748. NET 17.00

Simpson Chart Recorders

604 "MULTICORDER" RECORDING MULTIMETER



Inkless recording using fast sequential impressions on pressure-sensitive paper—no pen-and-ink maintenance problems. Three chart speeds: 1"/3"/12" per hr.; impressions made every 2 sec. High torque, shock-proof taut-band meter movement. Ranges: DC volts: 0-.1, 5, 2.5, 10, 25, 100, 250, 500, at 20,000 ohms/v. AC volts; 0-10, 25, 100, 250, 500 at 5000 ohms/v. DC microamperes: 0-50, 250; DC ma: 0-1, 5, 25; DC amps: 0-1, .25, 1.0. AC current: 0-2 ma. Chart drive: self-starting synchronous motor, operates from 115 VAC 60 cps. Chart paper width, 2.3". Unique marking system indicates range in use, avoids confusion. Accuracy of recording: ±2.5% F.S. AC response flat from 15-10,000 cps. Temp. deviation: 1% of reading per 10°C max. Size: 9¾x4¾x4. Complete with No. 7500 test leads and two rolls of chart paper. Wt. 5½ lbs.

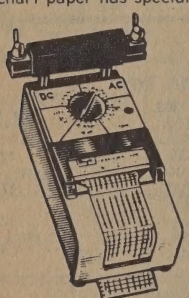
62F1689. NET 200.00

ACCESSORIES FOR 604 AND 605 RECORDERS

Stk. No.	Type	Description	For Model	Net
62F1691	00682	Gear Unit, 30/60/90 in./hr	604, 605	30.00
62F1690	02612	Additional chart paper	605, 605	19.50
62F2387	02614	30 Division calibration	605	19.50

MULTICORDER 605

The 605 multicorder has dependable inkless recording. Low cost chart paper has specially formulated hard wax surface.

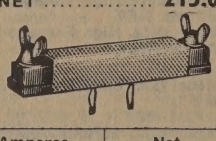


High torque taut-band movements are shockproof, for accurate recording and visual readout. These multi-range recorders, with three built-in chart speeds, eliminate the need for separate instruments. One switch selects the range desired with both the range and the measured value permanently recorded. The 605 has 24 ranges. Ranges: DC millivolts: 0-12-30-60. DC volts: 0-3-15-60-300-600. AC volts: 0-6-30-150-300-600. DC uA: 0-600. DC mA: 0-1.5-3-6-30-150. DC amperes: 0-1.2-6. AC mA: 4-3-15-60-300. AC amps: 0-1.2-6. Accuracy: 2.5% of full scale. Identical in all other respects to the Model 604 at left.

62F2287. NET 215.00

100 MILLIVOLT SHUNTS

- Converts DC millivolt ranges to DC amp ranges.
- Plug-in design for quick connections.

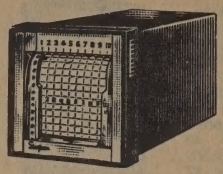


Stock No.	Type No.	Amperes	Net
62F2297	06526	5	15.00
62F2298	06527	25	
62F2299	06528	50	
62F2300	06531	100	

TRANSFORMERS FOR 605 ONLY

Stk. No.	Type No.	Description	NET
62F2351	02461	Current transformer 0-30, 120, 600 AC Amperes (±3%, 45-65- Hz)	25.55
62F2352	02462	Current transformer, 0-30, 120, 600 AC Amperes (±1%, 45-65 Hz)	40.70

MINIATURE 10 CHANNEL EVENT RECORDER

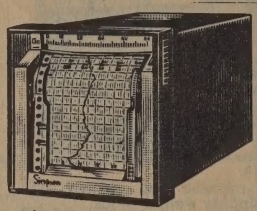


Model 2755. Inkless pressure sensitive chart paper continuously passes the 10 recording pens. Any function which is convertible to an electrical value can be recorded. Input signals corresponding numbered terminals on the rear of instrument. Paper moves at a precisely known rate of speed. All 10 channels record simultaneously and continuously. This makes it possible to determine exact time an event took place. Normally furnished chart speed is 2 mm/hr. which can be increased 6 times at flick of a switch. Other gear assemblies are available left and below for chart speeds up to 600 mm/hr. After data has been recorded on the chart, it is visible in window of 76.2 mm of travel. It is then wound on built-in take-up reel. 60 Hz. Size 3.78" x 9" x 3.78". Shipping weight: 5 pounds.

MODEL 2755 RECORDERS

Stock No.	Type	Volts	POW/Per Solenoid	Net
62F2288	22203	6 V.D.C.	1.2 Watts	175.00
62F2325	22202	12 V.D.C.	1.2 Watts	
62F2326	22201	24 V.D.C.	1.2 Watts	
62F2327	22200	115 V.A.C. 60Hz	2.2 Va	

MINIATURE STRIP CHART RECORDERS



Model 2750. These chart recorders mount in less panel space than a 4½" meter. Mounting bracket is supplied with recorder and requires only one 3.6"x3.6" cut-out. In addition to recording, an edgewise scale gives clear visual readout. Uses specially formulated paper which requires no ink. The paper take-up reel is built-in. Optional snap-on window provides direct paper feedout. Two built-in chart speeds are switch selected. Synchronous motor uses 115 VAC, 60 Hz. Accuracy is 1.5%. Shpg. Wt. 4½ lbs. Supplied with line cord, panel mounting bracket, glass window with metal frame, and 2 rolls of chart paper.

Stk. No.	Range	Net
62F2274	0-10 Microamperes DC	167.00
62F2275	0-50 Microamperes DC	153.00
62F2276	0-100 Microamperes DC	147.50
62F2277	0-500 Microamperes DC	142.00
62F2278	0-1 Milliampere DC	140.00
62F2279	0-1/0-1 MA, Dual Channel DC	165.00
62F2280	0-50 Millivolts DC	142.00
62F2281	0-150 Volts AC	148.00

CHART PAPER FOR 2750

Stk. No.	Type No.	Description	Box of 10-Net
62F2289	22310	30 Div., 20 mm/hr	18.00
62F2290	22311	50 Div., 30mm/hr	
62F2291	22312	30 Div., 30 mm/hr	
62F2292	22313	50 Div., 30 mm/hr	
62F2293	22314	30 Div., 60 mm/hr	
62F2294	22315	50 Div., 60 mm/hr	
62F2295	22316	30 Div., 100 mm/hr	
62F2296	22317	50 Div., 100 mm/hr	

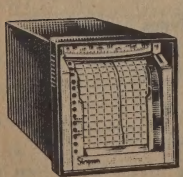
CHART PAPER FOR 2755

Stk. No.	Type No.	Description	Box of 10-Net
62F2353	22380	20mm/hr	18.00
62F2354	22381	30mm/hr	
62F2355	22382	30mm/hr	
62F2356	22383	100mm/hr	

ACCESSORIES FOR 2750 AND 2755 RECORDERS

Stk. No.	Description	Net
62F2282	Portable carrying handle	6.35
62F2283	Plastic window for direct paper feedout	2.00
62F2284	Gear unit for 30/180 mm/hr speeds	7.50
62F2285	Gear unit for 60/360 mm/hr speeds	7.50
62F2286	Gear unit for 100/600 mm/hr speeds	7.50

TEMPERATURE CHART RECORDERS



Have three built in temperature ranges which are switch selected. Uses specially formulated paper which requires no ink. Will record continuously for over a month at 20 MM-per-hour, using a single roll of chart paper. 2°F over range of 0-120°F. Impression rate of 2761 is 3 seconds, for 2762 is 6 seconds. Size 3¾" x 9¼" x 3¾". Wt. 4 lbs.

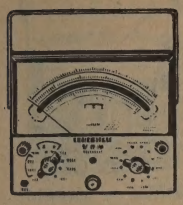
Stock No.	Model	Range °F	Net
62F2319	2761	(-50 +50) (+50 +150) (+150 +250)	190.00
62F2320	2762	(—40 +60) (+50 +150)	210.00

CHART PAPER

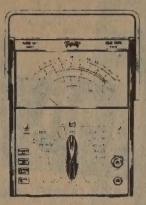
	20 mm/hr		60 mm/hr		
FOR MODEL	Stk. No.	Type	Stk. No.	Type	NET
2762	62F2362	23241	62F2364	23243	18.00
2761	62F2363	23237	62F2365	23239	

Test Equipment TRIPLETT

FET V.O.M.'s

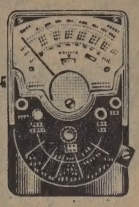


Model 801



Model 601

Model 602



Model 310

• NEW FET VOM

Model 801. Solid-state VOM designed for lab and service use. Offers low power ohms in 8 ranges with 35 MV power source and 1-ohm center scale; high sensitivity of 0.0005 volts AC full scale at 10 megoms input resistance; plus 8" meter with 73 ranges. Precision engineered to measure DC voltages, resistance, AC-DC QCURRENT AND AC RMS values. By adding color to the various ranges and combining the DC and AC voltage scales, the meter dial has been simplified and made easier to read. One probe used for all functions: DC, AC, MA and Ohms. Small contact probe has built-in sliding switch which places megohm resistor in series with the instrument on DC voltage readings. DC Ranges: 0-.05, .15, .5, 1.5, 5, 15, 50, 150, 500, 1500 volts. Accuracy: ±2% of full scale all ranges; except 1500 volts, ±3%. AC Ranges: .005 to 1500 volts. Accuracy: —3%. DB Measurement Ranges: —50 to +60. Scale, lower arc lettered 20 to +6 DB. "O" DB equal to .775 V. current measurements AC and DC. Full scale 5 μA to 1500 MA.

62F2474 **NET** **200.00**

62F2837	10-2467	Carry Case. **NET**	31.00
62F2838	79-292	50 kv High voltage probe. **NET**	25.20
62F2839	79-289	250 MHz/20v RD Detector Probe **NET**	9.50
62F2840	91-620	5 and 15 ampere Shunt Adapter. **NET**	10.00

SOLID-STATE FET VOM

Model 601. Lightweight, portable, battery operated all solid state V-O-M with push-button fuction switches and field effect transistorized circuitry providing 11 megohm impedance on all AC and DC ranges. The 601 has an accuracy of ±2% of full scale on DC and ±3% on AC. Frequency response on AC ranges is 50 to 50K Hz. It also permits the operator to have at his disposal 7 conventional and 7 low power ohms ranges. The "Low Power Ohms" feature is designed to prevent electrical damage to IC's. In circuit resistance measurements can be easily made without the usual diode or transistor loading. In use, 75mv is applied across the device under test and max power applied is .1mW. A total of 52 selections including "off" and "battery check" can be accomplished using the single range switch. Complete with batteries and leads. Ranges: Volts, AC & DC, 0-.1-.3-1-3-10-30-100-300-1000 (plus 0-.01-03 AC); Ohms, 1-10-100-1k-10k-100k-1meg (10Ω center scale); Current, 0-10-100μA-1mA-10mA. Size: 6½x5⅛x3⅛".

62F1768. **NET** **158.00**

• NEW AUTO-POLARITY FET VOM

Model 602. Clip one to ground or to chassis, and have meter always read upscale regardless of polarity of any other terminal you touched. Most convenient VOM ever built. Goes well beyond auto-polarity feature, though. . .to AC and DC measurements from 10 mV to 1000 V in 8 ranges at 11 megohms DC and 10 megohms AC input resistance. . .AC and DC from 0.02 to 1000 mA in 4 ranges. . .resistance from 0.2 to 1000 megohms in 6 ranges. With an accuracy of 3% on voltage measurement, and a rugged 50 uA suspension-type meter movement. Current (AC,DC) ranges: 0-1-10-100-1000 mA accuracy: 4%. Auto-Polarity: pointer deflects up scale with either positive or negative current flow. Polarity Determination: push button + or -. Circuit IR drop 300 millivolts on all current ranges. Batteries needed, 2-9, V, 1-1½ V "D". Dimensions: 3⅜" x 5⅛" x 6½" with metal handle that can be used to place instrument on approximately 25° angle. Weight approximately 2½ pounds with batteries. Order available accessories: leather carrying case, high voltage probe, and RF probe.

62F2473 **NET** **100.00**

62F2841	101-793	Leather carrying case. **NET**	15.40
62F2842	79-270	High voltage probe. **NET**	26.50
62F2843	79-264	RF probe. **NET**	9.50

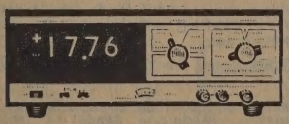
SOLID-STATE FET VOM

Model 310. Super sensitive, hand-size tester with 10 megohm input resistance on all DC ranges, ±3% DC accuracy and ±4% AC. Battery operated solid-state circuitry self shielded for checking in strong magnetic fields. High torque, bar-ring instrument. One selector switch minimizes chance of incorrect settings and burnouts. Unbreakable plastic meter window. Fitting interchangeable test prod into top of tester makes it the common probe, freeing one hand. Standard sensitivity 20,000 ohms per volt.-800 ohms per volt AC. Spring backed instrument jewels; DC Volts: 0-3-12-60-300-1200 (at 20,000 volt). Ohms 0-20,000-200,000. wmegohms: 0-2-20. DC Microamperes: 0-600 at 250 millivolts. Sensitivity of 300μV, DC, fs for transistor bias measurements, suspension movements with provision for attaching AC clamp-on ammeter. Complete with leads, battery and instruction manual. Size 2¾"x4¼"x1 15/16. Shipping weight: 2 lbs.

62F250 **NET** **74.00**

Digital VOM

NEW DIGITAL VOLT-OHM MILLIAMMETER



Model 8000A Digital V-O-M features three gas-filled readout tubes and a neon lamp to indicate 1000, a moveable decimal point, automatic over-range indication, and autopolarity on DC. Sample rate is 6 times per second. Offers added facility of instant replay memory circuit. Retains readings indefinitely up to 50% over range with true accuracy. Protective circuitry prevents damage to tester when voltages as high as 1000 volts AC or DC are applied as inputs on any selectable voltage range of the unit. Ruggedness and reliability are achieved by the use of solid state components in conservatively designed circuits. There is virtually no internally generated current in the input circuit of the V-O-M to cause errors in reading. High accuracy with nearly perfect linearity and 10-megohm input resistance. This is especially valuable in high resistance circuits.

DC Volts: 0-0.1-1.0-10-100-1000
0.1% of reading, 1 digit accuracy
AC Volts: 0-0.1-1.0-10-100-1000
0.2% of reading,) digit accuracy on 100 mV, 1V, and 10V ranges
0.3% of reading, 1 digit accuracy on 100V and 1000V ranges
Input impedance is 10 megohms on all ranges.
OHMS: 100-1K-1Meg.-10Meg.
0.2% of reading, 1 digit accuracy on 100K
0.3% of reading, 1 digit accuracy on 1 Meg. to 10 Meg.
AC Amperes: 0-10uA-0.1mA-1.0mA-10mA-100mA-1.0A
0.4% of reading, 1 digit accuracy on 10KHz
Full scale circuit voltage to drop 100 mV on all ranges.
DC Amperes: 0-10uA-0.1mA-1.0mA-10mA-100mA-1.0A
0.2% of reading, 1 digit accuracy
Incorporates a ⅜ amp 3AG slow-blow fuse. Three input terminals marked "Input", "Com", and 1 Amp provide connections to the circuits under test.

62F2475 **Model 8000A NET** **630.00**

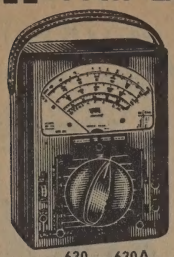
Model 8000. Similar to Model 8000A in every respect except it does not offer the added facility of the instant replay memory circuit.

62F2476 **Model 8000 NET** **575.00**

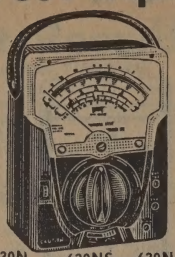
NEWARK—For Everything In Industrial Electronics

Stocking Warehouses From Coast-To-Coast

TRIPLETT Test Equipment



630 630A



630N 630NS 630NA

VOLT-OHM-MILLIAMMETER

Model 630. Reads DC volts to 6,000 in six ranges at 20,000 ohms/volt. AC volts in corresponding ranges at 5000 ohms/volt. DC current ranges are: 0-60 microamperes. 0-1.2-12-120 mils. 0-12 amps. Measures ohms 0-1,000-10,000 and megohms 0-1-100. Also reads db from —20 to +77 in six ranges. 5½" scale; 50 microamp movement. With batteries test leads. 3⅞"x5½"x7½". ±2% DC, ±3% AC accuracy. Shpg. wt. 4½ lbs.

62F212. NET **64.00**

Model 630-A. Equipped with 4⅜" mirror scale and knife-edge pointer. ±1½%. DC ±3% AC accuracy.

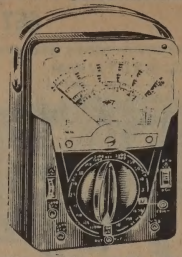
62F211. NET **75.00**

Model 630-PLK. Transistorized relay circuit provides protection from burn-outs; overload sensing device does not load circuit under test. Automatically checked by using X100K ohms range. 20 position range switch turns in either direction not affected by stray magnetic fields; usable with frequencies through 500 hz Sensitivity: 20,000 ohms VDC, 5,000 ohms VAC. Resistors directly connected to switch to form a simplified unit. Leads are 50 inches long, test prods with removable alligator clips. DC Volts: 0-2-5-10-50-250-1,000-5,000 at 20,000 ohms/volt; 0-0.25 at 100 microamperes. AC Volts; 0-3-10-50-250-1,000-5,000 at 5,000 ohms/volt. Decibels: —20 to +11 +21, +35, +49, +61, +75; "O" DB at 1 MW on 600 ohm line. DC Microamperes: 0-100 at 250 Mv. DC Milliamperes: 0-10-100-1000 at 250 Mv. jack with condenser in series with AC ranges. +2% DC, +3% AC accuracy. Size: 3¹¹⁄₃₂"x5½"x7½". Shipping weight, 5 pounds.

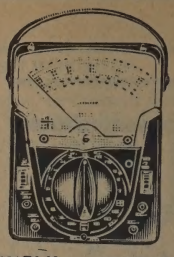
62F1775. NET **98.00**

Model 630-APLK. Transistorized Electronic Switching Circuit guards against accidental burnouts! Polarity reversing switch and suspension Meter Movement. One selector switch minimizes chance of incorrect settings. 0-50 microampere suspension type movement. Diode network across meter protects against instantaneous transient voltages. Automatically checked by using X100K ohms range. One 20 position range switch turns in either direction to obtain desired range. Accuracy ±1½% on DC. ±3% AC. Flush mounted controls, jacks and meter. DC VOLTS: 0-2.5-10-50-250-1,000-5,000 at 20,000 ohms/volt 0-0.25 at 100 microamperes. AC VOLTS: 0-3-10-50-250-1,000-5,000 at 5,000 ohms-/volt. DC MICROAMPERES: 0-100 at 250 Mv. Megohms: 0-1-100 (4,400-440,000 at center scale). Output Volts (AC): 0-3-10-50-250 at 5,000 ohms/volt jack with condenser in series with AC ranges. Case: Molded, fully insulated: 3¹¹⁄₃₂" x 5½" x 7½". Shpg. wt., 5 lbs.

62F1777. NET **110.00**



630NS 630NA 630PL 630APL



630PLK 630APLK

Model 630-NS. Has 62 ranges. 200,000 ohms per volt DC 20,000 ohms per volt AC. Suspension Meter Movement. Molded insulated case. DC Volts: 0-0.6-3-12-60-300-1200 at 100,000 Ohms/Volt 0.3-1.5-6-30-150-600 at 200,000 Ohms/Volt. 0-0.150 at 60 microamperes AC Volts: 0-3-12-60-300-1200 at 10,000 Ohms/Volt. 0-1.5-6-30-150-600 at 2000 Ohms/Volt. Accuracy ±1½° DC ±3% AC. 3¹¹⁄₃₂x5½x7½". Wt. 5 lbs.

62F168. NET **116.00**

Model 630-NA. As above except 10,000 and 20,000 ohms/V DC and 5000 and 10,000 ohms/V AC. 70 ranges.

62F228. NET **98.00**

Model 630-PL. Outstanding linear ohm scale; low reading 0.1 ohm; high to 100 megs. One switch selects any range. Usable with frequencies through 500Kc. DC polarity reversing switch. High sensitivity. Accuracy: ±2% DC; ±3% AC. Ranges—V DC: 0-25-10-50-250 at 160 Microamperes V AC: 0-3-10-50-250-1000-5000 at 50 ohms/V; DR: —20 to +11, +21, +35, +49 +61, +75; "O" DB at 1 MW on 600-ohm line; DCua: 0-100 at 250 MV. DC MA: 0-10-100-1000 at 250 MV; DC Amp.: 0-10 at 250 MV; ohms 0-10000-10,000 (4,4-44 at cir scale); megohms: 0-1-100 (4400-440,000 at cir scale); V AC output: 0-3-10-50-250-1000 at 5000 ohms/V, jack w. condenser in series with AC ranges. Case-molded fully insul. Leads alligator clips, rubber feet, batteries. 3¹¹⁄₃₂x5½x7½. Shpg. wt. 4½ lbs.

62F241. NET **64.00**

Model 630-APL. Volt Ohm-Milliammeter. Labtype featuring ½% resistors, mirrored scales. ±1½% DC accuracy, 3% AC accuracy. Other features same as 630PL.

62F242. NET **75.00**

Model 630-M. The input impedance of a VTVM with the convenience of a VOM. 0-1 DC micro-ampere movement. No amplifiers, has no zero drift, no warm-up, and no power requirements. 1,000,000 ohms per volt, DC for greater accuracy. 20,000 ohms per volt AC 1 u-a Suspension Meter Movement: no pivots, bearings, or rolling friction. 61 ranges, usable with frequencies through 100 Khz. Temperature compensated. ±1½% DC accuracy, ±3% AC. Current measurements from 20 nanoamperes. Voltage measurements from 5 mv. VDC: 0-6-3-12-60-300 at 500,000 ohms/volt. 0-.3-1.5-6-30-150 at 1,000,000 ohms/volt. 0-1200 at 125,000 ohms/volt. 0-6-600 at 250,000 ohms/volt. VAC: 0-3-12-60-300-1200 at 10,000 ohms/volt. 0-1.5-6-30-150-600 at 20,000 ohms/volt. DB: —20 to +63 in 10 ranges. MEGOHMS: 0-1-10-100 Shpg. wt. 5 lbs.

62F1776. NET **231.00**

CARRYING CASES AND REPLACEMENT LEADS

Model 639. Black cowhide leather case. Space for tester and accessories. For models 630, 630-A, 630-M, 630-NA, 630-NS, 630-PL, 630-APL, 630-PLK, and 631.

62F213. NET **13.20**

Model 639-P. Same as 639, but lined with ⅜" sponge rubber

62F234. NET **18.80**

Model 639 N. Same as 639 but with center cover flaps, permits complete access to tester without removal from case.

62F233. NET **13.20**

Model 669. Black leather case with strap handle, space for tester, leads, accessories. For 666-R.

62F210. NET **8.40**

T-79-127. Rubber replacement leads for Models 630-630-A, 666-R, 630-PL, 630-APL, 630-PLK, 630-NA, 630-NS, 630-M, and 631.

62F245 NET **3.40**

T-79A-153. Replacement leads for model 310 and 310C.

62F246. NET **3.20**

SPECIFICATION TABLE

FUNCTION		Model 630	Model 630-A	Model 630-NS	Model 630-NA	Model 630-PL	Model 630-M	Model 630-PLK	Model 630-APLK	Model 630-APL
DC VOLTAGE	Measurement range	.05-6000	.05-6000	.002-1200	.002-1200	.005-5000	.002-1200	.005-5000	.005-5000	.005-5000
	No. of ranges	6	6	13	14	7	13	7	7	7
	Sensitivity	20K	20K	200K/100K	20K/10K	20K	1meg/500K	20K	20K	20K
	Accuracy	2	1½	1½	1½	2	1½	2	1½	1½
DC CURRENT	Measurement range	1-12	1-12	.1-12	1-12	2-10	.02-12	2-10	2-10	2-10
	No. of ranges	5	5	13	12	5	13	5	5	5
	Voltage drop	250	250	150/300	120/240	250	150/300	250	250	250
	Accuracy	2	1½	1½	1½	2	1½	2	1½	1½
AC VOLTAGE	Measurement range	.05-6000	.05-6000	.05-1200	.05-6000	.05-5000	.05-1200	.05-5000	.05-5000	.05-5000
	No. of ranges	6	6	10	12	6	10	6	6	6
	Sensitivity	5K	5K	20K/10K	10K/5K	5K	20K/10K	5K	5K	5K
	Accuracy	3	3	3	3	3	3	3	3	3
Ohmmeter	Measurement range	.1-100	.1-100	.1-100'	.1-100	.1-100	.1-100	.1-100	.1-100	.1-100
	No. of ranges	4	4	6	6	4	6	4	4	4
	Center scale	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
	Accuracy	2	1½	1½	1½	2	1½	2	1½	1½
	Fused circuit	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OUTPUT VOLTAGE	Measurement Range	-20 to +77	-20 to +77	-20 to +63	-20 to +77	-20 to +75	-20 to +63	-20 to +75	-20 to +75	-20 to +75
	No. of Ranges	6	6	10	10		10	6	6	6

AC CLAMP-ON AMMETER ADAPTER FOR 310 VOM

Model 101

Model 10

Model 10. Checks all line loads instantly, accurately, safely—without breaking the circuit or interrupting work. Easy range switch. RANGES: 0-6-12-30-60-120-300. Clips around single wire to read AC amperes direct. Use with Adapter 101 to divide instantly two-conductor cords. A lever securely locks the Model 10 to Model 310 when used in combination. Model 10 can be left attached to Model 310 when the latter tester is used as an AC-DC VOM only. The only necessary change is to remove the lead plug from the Model 310 VOM jack and insert it in jack provided in the Model 10 housing. Case is black molded plastic with engraved white markings. Ideal for checking wiring circuits, motor loads, appliance loads. Its use expanded with leads below. Wt. 1 lb.
62F235. NET 20.00

No. 611. Long lead attachment for using Model 10 as clamp-on ammeter with any VOM having a 3-volt AC scale at 5,000 ohms per volt, such as 630, 630-A, 630-NA, 630-PL, 630-APL, 631, etc. Wt. 10 oz.
62F236. NET 3.40

No. 311. Long lead to separate No. 10 from No. 310 for easy reading in awkward spots. Wt. 10 oz.
62F237. NET 3.40

No. 101. Line Separator dividing 2 conductor cords and increasing No. 10 sensitivity 10X & 20X. 1 lb.
62F238. NET 8.00

Model 379. Carrying case for No. 310 and No. 10 in combination. Wt. 3 lbs.
62F239. NET 8.40

MODEL 310 F.E.T.

Same as .310 except, Solid State. High sensitivity (300 mV is). Provision for AC clamp on adapter. Ranges 600 VDC at 10 megohms, 600 VAC at 5000 ohms per volt. Ohms 0 to 50 meg. Current range mA 0-0.12-1.2 at 300 mV.
62F250. NET 70.00

VOM AND CLAMP-ON AMMETER SET

Model 100. Complete set includes Model 310 VOM, Model 10 Clamp-on Ammeter Adapter. Model 101 Line Separator. Model 379 Leather Case, and Model 311 Leads. Wt. 7 lbs.
62F249. NET 78.00

Model 10-C. For use with Model 310-C. 1 lb.
62F251. NET 20.00

Model 100-C. Same as above but with Model 310-C, and Model 10-C. Wt. 7 lbs.
62F252. NET 88.00

HAND-SIZE VOM 20,000 OHMS/VOLT DC SCALE

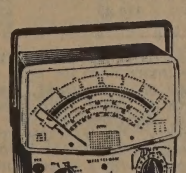
- **One selector switch minimizes chance of incorrect settings and burnouts.**
- **Sensitivity 20,000 ohms per volt DC, and 5,000 ohms per volt AC.**

Model 310. Complete miniaturized VOM with selector range switch. Rugged, high-torque, bar-ring instrument. Standard sensitivity, 20,000 ohms per volt DC and 5,000 ohms per volt AC. Accuracy, 3% DC, 4% AC. RANGE VDC 0-3-12-60-300-1,200 (at 20,000 ohms per volt). VAC 0-3-12-60-300-1,200 (at 5,000 ohms per volt). OHMS: 0-20,000-200,000. MEGHOMS: 0-2-20. DC MICROAMPERES: 0-600 at 250 millivolts. DC MILLIAMPERES: 0-6-60-600 at 250 millivolts. CASE: molded, fully insulated, 2¾"x4¼"x1⅝". Complete with leads, battery, and instruction manual. Shpg. wt. 2 lbs.
62F230. ..... 44.00

Model 310-C Type II. Same as model 310, but has 15,000 ohms per volt on AC, 600 volt ranges in place of 1200v. range of 310. Also features taut-band meter movement. Lever range switch, reversing switch for DC. Range switch fully enclosed. 1 lb.
62F292. NET 56.00
62F231. No. 369. Carrying case for above. **NET 4.40**

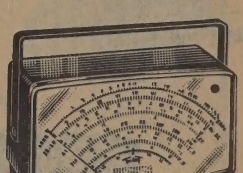
T-79A-153. Replacement leads for model 310 and 310C. Wt. 10 oz.
62F246. NET 3.40

LAB VOM WITH 7" MIRROR SCALE SUSPENSION MOVEMENT



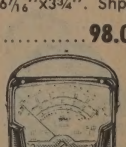
Model 800. 70 ranges with 1½% DC accuracy including DC Polarity Reversing Switch. Overload protection; temperature, frequency compensated. Long mirror scale easily read, preventing misreadings due to parrallax. DC volts at 20,000 and 10,000 ohms per volt, AC at 10,000 and 5,000 ohms per volt. 3% AC accuracy to 1200 volts. RANGES: DC volts: 0-.6-3-12-60-300-1200-6000 at 10,000 ohms per volt. 0-.3-1.5-6-30-150-600-3000 at 20,000 ohms per volt. 0-.120 at 60 microamperes. AC volts: 0-3-12-60-300-1200-6000 at 5,000 ohms per volt. 0-1.5-6-30-150-600-3000 at 10,000 ohms per volt. DB: —20 to +70 in 12 ranges. DC MICROAMPERES: 0-60-600 at 120 MV. 0-120 at 240 MV. DC MILLIAMPERES: 0-6-60-600 at 120 MV. 0-1.2-12-120-1200 at 240 MV. DC AMPERES: 0-6 at 120 MV. 0-12 at 240 MV. OHMS: 0-1K-10K-100K (4.4-40-440 ohms at center scale). Case: 7½"x6¼"x3⅞". Shipping weight 7 lbs.
62F291. NET 116.00

VACUUM TUBE VOLTMETER



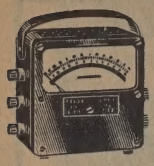
Model 850. Long 7" easy-to-read scale. For transistor circuits, .5 DCV range. Hi-stability: meter connected in cathode circuit of 12AU7. Accurate with ±3% on AC or DC. Ohms accurate within ±3% of full scale based on DC scale. Line voltage: 115 VAC 50-60 cycles. Grounded plug. RANGES: 8 DCV ranges; 0-.5-1.5-5-15-50-150-500-1500. 7 ACRMS volts ranges: 0-1.5-5-15-50-150-500-1500. Seven peak-to-peak volts ranges: 0-4-14-140-4000. Seven resistance ranges: 0-100-10,000-100,000-1 Meg- 10 Meg. 100- Meg. 1000 Megohms. FREQUENCY RANGE: 15 hz to 3 Mhz (Up to 250 with accessory diode probe available extra). INPUT IMPEDANCE: DCV 11 megohms; ACV minimum of .83 megohms. Case: Molded black case completely insulated. 7⅜"x6⅞"x3¾". Shpg. wt. 7 lbs.
62F290. NET 98.00

VTVM AND TEST METER



Model 631. Two fundamental units at the price of a single tester. Combines wide range testing facilities of 2 testers in one compact unit. Molded compartment houses resistors, retifier, etc. By using VOM for general testing, and VTVM when needed, the unit makes a VTVM with long battery life. 5½" meter. Adjusted to 50 microamperes at 250 MV. Has good temperature compensation. VOM ranges AC-DC volts: 0-3-12-60-300-1200 at 20,000 ohms/volt DC, 5,000 ohms/volt AC. Microamps 0-60 at 250 MV; DC milliamperes: 0-1.2-12-120-1200 at 250 MV. DC ampere ranges: 0-12 at 250 MV. DB ranges: —20 +11, +23, +37, +21. +63; Ohms: 0-1500-15000; Megohms: 0-1.5-150; Output Condenser in series with AC volts: VTVM ranges-DC volts 0-1.2-6-30-120. With 2-22½ volt Burgess leads. Accuracy: ±3% DC, ±4% AC. ±4% VTVM. Alligator clips, rubber feet. 3 11/32x5½x7½". Shpg. wt., 5 lbs.
62F227. NET 86.00

WESTON Weston Portable Meters



MODEL 433

ALTERNATING CURRENT PORTABLE

Model 433. Self-shielded permanent magnet moving iron type. Accurate within 0.75 of 1%. 5½" mirror scale and knife edge pointer. 7½ x 3¼ x 3⅜". Shpg. wt. 5 lbs. Stand. Freq. 25-500 hz

AC AMMETERS.

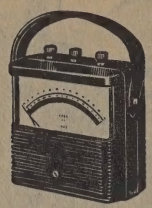
Stk. No.	Range	Scale Div.	NET
62F1345	50/20/5	100	216.00
62F436	5	100	136.00
62F437	10/5	100	157.00
62F438	10/5/1	100	216.00
62F1131	30/7.5/3	150	216.00
62F1099	3/1.5/0.75	150	216.00

AC VOLTMETERS. Stand. Freq. 25-125 hz

Stk. No.	Range	Scale Div	NET
62F439	150	150	145.00
62F1105	150/75	150	147.00
62F441	300/150	150	147.00
62F442	600/300/150	150	173.00
62F1097	10/5	100	147.00
62F1096	750/300/150	100	173.00

AC MILLIAMMET'S Std. Freq. 25-1000 hz

62F1095	100/50	100	163.00
62F1094	500/250	100	163.00



MODEL 901 & 904

PORTABLE METERS

Model 901. DC Model with shadow reducing, wide angle window that is non-breakable and specially treated against electrostatic effects. Self-shielded permanent magnet moving coil type. Accurate within 0.25 of 1%. Has 5½" hand calibrated mirror scale and knife edge pointer. Size: 7½x3¼x3⅜". Wt. 5 lbs.

DC VOLTMETER—5000 ohms/volt

Stock No.	Range	Scale Div.	NET
62F1136	750/ 300/ 150 75/ 30/ 15/ 3	150	281.00
DC AMMETER			
62F1344	50mv/20/5/2	100	255.00
DC MILLIAMMETERS			
62F1146	1000/500/ 200 100/ 50/ 20/ 10	100	265.00

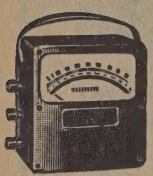
Model 904. Same as Model 901, except AC with 0.5 of 1% accuracy, Radial vane, Moving Iron type.

AC VOLTMETERS, Stnd. Freq. 50-450 cps.

Stock No.	Range	Scale Div.	NET
62F1143	750/300/150/ 75/30/15/7.5/3	150	381.00

AC AMMETERS Std. Freq. 25-1000 cps.

62F1149	50/20/10/5/2/1	100	302.00

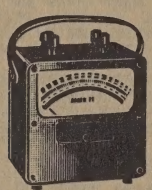


MODEL 432

MODEL 432 WATTMETER

Alternating current at freq. from 25 to 125 hz. Current ranges self contained up to 300 V 50 amp. Current circuit at 5 amp, 60 hz 65 watt. Size: 3¼ x 5 x 5¼". Shipping wt. 3¼ lbs. (*) For low factor use. Volts and amps are max. value.
† General use 25-1000 cps).

Stk. No.	Type 432-	Normal Volts	Normal Amps	Watts Max.	Watts Min.	NET
62F1346	9901001	150/75	1	150	75	296.00
62F1347	9901011	300/150	50	15 kw	7.5 kw	296.00
62F1348	9902007	300/150	10/ 5	3/1.5kw	1.5/.75 kw	296.00
62F1349	990213†	300/150	5/2.5	1500/750	750/375	321.00
62F1470	9902009*	300/150	5/25	300/150	150/75	341.00
62F1471	9902010*	300/150	10/5	600/300	300/150	341.00
62F1472	9902007	300/150	10/5	3/1.5kw	1.5/.75 kw	296.00
62F1473	9902004†	300/150	5/2.5	1500/750	750/375	321.00
62F1474	9901015	300/150	5	1.5 kw	75 kw	321.00



MODEL 931

DIRECT CURRENT PORTABLE

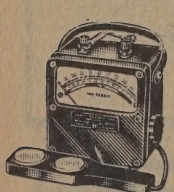
Model 931. Compact, light weight and accurate (within 0.5 of 1%). Hand calibrated mirror scale and knife-edge pointer. Self shielded permanent magnet moving coil type. Scale length, 4.04". Black bakelite case with handle. Size: 5½ x 5 x 3¼" Shpg. wt., 4 lbs.

DC VOLTMETERS— 1000 ohms/volt

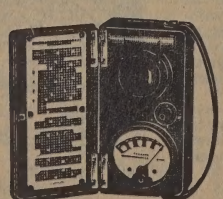
Stock No.	Range	Scale Div.	NET
62F1100	150/ 15/ 3	150	156.00
62F431	750/300/ 150	150	156.00
DC VOLTMETERS 5000 ohms/volt			
62F1121	75/30/7.5	150	174.00
62F1132	300/150/3	150	174.00
62F1122	750/300/150	150	174.00

DC AMMETERS

Stock No.	Range	Scale Div.	NET
62F1133	10/5/1	100	157.00
62F432	30/15/3	150	157.00
62F1145	50/25/10	100	157.00
DC MILLIAMMETERS			
62F1134	15/1.5/0.15	150	171.00
62F1102	150/15/1.5	150	153.00
62F435	1500/150/15	150	153.00
62F1101	3000/300/30	150	153.00



MODEL 756



MODEL 614

SUNLIGHT ILLUMINATION METER

Model 756-9901003. A portable instrument for light measurements requiring a high degree of accuracy over broad range of light values. Ideal for research and routine work as a master instrument for checking other light measuring instruments and devices. All types of commercial lighting, regardless of color composition, can be read directly—no correction factors are necessary. The VISCOP filter corrects for color, the Cosine filter for angle of incidence. Incorporates ranges of 0-120/1200/120000 foot-candles. Requires only 1 PHOTONIC cell equipped with a quartz filter so that ultra-violet portion of spectrum is included in the light measured. Includes carrying case.

62F1401. NET **685.00**

LIGHT METER

Model 614 Foot-Candle Meter. Any type of commercial lighting can be measured directly. Photo-electric cell is mounted on a hinge, so that it will pick up measurements from a wall or ceiling without unnecessary moving of the meter. Ranges: 0 to 100—0 to 250 and 0 to 500 foot candles each with a separate scale. With Viscor and cosine correction filters. Size: 7x3⅜x2½". Shpg. wt., 2 lbs.

62F474. NET **258.50**

MODEL 703

LIGHT MEASURING INSTRUMENTS

Model 703. Type 7 Sight-meter. Handy pocket-size sightmeter for industrial and office use. Pocket size for convenience in using and carrying. Will function accurately in any position. Range is 0 to 100 foot candles (with Viscor and cosine correction filter). 1 lb.

62F476. NET **108.50**

Model 703-3A. As above, but 0-75 foot-candles and unfiltered.

62F1124. NET **82.00**

Model 9959. Leather carry case for above.

62F1125. NET **5.00**

Model 9924 Multiplier disk (x10). Extends range to 10 times normal full scale value. Not usable with cosine corrected instruments.

62F1137. NET .....

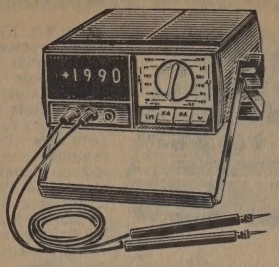
• NEW 4 DIGIT DIGITAL MULTIMETER 1240

Compact Digital Multimeter with 26 ranges for measuring DC and AC voltage, DC and AC current and resistance.
AC is converted to DC by an average-sensing RMS calibrated converter assembly. Current is measured by the voltage drop it establishes across a precision ring shunt network. Resistance is measured by passing a scaled constant current through the unknown and measuring the DC voltage across it.
All circuits are protected for overloads either through a resistor-diode network, or through fuses. Removal tools have been provided.
Has shock-resistant, glass-filled thermoplastic case, 7x3x7-29/32". Adjustable tilt-stand and carrying handles. Can also be rack-mounted. With leads and line cord. For 115, 230 volts, 50-400 Hz AC. Optional carrying case below.
Ranges: DC Volts: 0-0.2 V (input impedance 100 megs), 0-2V (input impedance 1000 megs), 0-20-200-1000V (input impedance 10 megs). Accuracy ±0.1% (±0.05% of reading. AC Volts: 0-200 mV, 0-2-20-200-500V. Input impedance 1 meg at 50 pF. Accuracy ±0.5%, ±1 digit, at 40 Hz to 10 kHz ; ±1%, ±1 digit, at 10 kHz to 20 kHz. DC Current: 0-200 uA (±0.25%, ±1 digit), 0-2-20 mA (±0.2%, ±1 digit), 0-200 mA (±0.3%, ±1 digit), 0-2 amps (±0.5%, ±1 digit). Voltage drop 0.2V on all ranges. AC Current: 0-200 uA (±0.75%, ±1 digit), 0-2-20 mA (±0.7%, ±1 digit), 0-200 mA (±0.8%, ±1 digit), 0-2 amps (±1%, ±1 digit). Voltage drop 0-2V on all ranges. Frequency range 40 Hz to 10 kHz. Resistance: 0-200-2K-20K-200K ohms, 0-2 megs (±0.5%, ±1 digit), 0-20 megs (±1-2%).
Specifications. Out-of-Range Indicator: Flashing Light. Polarity Indicator Lighted sign. Temperature Range: 10° to 40°C. Temperature influence: ±0.005% reading/°C, Vibration: 5-10 cycles for 1 hour at 0.4 G, 10-50 cycles for 11 ms at 2 G. Shock: 50 G on 3 axes. CMR: 80 dB at 60 Hz with 1000-ohm unbalance. NMR: 35 dB at 60 Hz. Readings/Second: 5 (nonblinking display). Power: 115. 230 volts 15%, -10%, 6-watts nominal, 50400 Hz AC. Size: 7x3x729 32". Weight: 4 lbs.
55F5187 1240-0267-325 NET **394.50**

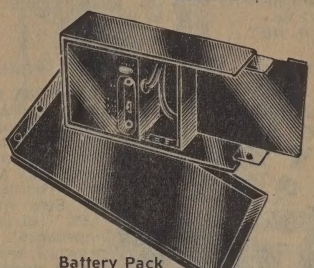
Model 1241. Above, but has the following ranges only; DC Volts 0-0.2V (input impedance 100 megs), 0-2V (1000 megs), 0-20-200 1000V (10 megs). Resistance: 0-200-2K-20K-200K ohms, 0-2 megs (0.5%, ±1 digit), 0-20 megs (±1.2%).
55F5190 1241-0269-070 NET **289.00**

55F5191 9740-0268-562 Carrying Case. Shpg. wt., 1 lb **NET** 19.50

Model 9740. Rechargeable battery powered supply for operating model 1240 or 1241 for approx. 6 hrs. Packaged in a leather case. Back is self-contained unit capable of being operated with digital multimeter in leather case. Contained within battery pack will be space for 12 volt battery (not supplied with battery pack) and all electronics and controls necessary to interface with digital multimeter
55F5188 9740-270520 NET **99.60**
Battery Standard Globe gel/cell GC 1245, 12 volt unit.
55F5189 9740-270145 NET 30.00



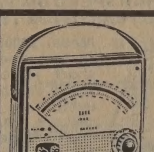
Model 1240


Battery Pack

- **Standard unit will panel mount without need for any accessory parts**
- **Completely portable weighs only 4 pounds**
- **Adjustable tilt stand also serves as carrying handle**

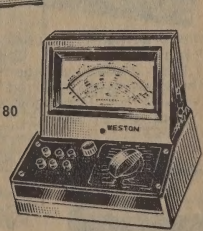
ANALOG PORTABLE/PANEL METERS MODELS 911, 912

A-C or D-C. Features: Combination portable/panel instrument. Large 7.2" mirror back scale with knife edge pointer. Easily read scale with maximum natural illumination. Self-shielding mechanism with spring back jewels. Large, sure-grip knob on range switch. Rugged, compact case. Accuracy: ±1% of full scale value on d-c voltmeters, milliammeters (±2% of full scale value on 300, 1000 v. d-c); ±2% of full scale value on rectifier type a-c volt-meters 10-through 300 volts. ±3% of full scale value on rectifier type a-c voltmeters for 1000 volt range and 3 volt range above mid-scale. **Model 911** has 20,000 ohms per volt and **Model 912** has 5,000 ohms per volt. 7½"x6½"x2-3/8". Weight 5½ lbs.
Model 911. DC-VM. Range: 1000/300/100/30/10/3/1 volts @ 20,000 ohms/V.
62F1229. 911-1901001 NET **98.00**
Model 911. DC Ammeter 1/3/10 amps. 10/30/100/300 milliamps.
62F1230. 911-9901001 NET 98.00
Model 911. DC Milliameter .1/.3/1/3/10/30/100 milliamps.
62F1231. 911-4901001 NET 98.00
Model 912. AC-VM. Range: 3/10/30/100/300/1000 V @ 5000
62F1232. 912-1901001 NET 112.00


911 + 912

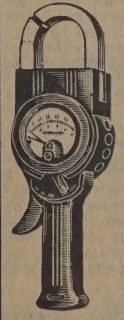
MODEL 80 VOM

For portable or bench service. A large Weston 5½-inch meter is equipped with a unique refractive-type, anti-parallax scale which provides an unusual new approach to reading accuracy, regardless of lighting conditions. A single switch controls both functions and ranges.
The Model 80 Analyzer contains both fuse and diode circuitry to protect against overloads. It is equipped with a polarity reversing switch which may be operated even under load, and has provision for self-storing leads.
1% VOM. Ranges: DC volts, 5KV/1KV/250/100/50/25/10/2.5/1/.25 (at 20K ohms/volt): AC volts, 5KV/1KV/500/250/50/10/2.5 (at 5000 ohms/volt) DC current, 10/1 amps 100/10/1ma/50ua; ohms. 5 ranges from 2K to 20 meg-ohms: DB scales, −10 to +10DB .1% accuracy on ohms and DC scales; AC scales, 1.5%; 1 & 5KV scales, 2% DC and 2.5% AC.
62F1085. Type 80-9008001 **NET** **105.00**


80

AC CLAMP VOLT-AMP & AMP METERS

Model 633. Ideal maintenance tool for on-the-job testing. Measures AC current through any given conductor (up to 2" diameter) without breaking the circuit. Accuracy within 3%. Insulated for 750-volt service. 13-5/8x4¾x2½". Shipping weight, 4½ lbs.
62F1111. Type A-1. 500-250-100-50-25-10 amps. 633-2901001 **NET** **158.00**
62F1112. Type A-2. 1000-500-250-200-25-10 amps. 633-2901002 **NET** 158.00
62F1113. Type A-3. 2000-1000-500-250-100-50 amps. 633-2901003 **NET** 158.00
Type VA-1. 1000-250-100-25-10 amps. 700-350-175 volts.
62F1118. 633-9901001 **NET** 167.00
LEATHER CARRYING CASE for above units.
62F1119. 9955-90056 **NET** 16.00


633

POCKET CLAMP AC VOLT-AMMETER

Model 749. Measures AC current and voltage without breaking circuit. Accommodates conductors up to 1" round or 1¾x3/8" rectangular. Features: Pocket Size, Precision Ground Faces Provide Positive Jaw Contact, Fully Insulated for 750 Volt Services, core magnet shock mounted mechanism with spring back jewels, large smooth action trigger; shatter-proof wraparound plastic window, 0-6, 15, 30, 60, 150 and 300 ampers. Shpg. wt. 2½ lbs.
62F481. NET **57.75**
Type 9886. Plug in adapter for above, facilitates current measurements of double conductor leads without breaking the circuit. Used on direct reading or as a 10-to-1 divider for low current measurements. Simplifies voltage testing during current checks.
62F482 ..... 7.00

749

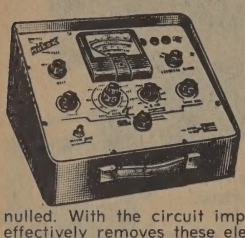
HICKOK Test Equipment

PORTABLE TRANSISTOR TESTER

Model 870. Measures large signal DC Beta on power transistors as well as small signal AC Beta on low and medium power transistors. Collector test current is variable up to 2 amps, permitting Beta measurements on power transistors rated at 5 amps or more. Tech Spec: Beta ranges 0-100 & 0-300, extendable to 600. Beta test collector voltage variable from 0-5 volts. Accuracy within 5% for both AC & DC Beta 1c variable, 5 ma up to 2 amps. Vce variable, 0-5 volts. Input sensitivity of A-C bridge circuit amplifier is 50 millivolts peak-to-peak or 17.6 millivolts Rms for full deflection of meter. Meter overload protection. Requirements—115 volts AC, 40 watts. Size: 7⅞x11¾x14½". Shpg. wt. 22 lbs.

62F149. NET **425.00**

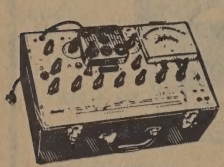
DYNAMIC BETA IN-CIRCUIT TRANSISTOR TESTER



Model 890A. Measures AC Beta with equal accuracy in or out of circuit. Measures parameters: AC Beta; Rin (transistor input resistance): Z Ohms (baseemitter circuit impedance); IC. Measures AC Beta, 1c and Icbo out-of-circuit. In-circuit AC Beta measurement accuracy ±5% (150 ohms minimum circuit impedance). Utilizing on AC bridge principal with the transistor input circuit elements as one arm of the bridge, the total impedance is nulled. With the circuit impedances as low as 150 ohms, this effectively removes these elements from the circuit. Useful for incoming inspection of transistorized products and sub-assemblies. Beta Ranges: 0-50, 0-100, 0-200. Furnished complete with test cable. AC Test Signal: Variable 1000 HZ sine wave-calibration setting at 5 ua. Meter protected against overload. Portable carrying 6½" H. 9"D. 10¾W. Wt. 8 lbs.

62F102. NET **235.00**

HIGH SPEED GM TUBE AND TRANSISTOR TESTER



Model 6000A. Tests all new tubes. Instant line adjust and automatic short indication. Covers 3,000 to 15,000 μmhos in 3 ranges. Shows gas evaluation. Able to determine the reserve capacity of tubes which could cause trouble in the future. Filament voltage from 0.6 to 117 volts in 19 steps. Complete with removable socket plate that accommodates practically all tubes in use today. (7-pin, octal, local, 7- and 9-pin noval. Novar, Compactron, Nuvistors, 10-pin "headers".) Inter-element leakage registered instantly on 5 neon lamps. identifying elements involved. Red leatherette portable case size: 16¾"x11¾"x7½". Panel gold anodized. For 105-125 VAC, 60 HZ, 40 watts. Shpt. wt. 21 lbs.

62F171. NET **297.50**

PORTABLE LAB TUBE TESTER

Model 539C. Tube sockets: 4, 5, 6, 7-pin octal, loctal, 7, 9, and 10-pin miniature, 7-pin inline and 8-pin miniature. Compactron, Novar, 5 and 7-pin Nuvistor. Socket savers provided for 7 and 9-pin and octal. Gm ranges. 60,000, 30,000, 15,000; 6000; 3000; 600 micromhos. Rectifier diode and VR ranges. Inter-element leakage indicated on meter or neon lamp. Sensitivity: 50 megohms. Test voltages: filament, 0-117 VC in 18 steps; signal, .025, 0.5, 1, 2.5 RMS; plate 66 and 150 VDC; screen, 56 and 130 VDC; fixed bias variable 0 to —40 VDC. Self bias terminals on panel. Gas test measures grid current detecting the most minute amount of gas in a tube. Cathode reserve can be determined to indicate future life of the tube. Three 1% accuracy Hickok meters: Gm. VR voltage and leakage: line voltage; twin range bias meter. Size 16¾Wx18⅜Lx7½"D. For 105/125 VAC. 50/400 HZ, 40 watts. Black leatherette, portable case. Shpg. wt., 35 lbs.

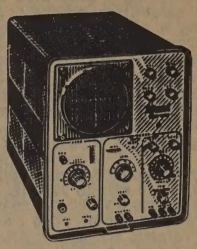
62F133. NET **625.00**

HICKOCK ADAPTER

Model CA-5. Adopter for testing compactrons, 10-pin "headers," 9-pin novars and 5 and 7 pin. Nuvistors. For use with all current Hickok manual tube testers. Wt. 6 lbs.

62F101. NET **59.50**

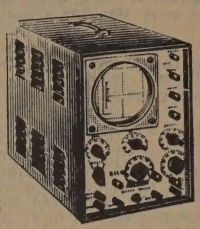
LABORATORY OSCILLOSCOPE



Model 770A. A general-purpose high frequency oscilloscope featuring triggered sweep, calibrated sweep speeds, and calibrated vertical sensitivity. 5" wideband and Calibrated 4 Mhz DC vertical amplifier with 8-step and vernier attenuator. Three operational modes of internal sweep generator: free-running. driven, and automatic. Eighteen calibrated sweep rates from 0.5 sec/div. to 1 usec/div. 5 times sweep magnifier, accuracy within ±3%. Internal calibrating signal provides 60 hz square wave. Flat-faced, post-accelerated CRT. Illuminated, calibrated graticule. Works with 105-125 volts. 50/60 hz.; 130 watts. Input impedance; 1 megohm in shunted by 45 picofarads. Maximum input voltage 600 volts peak to peak. Size 11" wide, 13¾" high, 17½" deep. Shipping weight 53 lbs.

62F1760. NET **475.00**

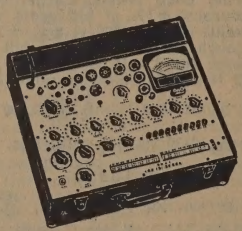
WIDE BAND SERVICE TECHNICIANS OSCILLOSCOPE



Model 677. Has pre-set horizontal and vertical sweep positions. Vertical amplifier has frequency response flat to within 3 db from 5 Hzt to 4.5 Mhz. Sensitivity 40 MVRMS. Rise time 0.08 sec, or better Three step decade attentuator plus vernier gain control. Cathode follower input. Horizontal amplifier has response within 3 db from 5 Hz to 350 kHz. High gain provides minimum 5-times sweep expansion. Vernier gain control, Input impedance, 5 megohms shunted with 30 mmfd. Display, 5" CRT with 1,600 volts accelerating potential. Separate astigmatism control Power input 117VAC, 50/60 Hz, 90 watts fused. Size Size 14"x19½"x18½". Shipping wt., 36 lbs.

62F1750. NET **269.50**

INDUSTRIAL AND COMMUNICATIONS TUBE TESTER



Model 752A. Tests VR tubes for firing point, regulating voltage, and current range. Tests 4, 5, 6, 7-pin. Octal; Loctal, 7, 9, and 7-pin in-line and 8-pin round subminiature acorn, Compactron, Novar 5 and 7-pin Nuvistor tubes. Gm ranges: 0-1500; 3000; 6000; 15,000; 30,000 micromhos. Inter-element leakage indicated on meter, sensitivity 10 megohms. Test voltages: Filament, 0-117 VAC in 19 steps; signal, 0.25, 0.5, 1.25, 2.5 VAC; plate, 75 and 150 VDC; screen 56 and 130 VDC; Grid bias variable 0 to —40 VDC; extra negative supply, —40 VDC; diode test, 20 V RMS; OZ4 test; 287 V RMS. Cathode activity/life test. Self-bias test jacks on panel. Bias and line fusing. Illuminated meter and roll chart. Roll chart lists over 1600 types. Power requirements: 105-125 volts 50-60HZ, 40-70 watts. Complete with leads and instructions. Size: 16¾Hx18⅜Wx7½"D.

62F198. NET **475.00**

AM-FM SWEEP AND MARKER GENERATOR

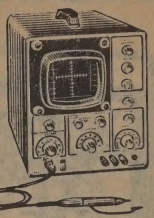
Model 288AX. Provides the necessary signal voltages for servicing AM and FM receivers as well as TV receivers. A crystal controlled 100khz and 1000khz oscillator provides an accurate frequency standard. A wide choice of frequency ranges, sweep widths and methods of modulation. High output voltage permits visual stage by stage alignment of IF stages, limiter, and discriminator on both AM and FM receivers. Self contained decibel meter —10 to +38 db. Sweep synchronizing voltage is brought out to front panel. Output control; vernier control w/decade steps of 1, 10, 100. Pwr. requirements: AC 110v, 50-70 hz. Complete w/crystal, cable assm., meter leads, instruction book, 16x13x7". Shipping weight 33 lbs.

62F1752. NET **415.00**

CAN DEPEND ON NEWARK
FOR COMPLETE STOCKS
LOWEST PRICES—FASTEST SERVICE

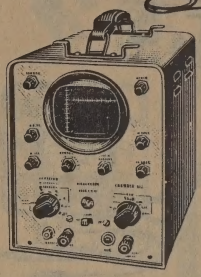
• NEW 5-INCH SOLID STATE OSCILLOSCOPE

Model W0505A Solid state high performance oscilloscope. Features flat face cathode ray tube, return trace blanking. Frequency response of the vertical amplifier is flat ±1DB, from DC to 5 MHz, and is usable up to 10 MHz. Oscilloscope has exceptionally high gain of 15 millivolts peak to peak per inch on the high sensitivity range. Sweep frequency adjustable up to 1 MHz in 6 ranges permitting lock in of signals up to 10 MHz. Power requirements 105-130 V, 50-60 Hz. Size 11-⅜"H x 15½"L x 9"W. Weight 25 lbs.
62F1668 **NET** **298.50**


WO505A

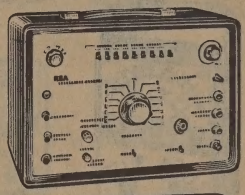
SUPER PORTABLE OSCILLOSCOPE

Model WO-33A 3" Oscilloscope provides all the gain you need for low-level audio work. With vertical amplifier in narrow-band position. Sensitivity is 3 RMS millivolts/inch bandwidth within—3dB, 20 Hz to 150 KHz. Wide band position: sensitivity 100 rms millivolts/inch; bandwidth within —3dB, 5.5 Hz to 5.5 MHz. Sweep circuit; sawtooth range from 15 Hz to 75kHz sync; external, ± internal; line sweep—160 adjustable phase; sync range to 4.5 MHz. Size: 6½x8¾x10¼". Ship. wt. 16 lbs.
62F049. Model WO-33A. **NET** **180.00**


WO33A

• NEW TV SWEEP CHANALYST

Model WR-514A. TV Sweep Chanalyst. When used with an oscilloscope, the versatile WR-514A provides a continuous trace display of the bandpass characteristics of TV receiver circuits. Seven crystal controlled high-Q markers are provided to identify points on the sweep curve. AF modulation approx. 400 HZ. Attenuator range (RF/IF Video) 60 dB. Max. variation of output voltage, all TV channels 0.1dB/MHz over any 10 MHz portion of sweep range. Size 10"H x 13-5/8"W x 7" D. Shipping Weight 16 lbs.
62F1672 **NET** **375.00**

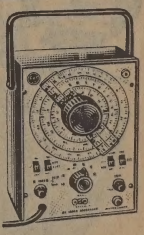

WR514A

TRANSISTORIZED SINE/SQUARE-WAVES AUDIO SIGNAL GENERATOR

Model WA-504A. Frequency range extends from 20 to 200,000 Hz. Stable signal with an amplitude variation not exceeding ± 1.5 db. Total harmonic distortion of sine wave less than 0.25%. Can be used in a wide variety of applications including the direct measurements of frequency response characteristics of audio amplifiers, and testing speakers and enclosures. In addition instrument can be used in finding impedance of LC combinations and in determining the frequency or speed of vibrating or rotating bodies. Includes attached, shielded output cable, simple one scale dial. Complete with instruction manual. Size: 7¾x5¾x4¾. Shpg. 3 lbs.
62F1656. Factory wired and tested. **NET** **95.00**

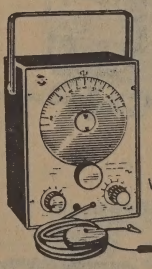
RF SIGNAL GENERATOR WITH SWEEP FEATURES

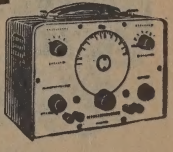
Model WR-50B. Provides an accurate source of CW or amplitude-modulated signals from 85 KHz to 40 MHz. Suited for aligning and signal tracing AM, FM, Hi-Fi and Citizens' Band and amateur radio receivers. A 400 Hz output provides a practical means for checking audio amplifier circuits. Built-in crystal calibrating oscillator circuit with front panel crystal socket. Permanently attached shielded RF output cable. Built-in DC blocking capacitors. Two-step RF attenuator switch plus a continuously variable attenuator control. Vernier tuning. Sweep output is provided at 455 KHz and 10.7 MHz for sweep alignment both AM and FM IF circuits. A return-trace blanking circuit is included to provide a zero reference line. Width 5⅜", depth 4¾", weight 5 lbs.
62F086. **Model WR-50B** Factory wires and tested. **NET** **72.00**


WR50B

SINE/SQUARE WAVE AUDIO SIGNAL GENERATOR

Model WA-44C. For measurement of frequency response characteristics of audio amplifiers, and testing of loudspeakers and enclosures or finding impedance of LC combinations. Simple one-scale dial. Separate 60 Hz line frequency output for intermodulation distortion measurements. Wide frequency range, 20 Hz to 200,000 Hz. Less than ½ of 1% distortion over the audio-frequency range. Operated from a 50/60 Hz, 105-125 volt source; covers in four bands a range from 20 Hz to 200,000 Hz. Produces a stable signal with an amplitude variation of not more than ± 1.5 dB. Total harmonic distortion is limited to over 0.5% over the range of 30 Hz to 15 KHz. Width 10 1/16", height 7", depth 6⅛", Weight 10 lbs.
62F013. **Model WA-44C.** Factory wired and tested. **NET** **98.50**


WV504A


WA44C

STEREO FM SIGNAL SIMULATOR

Model WR-52A. Designed to generate signals required for service, alignment, and maintenance of mono and stereo FM receivers and multiplex adaptors. 100 MHz FM carrier is adjustable to permit selection of a quiet point in the FM band, RF deviation is adjustable 0-75 KHz; Monaural FM output 100 MHz sweep output to check receiver RF/IF alignment (sweep, rate is 60 Hz, sweep width is adjustable 0-750+KHz); Audio signals of 400 Hz, 1 and 5 KHz. Direct unterminated cable is used with composite stereo and audio signal outputs, and a terminated cable for RF output to 75 or 300 ohm antenna input. Complete with connecting cables. Size 13½x10x8"; shpg. wt., 21 lbs.
62F1785. Factory wired and tested. **NET** **248.00**

WR52A

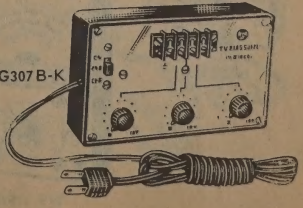
CRYSTAL-CALIBRATED MARKER GENERATOR

Model WR-99A. Supplies a fundamental frequency RF carrier of crystal accuracy for use in aligning and trouble-shooting TV (color and black and white) and FM receivers and other electronic equipment operating in the range of 19 to 260 MHz in 8 bands on fundamental frequencies. A built-in 4.5 MHZ crystal provides necessary accuracy for alignment of intercarrier-if amplifier and discriminators. At least 0.1 output VFO ranges; 0.05 volt crystal frequencies, into a termination of 90 ohms. Provides signals for adjusting vertical or horizontal linearity. Triple markers for sound-if alignment and bandwidth checks. With RF output cables and instruction booklet. Wt. 21 lbs.
62F054 **Model WR-99A.** Factory wired and tested. **NET** **256.50**

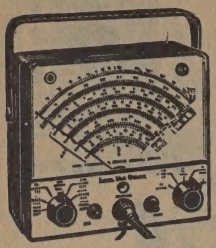
WR99A

TV BIAS SUPPLY KIT

Model WG307 B-K. Kit provides three separate output voltages and is designed for use in servicing and aligning color and black and white television receivers. Three output voltages adjustable for, 0 to 15 are provided for application in RF, IF and AGC bias circuits. Shipping weight 2 lbs.
62F027. **NET** **13.50**


WG307 B-K

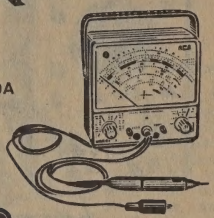
RCA Test Equipment



WV-98C

SENIOR VOLTOHMYST

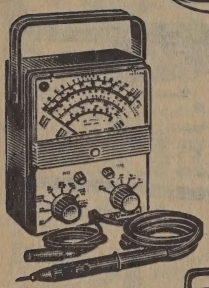
Model WV-98C Provides direct reading of peak to peak voltages of complex waveforms found in video, sync, and deflection circuits. RMS values of sine waves from 0.1 to 1500 VDC, 0.2Ω to 1000MΩ. Input resistance 11 megohms. Frequency response up to 250 MHz with W WG-301A ±1db from 30 Hz to 3 MHz (1.5 and VAC ranges). Electronic protection against burnout. Size 7 x 6½ x 3¾". Shpg. wt. 8 lbs.
62F060 NET **99.00**



WV-510A

• NEW SOLID STATE BATTERY/AC OPERATED VOLTOHMYST

Model WV-510A A high quality, solid state electronic multimeter especially designed for stable, drift-free operation. The instrument can be operated either from internal batteries (not included) or from a 120 volt AC power line. On battery operation, the power cord can be removed for complete portability. Measures DC voltage from 0.01 to 1500 volts, direct current from 0.01 milliamperes to 1.5 amperes, AC voltage from 0.2 to 1500 volts, and resistance values from 0.2 ohms to 1000 megohms.
62F1667. NET **128.00**



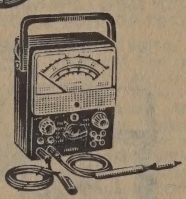
WV500B

BATTERY OPERATED TRANSISTORIZED VOLTOHMYST

WV-500B Solid-State, battery operated, completely portable voltmeter for service, industrial and lab application. 7 overlapping resistance ranges measure 0.2 ohm to 1000 megohms. 8 overlapping dc voltage ranges measure 0.02 to 1500 V (includes special 0.5 dc range), ac P-P voltages of complex waveforms 0.5 to 4200 V, and ac (rms) voltages 0.1 to 1500 V. Input impedance of all dc ranges is 11 megohms. Supplied with dc/ac ohms probe and cable, slip on alligator clip, for probe. 6⅞"x5¼"x3⅛" Wt. 3.5
62F1654. NET **88.00**

VOLT-OHM MILLIAMMETER

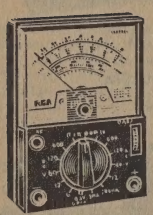
Model WV-38A Extra large 5¼" meter. Protected meter movement. Has an input resistance of 20,000Ω/V on DC; 5,000Ω/V on AC; ±3% of full scale on DC, ±5% of full scale AC. Regular scales: 2.5, 10, 50, 250, 1000, 5000 VAC/VDC; 50μ amp, 1,10,100,500 mA, 10 amp (DC); plus extra scales of 250 mV and 1 volt DC. Sizes 5¼"x6⅛"x3⅛" Resist. Ship. wt., 4 lbs.
62F052 Model WV-38A. NET **55.50**
62F053 Model WG-270A. Carrying case NET 5.25



WV38A

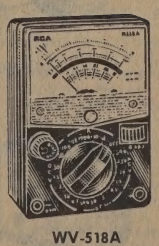
• NEW BLUE LINE VOLT/OHM METERS

Model-WV-516A A compact, economical and lightweight unit which measures DC or AC RMS volts from 0.1 to 1000 V in four ranges; DC current from 10 mA to 250 mA in three ranges resistance from 2 ohms to 200 K ohms in two ranges. Pin-jack connectors used for all functions and ranges. Three color meter scales. Accuracy DC 3% AC 4% Sensitivity AC/DC 2000 ohms/volt. Supplied complete with test leads and 1.5 volt battery. Dimensions 2-¾"x4 15/16" x1 3/8". Shipping weight 1 lb.
62F1675 NET **9.95**



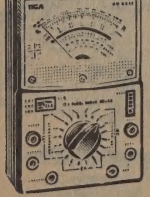
WV-517A

WV-517A. Has convenient panel switch for selection of all functions and ranges measures DC voltages from .01 to 600 volts in four ranges; AC voltages (RMS) from 0.2 to 600 V in four ranges; DC current from 10 A to 300 mA in three ranges; resistance from 1 ohm to 5 megohms in three ranges; and decibel from -20 dB to 37 dB. Three color meter scales. Accuracy DC±3%; AC±4%. Sensitivity DC; 20 K ohms/volt AC: 10 K ohms /volt. Supplied complete with test leads and two 1.5 volt batteries. Dimensions 4-¾" x 3¼"x1⅛" . Shipping weight 1 lb.
62F1676 NET **18.00**



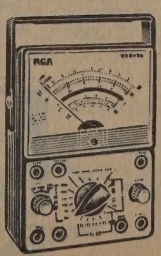
WV-518A

Model WV-518A Special feature: panel mounted external fuse to protect ohms divider resistors. Has three color meter with mirror scale. Measures DC voltages from .01 to 500 V in four ranges, AC voltages (RMS) from .05 to 500 V in four ranges; DC current from 10 A to 500 mA in four ranges; resistance from 1 ohm to 2 megohm. Accuracy DC±3%, AC: ±4% Sensitivity DC: 20 K Ohms/volt, AC: 10 K ohms/volt. Supplied complete with test leads and two 1.5 volt batteries. Dimensions 5⅛" x 3½" x 1⅞". Shipping weight 1½ lbs.
62F1677 NET **28.50**



WV-519A

WV-519A. Three color aluminum panel; three color meter with mirror scale. Has DC polarity switch. High sensitivity DC: 50 K ohms/volt, AC 10 K ohms/volt. Measures DC voltages from 5 mV to 1200 V in eight ranges, AC voltages (RMS) from .01 to 1200 V in six ranges; DC Current from 5μA to 6A in five ranges; resistance from 1 ohm to 100 megohm in four ranges; and decibels from -20 to 57 dB in five ranges. Accuracy, DC: ±3%, AC: ±4%. Supplied complete with test leads and two 22.5 V and one 1.5 V battery. Dimensions: 4¼" x 6⅜" x 1⅞". Shipping weight 2 lbs.
62F1678 NET **36.00**



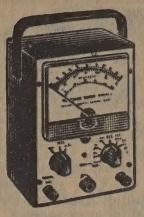
WV-520A

WV-520A. (RMS) Extremely high sensitivity- DC: 100 K ohms/volt, AC: 10 K ohms/volt. Has three color aluminum panel and three color meter with mirror scale. Measures DC voltages from 10 mV to 1500 V in eight ranges; AC (RMS) from .01 to 1500 V in six ranges; DC current from .05μA to 5 A in six ranges; resistance from .5 ohms to 20 megohms in four ranges and decibels from -20 to +55.5 dB in five ranges. Accuracy DC ±3%, AC±4%. Supplied complete with test leads and two 1.5 volt batteries. Dimensions: 5¼" x 7½" x 2⅜". Shipping weight 3 lbs.
62F1679. NET **48.00**

NEWARK—Your Dependable Source For All Your Electronic Needs.

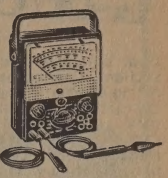
AC VACUUM-TUBE VOLTMETER

Model WV-76A. A high-sensitivity ACVTVM for hi-fi and other audio applications. Designed for measuring AC voltages from 0.0002 volt to 500 volts over the frequency range of 10 Hz to 1.5 MHz. Offers nine overlapping AC voltage ranges from 10 millivolts to 100 volts full scale. Provides approximately 38 dB gain throughout the frequency range from 10 Hz to 500 KHz with probe in "Low-Cap" position and 10 Hz to 1.5 Hz with probe in "Direct" position. Probe and cables are supplied. In "Direct" position probe measures up to 100 volts; in "Low-Cap" position, probe can be used to measure up to 500 volts or +56 dB. Size: 5⅜x 7⅜x4¾". Ship. wt. 6 lbs.
62F088. Model WV-76A. **NET** **99.00**


WV76A

NEW VOLT OHMYST

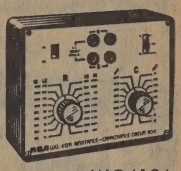
Model WV-77E. Designed to measure AC rms sine-wave voltages from 0.1 volt to 1500 volts, DC voltages from 0.02 volt to 1500 volts, peak to peak voltages from 0.2 volt to 4000 volts and resistance values from 0.2 ohm to 1000 megohms. The voltmeter portion of the WV-77E features an electron tube as a full-wave signal rectifier. Unit has high input impedances on all DC and AC voltage ranges. Utilizes a push-pull balanced DC bridge circuit with the meter in the plate circuit. Accuracy ±5% shipped of F.S. Power req. 105-125 V, 50-60 Hz. Size 7¾Hx5⅝Wx4¾"D. Shipping weight 5 lbs.
62F1673. NET **63.00**


WV77E

IN-CIRCUIT/OUT-OF-CIRCUIT TRANSISTOR TESTER

Model WT-501A. Tests both low and high power transistors, and has both NPN and PNP sockets to allow convenient transistor matching for complimentary symmetry applications. Tests out-of-circuit transistors for DC beta from 1 to 1000, collector-to-base leakage as low as 2 microamperes, and collector-to-emitter leakage from 20 μa to 1 amp. Special low-impedance circuitry assures reliable in-circuit testing. Collector current adjustable from 20 microamperes to 1 ampere in four ranges, permitting most transistors to be tested at rated current level. A complete DC Forward Current Transfer Ratio Curve can be plotted. Three color-coded test leads are provided for in-circuit testing, and for out-of-circuit testing of transistors that will not fit into the panel sockets. Batteries are not included. Size: 6⅞x5¼x 3⅛". Shipping weight: 3 lbs.
62F1655. NET **66.75**

WT501A


WG412A

Model WG-414A. Clip probes. Set of 3 for use with WT501A. Special clip-on connectors and thin flexible shafts for connection to transistor elements on circuit boards.
62F093. Set of 3. **NET** **13.50**

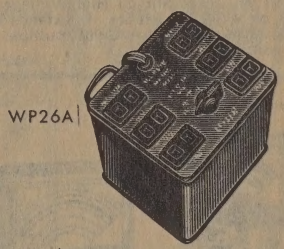
RESISTANCE CAPACITANCE BOX

Model WG412A. Provides a convenient selection of standard resistor and capacitor values available separately or in series/parallel RC combinations. Has 36 resistors ranging in value from 15 ohms to 10 megohms, and 18 capacitors with values ranging from 100 PF to .22 μf. Standard ¾" terminal-jacks. Supplied with plug-in test leads and alligator clip connectors. Size 6⅞x5⅜x2⅜". Shipping weight 2 lbs.
62F2302. NET **30.00**

WC506A

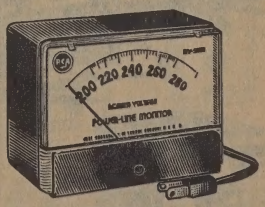
TRANSISTOR/DIODE CHECKER

Model WC-506A. A compact battery operated instrument providing quick, simple, checks of relative gain and leakage levels of out-of-circuit transistors. Tests PNP and NPN types. Panel switch provides checking high leakage types. Includes a transistor socket, color coded test leads, and a large meter with a single red/green scale. Also checks diode front/back ratio. Special spring terminal for connecting diodes are located on the panel. Size 3¾x6¼x2". Shipping weight 1 lb.
62F2303. NET **18.00**


WP26A

ISOTRAP AND AUTOTRANSFORMER

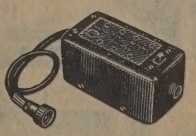
Model WP-26A and WP-25A. Designed for us as either adjustable isolation transformer or adjustable autotransformer to facilitate testing. Provides instant high-low-medium line-voltage testing. Minimizes shock hazards. Heavy-duty rotary switch adjusts primary to match line voltage over range of 105 to 130 volt steps. Size 5¾x4⅜". Wt. 15 lbs.
62F047. WP-25A delivers 275VA. **NET** **28.50**
62F1666. WP-26A delivers 400VA. **NET** **42.00**



WV503A

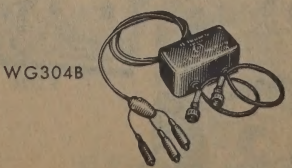
POWER LINE MONITORS

WV-120A and WV-503A. Designed for use where it is important to know power-line voltage at all times. Provides a continuous accurate indication of the AC line voltage without the inconvenience of handling probes and switches or the necessity of switching to one of several scales to select the proper meter reading. Used in conjunction with a variable isolation transformer; both monitors can be used on AC power lines with frequencies from 25 to 500 Hz, and features 2% accuracy at center scale. Shipping weight 2½ lbs.
62F1657. Model WV-120A. 120 volts. **NET** **19.50**
62F058. Model WV-503A. 240 volts. **NET** **19.50**


WG295C

VIDEO MULTIMARKER

Model WG-295C. Provides seven simultaneous absorption-type markers at accurately preset frequencies for marking video response curves. Markers 0.5 MHz, 1.5 MHz, 2.5 MHz, 3 MHz, 3.58 MHz, 4.1 MHz and 4.5 MHz. Each marker is identified by touching a corresponding contact on case. Connects between IF/VF output. Size 7x5½x4½". Shipping weight ½ lb.
62F044. NET **33.50**


WG304B

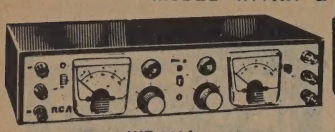
RF MODULATOR

Model WG-304B. An accessory used to check the overall frequency response of television receivers from antenna to picture tube grid. Permits modulation of an R.F. signal from a marker generator. Size 7x5½x4½".
62F028. NET **18.00**

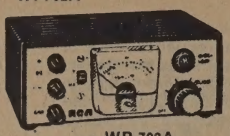
Test Equipment

RCA

MODEL WP700A & WP702A



WP-700A



WP-702A

Dual unit with two complete electrically isolated power supply sections. Continuously adjustable output from 0 to 20 volts; max. rating of 200mA. Input 105-135V AC, 50-60 Hz. Electronic short-circuit protection. Front-panel overload-indicator lamps signal when max. current condition is approached. Front panel voltage and current meter for each section. Excellent line and load regulation. Negative feedback regulator circuit. Five-way terminals for DC plus, DC minus, and ground. Size: 6x12x3". Shipping wt., 4 lbs. 13 oz.

62F000. WP-702A. **NET** **87.00**

62F001. WP-700A. Same as WP-702A but single unit, 4x6½x3". 2 lbs. 11 oz. **NET** 48.00

MODEL 703A

Output voltage from 0 to 20 volts at current up to 500 mA. Current limited to prevent damage to power supply. Front-panel over-load-indicator lamp. Front-Panel meter for voltage, and current levels. Three convenient 5-way output terminals (DC+, DC—, GND). Three-wire AC power cord. 5¼x8½x3¼".

62F002. WP-703A. **NET** **58.50**

62F003. **WP-704A.** Same as WP-703A but with output voltage adjustable from 0 to 40 volts at current levels up to 250mA. **NET** 58.50

PROBES AND RESISTORS

Model WG-411A. Slip-on High Voltage Probe. For use with WG-410B or WG-299E Probes. It extends dc voltage range to 50,000 volts when used with WG-206 multiple resistor.

62F1658. **NET** 15.00

PROBES & RESISTORS (CONTINUED)

Model WG-289. High voltage probe. For use with WV-77A, WV-77B, WV-77C, WV-97A, WV-87A, and WV-87B, WV-98B, WV-98C, Volt-Ohmysts. Ship. wt., ½ lb.

62F020. **NET** **15.00**

Model WG-297. Simliar to above, for use with RCA model WV-77E (K), WV-38A , WV-38A (K). Shpg. wt., 8 oz.

62F057. **NET** 15.00

Model WG-206. Megohm multiplier resistor. For VTVM's having 11 megohm input. Shipping wt., 2 oz.

62F082. **NET** 3.75

Model WG-210. Megohm resistor. Multiplies 5,000 volt DC range of 20,000 ohms per volt VOM's by a factor of 10.

62F083. **NET** 3.75

Model WG-211. Megohm resistor. Multiplies 250 volt DC range of 20,000 ohms per volt VOM's by a factor of 100.

62F084. **NET** 3.75

Model WG-299E. DC/AC Ohms probe and cable. For use with Volt-ohmysts except WV-77E and WV-77E (K).

62F061. **NET** 9.75

Model WG-354A. Capacitance-type voltage divider probe. The WG-354A used with the WG-300B probe and cable extends the range of oscilloscopes so that signal pulse amplitudes up to 5000 volts can be observed.

62F067. **NET** 11.00

Model WG-350A. Probe for use with WO-33A for demodulation and signal tracing of radio/TV, RF, and IF signals.

62F092. **NET** 5.25

Model WG-302A. RF/IF/VF signal tracing probe. "Slip-on" type high frequency probe designed for use with WG-300A and B to permit visual signal tracing for rapid isolation of trouble in radio receivers and in TV IF and video stages.

62F064. **NET** 9.00

Model WG-351A. Crystal diode probe for extending RF measuring capability of the WV-77C. WV-77E and WV-77E(K).

62F059. **NET** 5.25

Model WG-300B. Direct/low capacitance probe and cable. For use with RCA WO-91A, & B WO-88A and WO-78B scopes.

62F062. **NET** 12.00

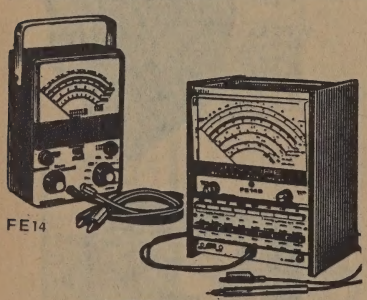
Model WG-301-A. Crystal diode probe. Slip on type used with WG-299 to increase frequency range to 250 MHz.

62F063. **NET** 8.25

Model WG-410B. DC/AC Ohms Probe and Cable. A single-unit probe and cable equipped with a sliding switch to permit changing the probe characteristics. It is identical to WG-299E with the exception of the connector.

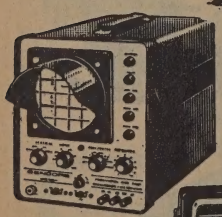
62F1665. **NET** 9.00

SENCORE

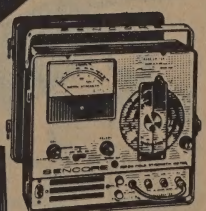


FE14

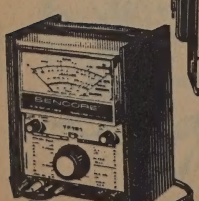
FE149



PS148



FS134



TF151

FIELD EFFECT VOLT-OHM METER

Model FE14. Input resist: 15 megohms on DC and 10 on AC. Current measurements up to one amp. Zero center scale as low as one half volt, Ranges: DC Volts; 0 to 1, 3, 10, 30, 100, 300 and 1000 full scale. AC Volts: (Rms) 0 to 1, 3, 10, 30, 100, 30.0 and 1000 full scale (Peak to Peak) 0-2.8, 8.4, 28, 84, 280, 840 and 2800 full scale. Ohms: 0-1000, 10K, 100K, 10 meg. and 1000 meg. D.C. current: 0-100ua, 1ma, 10ma, 100ma, and lamp. Mirrored scale. Panel Size: 7½ x 5¼ x 3 1/16" . Wt. 4 lbs.

62F1451. **NET** **69.95**

SENIOR FIELD EFFECT METER

Model FE149. 15 megohm input impedance on AC and DC volts. Scale for 0 to .5 volts full scale to 1500 volts full scale in 8 ranges on AC and DC. Peak to peak on AC up to 4500 volts. Zero center ranges on DC from .25 volts to 750 volts. AC and DC current ranges from 150 microamps to 5 amps. DB in 10 db steps. Ranges to 6000 megs with 6 ohm center scale. Large 7" meter. Accuracy: 1.5% DC, 3% AC and DC current and 1.5 degrees of arc on ohms. Brushed Chrome steel panel with vinyl clad steel case. Operates on batteries (not supplied) or 115 VAC. Converts to 230 volts with internal x 7½" x 6". Shipping weight 6 lbs.

62F718. **NET** **169.50**

DELUXE 5" WIDE BAND OSCILLOSCOPE AND VECTORSCOPE

Model PS148. Wide band scope for general service and a vectorscope for color alignment. Service color with regular "S" or vector patterns. Band response of 5 Hz to 5.2 MHz at .017 volts RMS per inch. Direct reading peak to peak on front panel. Wide sweep ranges from 5 Hz to 500 KHz. Lo-cap probe, 27 megohm input shunted by 9 pf. Retrace blanking var. sync, ext. sync and horiz. inputs for sweep alignment. Detachable viewing hood and graph screen. Chrome steel panel and steel case. 11"x9"x15½", wt. 22 lbs., 100 w.c. 115 VAC 60Hz.

62F717. **NET** **269.50**

FIELD STRENGTH METER

Model FS134. Transistorized, battery portable. Attenuators of 0, 20, and 40 db to measure signal strength. Frequency of 50-110 MHz, 160-230 MHz, 460 MHz, 900 MHz (channel 2-channel 83), Input 75 ohms or 300 with bukit in matching pad. Band width 500 KHz 4" logarithmic scale calibrated in 60 db range, .0-30,000 MV range. Highly sensitive 30 microvolts 3DB on VHF-FM and 30 microvolts 6DB UHF. Separate built in UHF tuner for greater accuracy in antenna work and translator checking. Controls include fine tuning, audio level, calibration uses standard "C" cells. Size 10 x 9 x 5". Shpg wt. 9 lbs.

62F743 **NET** **229.50**

IN-OUT CIRCUIT TRANSISTOR AND FET TESTER

Model TF151. Checks transistors and FETs in or out of circuit with ease and accuracy. Checks transistors for AC beta from 1 to over 500. Three tests, low power, high power and special RF transistors. Icbo from 0 to 5000 microamps in one range. Checks FETs in or out of circuit for Gm from 0 to 50,000 Microhms. Gate leakage from 0 to 5000 microamps. Checks single and dual gates as well as MDSFETs. Special zero bias drain current test for matching of FETs. Large 6" meter brushed chrome steel panel and vinyl clad steel case. Size: 9"x7½"x6", weighs 7½ lbs.

62F715 **NET** **129.50**

Test Equipment & Kits

EICO

MODEL 465 PROFESSIONAL OSCILLOSCOPE/VECTORSCOPE

DC-to-8MHz (usable to 10MHz). Vertical and horizontal AC/DC-coupled amps. 5" CRT V/H amplifier sensitivity: .05 volt P-P/CM. (DC-to-8MHz, +1 —5db). 1400 V. Sweep range selection from 10 hz to 100 Khz. Pre-set TV-V and TV-H sweep positions (30cps and 7875cps.)Vectorscope has calibrated graticule and interconnecting cables. Vertical amplifier: Freq. from dc to 8MHz (+1 —5db). Horizontal amplifier: Frequency from DC to 1MHz. +1 —3db. Sweep ranges: 10 to 100, 100 to 1K, 1K to 10K, 10K, to 100Kcps; TV-VERT position (30cps) and TV-HOR position (7875cps.) Intensity Modulation input: 3Vrms; Imp. 2.2 megohms. Size: 12¾x8½x17½. Wt. 27 lbs.

62F750. Model 465K. Kit. **NET** **179.95**
62F751. Model 465. Wired. **NET** 249.95

MODEL 427 GEN.PURPOSE 5" OSCILLOSCOPE

Internal zenerdiode calibration voltage. Controls on panel. Drift free V&H positioning. Vert. amp. direct- coupled and pushpull throughout (6 stages in 3-push-pull pairs). Vert. Amp: +1, —3db from DC to 500kc,—6db at 1 MC; sensitivity 10my P-P or 3.5mv rms/cm. Horiz. Amp: +1, —3db from 2 cps to 450kc; sensitivity 0.5 v P-P or 0.18 v rms per cm. Sweep Circuit: Recurrent sweeps from 10 cps to 100 kc in 4 overlapping ranges; min. ratio of forward sweep time to retrace time 15:1 sync may be int pos. int neg. 60 hz or ext. Power Reg: 105-125 v 60 hz 55W drain. Dim: 12½x8½x16⅞". Shpg. wt. 23 lbs.

62F885 Model 427K. Kit **NET** **109.95**
62F886. Model 427. Factory wired and tested 149.95

SCOPE PROBES

Demodulator Probe. Shpg. wt., ¼ lb.
62F824. Model. PSDK Kit. NET 4.95
62F825. Model PSD Wired. NET 6.95

Low-Capacity Probe. Shpg. wt., ¼ lb.
62F826. Model PLCK Kit. NET ...4.95
62F827. Model PLC Wired. NET ...6.95

Direct Probe. Shpg. wt., ½ lb.
62F829. Model PD Wired. NET 4.95
62F828. Model PDK Kit. NET 3.95

MODEL 1140 R-C COMBINATION BOX

Combines Model 1100-K and Model 1120-K in one box for selection of either R alone, C alone, or series or parallel combinations of R and C (1350 combinations). Includes all E1A resistance values from 15 ohms to 10 megohms and all E1A capacitance values from .0001 to 0.22 mfd. Min. accuracy ± 10%; resistors 1 watt. Wt. 3 lbs.

62F860. Model 1140K. Kit **NET** **19.95**
62F861. Model 1140. Wired and tested. **NET** 29.95

MODEL 1100, EIA RESISTANCE SUBSTITUTION BOX

Permits substitution of a wide range of E1A resistance values in an operating circuit. 36 EIA 1 watt, 10% resistors, arranged in Hi and Lo decades gives resistance ranges of 15 ohms-10 megs in decade multiples of 15, 22, 33, 47, 68 and 100 ohms 5-way jack-top binding posts for connection of test lead. Size 3¾x6½x3½". Wt., 2 lbs.

62F806. Model 1100K. Kit **NET** **12.95**
Model 1100W. As above but Factory wired.
62F807. NET 19.95

MODEL 1180 DECADE CONDENSER BOX

Three decade capacitor assemblies. Each decade has eleven positions, 0 to 10 inclusive so that the decades overlap. The added capacity per step is 0.01 mfd for the largest decade, .001 for the next decade, and .0001 mfd (100 mmf) for the smallest decade. Voltage rating: 350 volts DC continuous, 500 volts DC intermittent, 1000 volts DC test. Insulation resistant: production test limit is 50,000 meg at 1000 volts DC. Mounted in a metal cabinet. Weight 3 lbs. Supplied less leads.

62F989 Model 1180K. Kit. NET **24.95**
Model 1180W. As above but factory wired
62F990. NET 34.95

MODEL 1171 RESISTANCE DECADE BOX

Permits changing resistance in a working circuit at the flip of a switch. May be used alone or in conjunction with the model 950-K RC bridge. Supplies resistance values from 0 to 99,999 ohms. Uses ½% resistors. Separate comparator position and binding posts permit instant substitution. Steel case, 3½x12x3". With diagrams, instructions and all parts; less solder and leads. Wt., 3 lbs.

62F795. Model 1171K. Kit. NET **29.95**
Model 1171. As above but Factory wired.
62F802. NET 39.95

MODEL 1120 CAPACITOR SUBSTITUTION BOX

Substitution of a wide range of RETMA capacitance values from .0001 to 0.22 mfd. in an operating circuit to determine value needed for optimum performance and to find value of badly damaged or illegible capacitors. Minimum accuracy 10%. Convenient 5-way jack top binding posts. 3¾"x6½"x3½". Wt. 2 lbs.

62F840. Model 1120K. Kit. NET **10.95**
Model 1120W. As above but Factory wired.
62F841. NET 16.95

MODEL 950 RC BRIDGE/R-C-L COMPARATOR

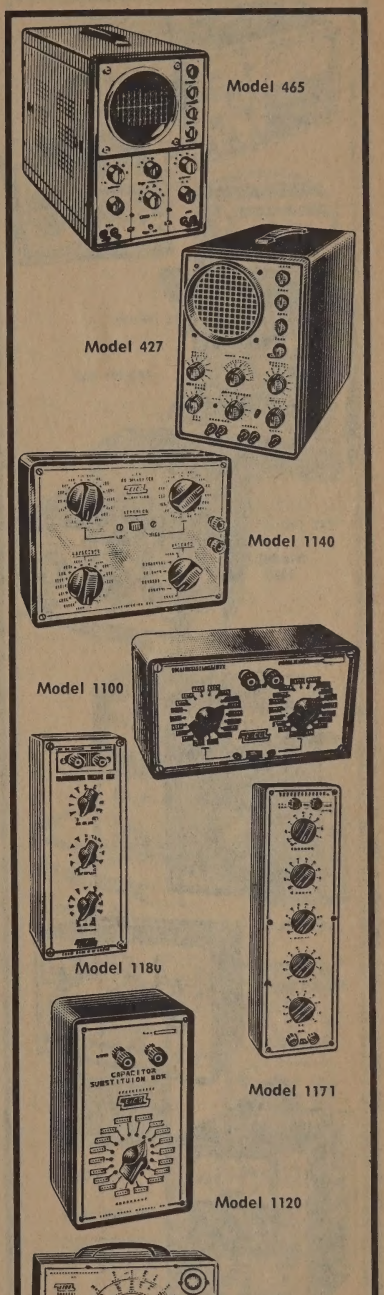
Measures and tests all resistors from 0.5 ohm to 500 megohms, and all capacitors from 10 mmfd to 5000 mfd. Comparator Range for comparison of resistance, capacitance and inductance with a complementary component as a standard; has wide range of 400:1. Has continuously variable 0-500 volts DC source for capacitor leakage testing. For 110 volts, 60 cycles AC. In rugged steel case: 10x8x4¾". With all parts; less solder and leads. Wt. 9 lbs.

62F794. Model 950K. Kit. NET **29.95**
62F799. Model 950. As above, wired and tested. **NET** 44.95

MODEL 955 IN-CIRCUIT BRIDGE-TYPE CAPACITOR TESTER

Permits out-of-circuit or in-circuit short check with shunt res. as low as 1 ohm. Max. test volt 6.3 v AC (open leads), dec. with dec. imp. Open test of capacitors as small as 15 uuf with inst. adjusted normally. For in-circuit testing, shunt res. may be as low as .35 ohms for capacitors above 250mmf (7K ohm at 15 uuf). Capacity Meas.: Form 0.1 to 50 uf 10% accuracy at any point on the capacity dial in Oper. Freq. of the bridge is 60 hz. Line Voltage: 105 to 130 v. AC, 60 hz. 8 w drain. Dim: 8½x5¾"x6". With instructions less solder. Shpg. wt., 6 lbs.

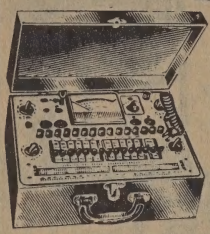
62F883. Model 955K Kit NET **29.95**
62F884. Model 955. Wired & Tested. NET 44.95



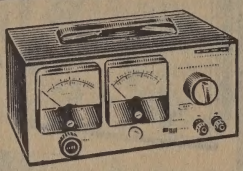
EICO Test Equipment & Kits

Model 685

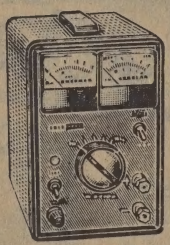
Model 443



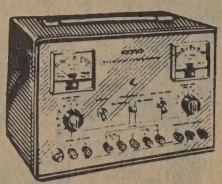
Model 667



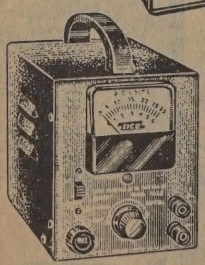
Model 1025



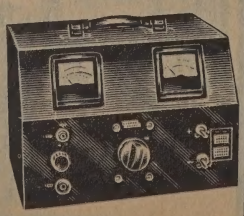
Model 1064



Model 1030



Model 1020



Model 1060

• **NEW MODEL 865 DYNAMIC SEMICONDUCTORS AND CIRCUIT ANALYZER** Measures FET and Bipolar transistors. FET tests: AC transconductance (in and out of circuit) 0-5,000 and 0-50,000 micromhos. Bipolar transistors include an AC beta test with accurate readings from 2 to 1,000 on power and small signal devices, and with readings from 2 to 1,000 on RF transistors. Tests can also be made on unijunction transistors, silicon controlled rectifiers, power rectifiers, signal diodes and zener diodes (0-20 volts). Built in ohmmeters (400 , to 10M , 140K center scale) and voltmeter (0-500 volts, 30 volts center scale, 1 megohm resistance) designed on basis of a uniquely compressed scale, allowing from 0 to 500 volts to be measured using a single knob setting while the 400 ohms to 10 megohm measurements can be made using another single setting. Low values of resistance and voltage are read over a bigger length of the meter scale than are higher values. 1% resistors and a 50 microampere Taut Band meter (50 uA, 2% Taut Band) to make proper leakage measurements. Measures ICBO and ICEO. Power requirements: 120 VAC, 50/60 Hz, 10 watts; Size: 12½" x 8½" x 6".

62F2451. Model 685K. Kit **NET** **99.95**

62F2450 Model 685. Wired and tested **NET** 149.95

443 SEMI-CONDUCTOR CURVE TRACER

Test diodes, rectifiers, signal and power transistors. Specifications: diode and rectifier forward current test; 2 range (0-100ma), maximum 1 Amp forward current, 3 ranges reverse current (1ua/Div), (10ua/Div), (100ua/Div), Peak Inverse Voltage (PIV). 5 ranges (10volt/Div). (50volts/Div); (100volts/Div); 200volts/Div); PIV test voltages are variable from 0-1400 volts. Transistor tests; family of 3 cures, BETA-10 volts at 12 ma collector current for signal transition. For power transistors 10 volts at 1 Amp. collector current maximum. All solid state printed circuit construction. Shpg. wt. 10 lbs.

62F752. Model 443 K Kit. **NET** **99.95**

62F753. Model 443. Wired and tested. **NET** 149.95

MODEL 667 DYNAMIC TUBE AND TRANSISTOR TESTER

A mutual conductance tester with a peak emission test to give a single reading of tube quality. Spots bad transistors by gain and leak tests. Tests 5 & 7-pin. Nuvistors; 7 & 8-pin subminiature, 7, 9, 10-pin miniature, octal, loctal, vacuum and VR tubes; compactrons, novars, and pilot lights, 4½" meter indicates leakage between elements or Beta current amplifications of NPN, PNP transistors. Multicircuit lever switch sets up plate, screen, and voltage controls. 13 pushbuttons alternate element setup of tube. Steel case. 12" x 15" x 4½". Wt. 22 lbs.

62F889. Model 667K. Kit. **NET** **99.95**

62F890. Model 667. Factory wired. **NET** 149.95

MODEL CRU UNIVERSAL CRT TEST ADAPTER

In conjunction with testers 667 and 628. Tests black and white (& color CRT's,) 70, 90 & 110°. Checks tubes without removal from set. Complete with 4-foot interconnecting test cable.

62F891. **NET** **9.95**

MODEL 1025 SOLID STATE POWER SUPPLY

Model 1025 is completely transistorized, very low ripple, portable DC power supply. Monitored by a dual range voltmeter (0-6, 0-30 VDC), and 500 ma millampmeter. Maximum load current varies from 150 ma in the 0-12V range to 300 ma in the 24-30V range. Maximum ripple (120cps) at full load is only 0.005% Fuse: ½ amp will blow in case of short circuit to protect unit. Power requirements: 117V, 60cps. Size: 3¾" h x 8" w x 4¾" d. Weight 5 lbs.

62F910. Model 1025K Kit. **NET** **39.95**

62F911. Model 1025. Wired. **NET** 54.95

MODEL 1064 BATTERY ELIMINATOR AND CHARGER

Delivers smooth, clean DC necessary for servicing transistorized equip., or for any application where minimum ripple, is essential. Two DC voltage ranges: 0-8v. and 0-16v. Automatic switching of appropriate ammeter range as you select either of the 2 voltage ranges. Separate volt meter and dual-range ammeter for more accurate reading. 105-125v. AC, 50/60 Hz; 150 watts. Grey steel cabinet. Size. 8½x5¾x7½". Same current ripple ratings as Model 1060. Wt. 16 lbs.

62F870. Model 1064 K. Kit. **NET** **59.95**

Model 1064. As above but Factory wired.

62F871. **NET** 79.95

MODEL 1030 REGULATED POWER SUPPLY

Double power supply that simultaneously delivers regulated B+ supply (0-400 VDC) and bias voltage (0-150 VDC) required for circuit design. Delivers exact voltage needed to test any circuit, while monitoring both voltage and current used. Also supplies 6.3 VAC at 3 amps and 6.3 VAC at 3 amps. Center tapped or 12.6 VAC at 3 amps. Instant turn-on front-panel switch. If power line voltage varies as much as +10 volts, voltage output will change as little as 0.5 volts. Ripple is less than 3 mv RMS. Power requirements: 120 VAC, 50/60 hz, approx. 160 watts. 8½"H., 12½"W., 9"D. Wt. 21 lbs.

62F916. Model 1030K. Kit. **NET** **79.95**

62F917. Model 1030 Factory Wired **NET** 109.95

MODEL 1020 POWER AND BIAS SUPPLY

Power supply includes power transformer, full-wave silicon diode rectifier circuit, heavy R-C filtering, plus two power transistors in a unique cascaded filter circuit. Ripple is reduced to 1/200 of 1% at full load. Provides continuously variable output voltage to 30 volts monitored by a dual range voltmeter (0-6, 0-30 VDC). Max. load current varies from 150 ma. in the 1-12V range to 300 ma. in the 24-30V range. Uses include hum-free operation of sensitive transistor radios, hearing aids, preamp, instruments. Use as a variable bias supply for transistors or tubes in circuit development; to offset AVC and AGC voltages in the alignment of TV and radio receivers or to cut off the color burst amplifier in color TV adjustment. Grey case. Size: 5x4x5½". Wt. 5 lbs.

62F856. Model 1020K. Kit. **NET** **25.95**

Model 1020. As above but Factory wired.

62F857. **NET** 34.95

MODEL 1060 BATTERY ELIMINATOR AND CHARGER

Battery substitute supply for operation and servicing of battery operated transistorized, also "hybrid" and vactube equip. Separate output ammeter and voltmeter. Output 0-8V, @ 10 amps continuous; 0-16V @ 6 amps continuous. 0.3% ripple @ 2 amps. Size: 8¾"x10½"x7¾". With instructions, less than 18 lbs.

62F852. Model 1060K. **NET** **54.95**

Model 1060. As above but factory wired and tested.

62F853. **NET** 74.95

Test Equipment & Kits

EICO

MODEL 235 PROFESSIONAL VTVM

For servicing of all FM, AM, mono/color TV, and precision electronic equipment. Has dual purpose AC/DC Uni-probe. Ideal for all high frequency measurements. Frequency response of 30 HZ to 3MHZ. Employs 1 silicon rectifier, 1-12AU7A tube and 1-6AL5 tube. 7 resistance Ranges: 0.2 to 1000 Me. Power requirements: 117 VAC, 50 or 60 HZ; 6 watts. 8½" x 7½" x 5". Wt. 9 lbs.

62F906 **Model 235 K Kit. NET** **59.95**
62F907 **Model 235** Factory wired and tested. **NET** 84.95

MODEL 232. PEAK-TO-PEAK VTVM

Directly measures p-p voltage of complex and sine waves on scales of 0-4, 14, 42, 140, 420, 1400, and 4200 volts. Uses 1% precision resistors throughout. Resis. ranges: 0-1000 megs in 7 steps. 7 non-skip ranges on the 4 functions of: +DC volts, -DC, AC volts, Ohms. Frequency response: 30 HZ to 3 mc. Up to 250 mc with PRF-11 probe. DC-RMS sine voltage ranges: 0-1, 5-5-15-50-150-500-1500 volts. Input impedance 11 Megohms. For 110-120 V. 50-60 Hz AC. Kit with instructions. With Uni-probe, ground lead and battery. Size: 8½ x 5 x 5". Wt., 5 lbs.

62F811. Model 232K. **Kit. NET** **34.95**
62F812. Model 232. Factory wired and tested. **NET** 49.95

MODEL 242 SOLID STATE FET-VOLTMETER

Single all-purpose DC/AC-ohms Uni-Probe, high impedance input using FET., Peak-to-peak measurements of AC volts and milliamps on large 6½" meter. 7 non-skip ranges. AC line or battery operated. Designed to be used in testing vacuum tube and semiconductor circuits. 1 volt scale allows accurate reading as low as 0.05 while giving good indications down to 0.01 volts. Input impedance: DC-11 megohms, AC-1 megohm. Frequency response: 25 HZ to 2MHZ (up to 250 MHZ with PRF probe-not supplied). Power requirements: 105-132 volts AC or 3 NEDA #1604- 9 volt batteries and 1-1.5 volt size D cell; 1.4 VA. Size: (HWD) 7½" x 8½" x 5"; Weight: 6 lbs.

62F926 Model 242K Kit **NET** **69.95**
62F927 Model 242. Factory wired. **NET** **94.50**

MODEL 240 SOLID STATE FET—VOLTMETER

Single all-purpose DC/AC Ohms — Uni-probe. FET extremely high impedance input amplifier. Peak-to-Peak AC measurements. AC line or battery operated. Suitable for servicing vacuum tube equipment. Frequency response; 25 H.Z. to 2 MHZ.AC RMS Sine Wave and DC Voltage RANGES: 0-1, 3, 10, 30, 100, 300, and 10,000 volts. Input impedance; DC-11 megohms AC-1 megohms. Power requirements: 105-132 volts AC or Neda (3) #1604-9 volt batteries and 1-1.5 volt size D cell. 8½" x 5¾" x 5". Weight 6 lbs.

62F924. Model 240K Kit **NET** **59.95**
62F925 Model 240. Factory wired **NET** **79.95**

MODEL 536 1000 OHMS VOLT MULTIMETER

1000 ohms/volt multimeter kit with extra-extended ranges from 0 to 1 volt up to 0-5000 volts, 31 different full scale ranges. AC-DC volts: 0 to 1, 5, 10, 50, 100, 500, 5000. DC current: 0-1 ma, 10 ma; 0.1 amp, 1 amp. Ohms: 0-5,000, 1000,000, 1 meg. 6 db ranges: —20 to +69. Large 3" 400 μa meter movement. Low minimum battery-drain ohm ranges. Dual rectifier has separate low and high voltage calibration in AC ranges. 6¼x3¾x2¾". With instructions and battery. Shpg. wt. 3 lbs.

62F778. **Model 536K. Kit** **16.95**

62F777 Model 536. Factory-wired and tested **NET** 22.95

MODEL 565 20,000 OHMS / VOLT MULTIMETER

Kit 31 full scale ranges. AC-DC and output volts: 0-2.5, 10, 50, 250, 1000, 5000 (DC at 20,000 ohms per volt, AC at 1,000 ohms per volt) DC current: 0-10 microamps, 10 ma, 100 ma, 500 ma, 10 amp. Ohms: 0-2000, 200,000, 20 meg. 5 db ranges: —12. to +55. Large 4½" meter with 50 microamp D'Arsonval movement. 6¼x5¼x3". With batteries less leads. Wt., 3 lbs.

62F773. Model 565K. Kit **NET** **25.95**
62F774. Model 565. Factory wired and tested **NET** 39.95

UTILITY TESTER MODEL 540

Can be used as a multi-range AC/DC voltmeter, an ammeter, an ohmmeter, a wattmeter, and a leakage deector. All voltage ranges (0-7.5-15-150-300 volts) and current range (0-15 amps) are AC/DC. 0-1000 direct reading ohms. Neon lamp ac leakage test circuit permits continuity check of resistors between 1000 ohms and 2 megohms and capacitors above .0005 mfd. Direct reading of power line voltage up to 300 volts AC/DC. Panel outlet permits metering current up to 15 amps drawn by any appliance. 3¾x6½x3½". 3 lbs.

62F846. Model 540K Kit **NET** **19.95**
62F847. Factory-wired and tested. Model 540. **NET** 29.95

MODEL HVP-2 HIGH VOLTAGE PROBE

HV probe extends range of VTVM's and VOM's to 30,000 volts. With 1090 meg. multiplier resistor for use with Models 235, 232, 249 or other 11 meg. VTVM's. Less connector—use Amphenol MCIF for EICO VTVM's.

62F850 **NET** **9.95**

VTVM PROBES

An RF probe for all VTVM's listed ½ lb.

62F816. **Model PRF-11K Kit. NET** .. **4.95**
62F817. **Model PRF-11 Wired. NET** . **6.95**

UNI-PROBE

Dual-Purpose AC/DC/Ohms Probe. Supplied less series isolating resistor or connector. Use 1 meg. for all VTVM's except 221, use 15 meg. for 221. VTVM's except 221 take MCIF connector; 221 must be modified.

62F864. **Model UPK Kit. NET** **5.95**
62F865. **Model UP Wired. NET** 7.95

MODEL HVP-5 VOLTAGE PROBE

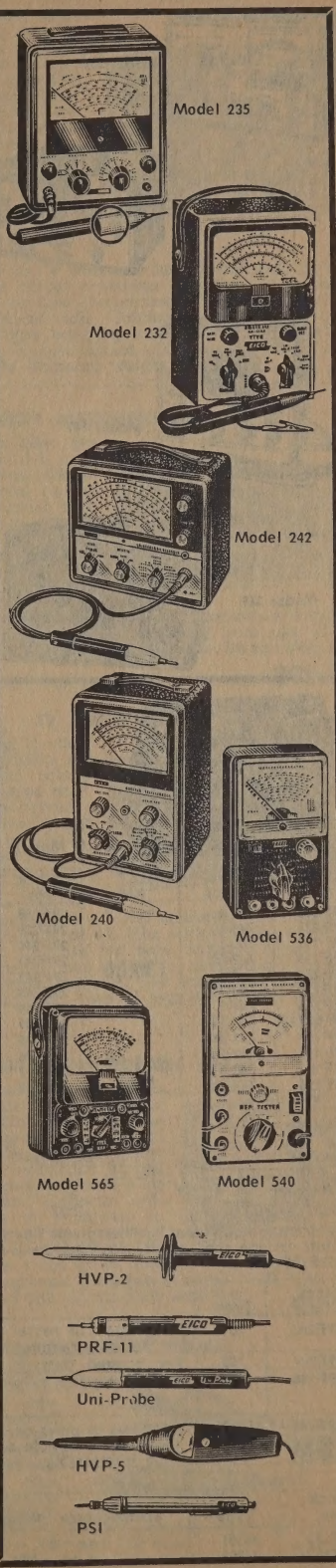
Measurements up to 30,000 volts may be executed safely. Built in voltmeter performs checks on potentials of up to 30 kilovolts.

62F991. **NET** **22.95**

PSI SIGNAL INJECTOR PROBE

Instrument generates and injects a signal covering the audio, IF and RF spectrum. Detects defective circuits. All solid state. Frequency: IKC approximately with harmonics to 30MC. Output Impedance: 10K ohm. Supply Voltage: Uses two "AAA" 1.5V batteries. Battery Life: 2,000 hours normal use. Size: 5⅝" long x ½" O.C. Weight 1 oz.

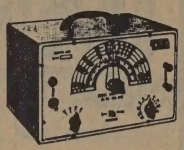
62F754. **PSIK Kit. NET** **5.95**
62F755. **PSI Wired. NET** 9.95



Temperature Meters, Test Equipment & Kits

EICO

Model 378



Model 377

MODEL 378 AUDIO GENERATOR

Application where a stable, accurate audio sine wave must be used. Output controlled by 8 position decade and fine attenuators. Frequencies from 1 hz to 110 Khz in 1 hz steps. Frequencies accuracy: ±5%. Distortion less than 0.1% (20hz-20kc). Output voltage ranges: 0-3, 10v into hi-z (10k min.); 0-.003, .01, .03, .1, .3, 1V into ext. 600Ωload—or with int. load into ext. hi-z. Output meter accuracy ±5% of full scale. Power requirements: 120V, 50/60 hz. 40 Watts. Size: (HWD); 8½" x 12½" x 9". Shpg. Wt. 16 lbs.

62F900. Kit. NET **64.95**

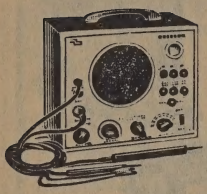
62F901. Model 378. Factory wired & tested NET **89.95**

MODEL 377 AUDIO GENERATOR

Sine wave 20-200,000 Hz in 4 ranges. Square wave coverage from 60-50,000 Hz (5% round-off at 50 kc). Response ±1.5db from 60 Hz to 150 hz. Continuously variable power output: 100 mw into rated load (10 volts across 1,000 ohm load). Rated load impedance. 1000 ohm resistance. Distortion only 1%. Hum less than 0.4% of output. All bridge resistors 1% accurate. Uses: 1-6X5, 1-6SJ7, 2-6K6, 1-6SN7, 105-125 v., 50-60 Hz. Calibration accuracy: ±3%. Size: 11⅛x7⅝x7⅛". Shpg. Wt. 13 lbs.

62F769 Model 377K. Kit NET **44.95**

62F770. Model 377. Factory wired NET **59.95**



Model 147

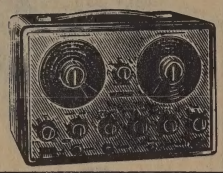
DELUXE MODEL 147 A-K MULTI-SIGNAL TRACER

Transformer operated for isolation and safety. High gain RF and low gain audio with both visual and aural monitors, magic eye indicator and 5" PM speaker. Calibrated watt-meter circuit reveals abnormal total wattage consumption, open, or intermittent filament circuit. Permits RF, IF and AF signal tracing in FM, AM and TV sets. Noise localizer circuit. Size 8x10x4¾". 105-125 volts. AC, 50-60 hz., 40 watts. Wt. 10 lbs.

62F809 Model 147K. Kit NET **36.95**

Model 147A. Factory wired and tested.

62F810. NET **49.95**



Model 369

MODEL 369 TV/FM SWEEP MARKER GENERATOR

Feeds sweep signal only to i.f. strip being aligned. At the output end of the circuit a demodulator cable picks off the signal, demodulates it, and feeds the demodulated signal to a mixer stage inside the generator where the markers are added. Five Ranges: 75-220 Mhz; 36-95 Mhz; 16-42 Mhz; 6-16 Mhz and 3-7.5 Mhz. Output impedance is 50 ohms. A 6BQ7-A sweep oscillator and rf output cathode follower, a 12AT7 variable and crystal marker oscillator, a 12AX7 blanking diode and first agc amplifier, a 6DR7 second agc amplifier and agc series regulator. For 110-120v A.C. wt. 18 lbs.

62F894. Model 369K. Kit. NET **99.95**

62F895. Model 369. Factory wired. NET **149.95**

YSI

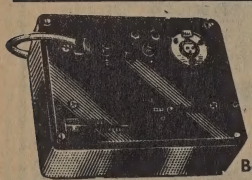


Fig. 1
Bench Model

THERMIVOLT THERMILINEAR THERMOMETER

Composed of circuitry necessary to convert Thermilinear Component No. 44018 or 700 Series Probe resistance into a DC analog voltage. Voltage conditioned to have direct numeric correspondence with temperature. In either bench or basic circuitry models 2¼ x 6¾ x 5¼" (Fig. 1); 1⅝ x 5⅜ x 2" (Fig. 2); Weight: 1¾ lbs. (Fig. 1), 1 lb. (Fig. 2); Power: 115/120V, 50/60 HZ, 5 watts max.

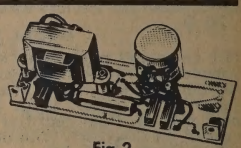
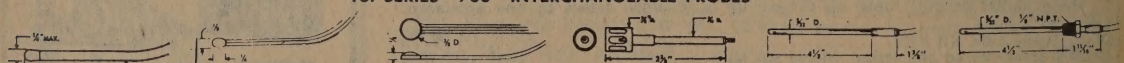


Fig.2
Basic Circuitry Model

Stock No.	Bench Model	Net	Stock No.	Basic Model	Net	Accuracy	Range	Load Require	Sensitivity	Output
29F230	741-1		29F238	751-1		±0.4°C	0 to 100°C	J001C	1MV/°C	0 to 100 MV
29F231	741-10		29F239	751-10		±0.4°C	0 to 100°C	J001C	10MV/°C	0 to 1 V
29F232	742-1		29F240	752-1		±0.25°C	—5 to +45°C	J001C	1MV/°C	—5 to +45 MV
29F233	742-10	130.00	29F241	752-10	95.00	±0.25°C	—5 to +45°C	J001C	10MV/°C	—50 to +450 MV
29F234	743-1		29F242	753-1		±0.35°C	—30 to 50°C	J001C	1MV/°C	—30 to +50 MV
29F235	743-10		29F243	753-10		±0.35°C	—30 to +50°C	J001C	10MV/°C	—300 to +500 MV
29F236	744-1		29F244	754-1		±0.35°C	30 to 100°F	J001C	1MV/°C	30 to 100 MV
29F237	744-10		29F245	754-10		±0.35°C	30 to 100°F	J001C	10MV/°C	0.300 to 1 V
29F191	741-5V		29F195	751-5V		±0.4°C	0 to 100°C	1K	50MV/°C	0 to 5V
29F192	742-5V	145.00	29F196	752-5V	120.00	±0.25°C	—5 to 45°C	1K	100MV/°C	0 to 5V
29F193	743-5V		29F197	753-5V		±0.35°C	—30 to 150°C	1K	62MV/°C	0 to 5V
29F194	744-5V		29F198	754-5V		±0.35°C	30 to 100°F	1K	71MV/°F	0 to 5V

YSI SERIES "700" INTERCHANGEABLE PROBES



701 707 709 705 703 710

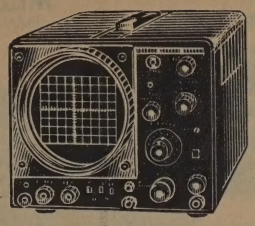
Electrically equivalent to Thermivolt Thermilinear Thermometer (See YSI thermistors). If a 700 Series Prope is to be used as a substitute for the component, it is necessary to acquire a resistors composite as a separate item. Length of load 10 ft.; max. temperature 212°F(100°C).

Stock No.	Type	Application	Material	Time Const.	Net
29F246	701	Esophageal or rectal temperature in humans and larger lab animals. Often buried for sub-soil readings.	Vinyl tip	7 Sec.	30.00
29F247	703	For rugged duty in liquid immersion use. Immersible only to cap.	Stainless steel	3.4 Sec.	43.50
29F248	709	Easy to tape on skin or flat surface for reading.	Stain. steel cup, epoxy backed	1.7 Sec.	39.50
29F249	710	Readings in pipes or inside closed vessels.	Stainless steel	3.4 Sec.	50.00
29F250	705	Test rooms, remote air readings or to monitor gas streams.	Stainless steel	0.3 Sec.	50.00
29F251	707	(Non immersible.) Suitable for surface temperatures.	Epoxy tip	0.5 Sec.	43.50

RESISTORS

Stock No.	Type	Temperature Range	Each	Stock No.	Type	Temperature Range	Each
29F252	44301	0 to 100°C	4.80	29F254	44303	—30 to +50°C	4.80
29F253	44302	—5 to +45°C	4.80	29F255	44304	30 to 100°F	4.80

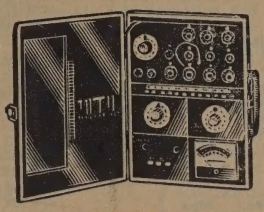
TRANSISTORIZED TRIGGERED SWEEP OSCILLOSCOPE



Model 1460. New precision scope automatically synchronizes and displays entire complex TV signal or any portion thereof on 5" CRT. High-accelerating anode voltage allows writing speeds up to 0.1 microseconds/cm. Active filter triggering circuit and 5X magnification circuit assure sharp, high-intensity patterns. Fully protected drift-free FET input stage and self-contained probe permit direct or low 10:1 capacity operation. Replaceable probe tips accommodate many job requirements. Response: vertical amplifier, DC to 10 MHz at 10 mV/cm sensitivity; horizontal amplifier, DC to 800 kHz. Sweep positions: 19 plus TV-H, TV-V and VIT test signals. For 117 VAC. Size, 9x10x17". Wt., 27 lbs.

62F2850 NET **389.95**

● *NEW* DYNA-JET SOLID STATE TUBE TESTER



Model 607. Features multiple-pin lockout pushbutton switches (10): Open any and all pins in tube under test—all tubes now can be tested for shorts; positively detect all shorts regardless of pin connections eliminates all false shorts. Reset button clears all lockouts. Tube testing speed doubled by (1) exclusive shaped-coded symbols that match controls to chart, and (2) minimum number of settings—maximum of 4, and in some instances, only 3 are required. Checks tubes accurately—under simulated load conditions. Grid leakage and gas tests. Simplified heater voltage setting. Superior load and plate voltage capability. Tests newest tube types—plus all old types used in TV and radio. Nuvistors, Novars, Magnovals, new 10 pin tubes and 12 pin compactrons, also tests auto radio hybrids, imported hi-fi tubes and many industrials and specials. Black attache-type case, 13½x9½x4" deep. Operates from 105-125 volts, 60 Hz. AC. Weight, 6 lbs.

62F2852. NET **119.95**

VOLT-OHM-MILLIAMMETER

Model 120. For general use in schools, laboratories, production lines, and radio-TV and appliance service-shops. Has 61 ranges (+ & −) Extra-high 6000 V. range, Extra-low ohms, current and voltage range, Mirrored, No-Parallax scale standard without extra cost. Transit meter movement protection Polarity reversing switch. DC V. (20,000 ohms/V.) 0-0.3, 1.2, 3, 12, 60, 300, 600, 1200, 6000. AC V. (5,000 ohms/V.) 0-1.2, 3, 12, 60, 300, 600, 1200, 6000. AC Output Ranges: 0-1.2, 3, 12, 60, 300, 600 V. Complete with batteries, test leads and technical manual. 7"x 5⅜"x3⅛". Weight 4 lbs.

63F070. NET **69.95**

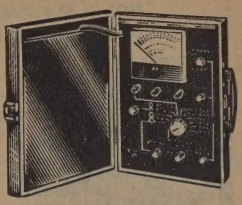
63F075. NET. LC-3 carrying case 8.95

CAPACITOR ANALYST

Model 801. Measures capacitance and leakage resistance both in-circuit and out-of-circuit. Designed to operate on 105-125 volts 60 cycle AC, but will operate from 90 to 140VAC after a 2 min. warm-up. Can detect "shorts" in normal circuits where the capacitor tested is shunted by more than 25 ohms. Detects "Opens" in circuits where the capacitor tested is more than 25 pfd or shunting resistance is more than 50 ohms. Unique circuit determines how capacitor stores energy and returns it to the circuit. Spots marginal electrolytics that need replacement and predicts the life expectancy of electrolytic capacitor of 3 volts or more. Meter movement is protected against overloads. Easy to test low-voltage transistor circuit capacitors as well as those in vacuum-tube circuits. Electrolytic tests up to 2000 mfd, using a balanced bridge. One knob makes it easy to select the desired function and range. Simplified internal design, easily portable. Size: 5½"x12¾"x6¾". Weight, 8¾ lbs.

62F588. Model 801. NET **119.95**

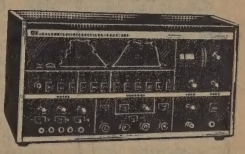
● *NEW* CRT REJUVENATOR/CHECKER



Model 466. G-I voltage measured directly on meter. Permits setting to accurate G-I voltage measured directly on meter; permits setting to accurate G-I voltage under all conditions. Monitors heaters right at tube pins gives precise indication of heater voltage on meter. Insures setting correct heater voltage regardless of heater load or line voltage variations. Large 4¾" meter. Continuously variable and metered, heater, G-1 and G-2 voltages. Effectively protects the 466 from being obsoleted by new CRT's with new heater voltages; permits checking CRT's under actual operating conditions for reliable test results. Oversize storage compartment holds all adapters, manual, charts plus small tools. Handsome, lightweight, computer-styled, attache-type carrying case. Size, 13¼x9½x5¼" deep. Complete with 3 multi-socket adapters. Operates from 105-125 volts AC, 60 Hz. Shipping weight, 8 pounds.

62F2851. NET **129.95**

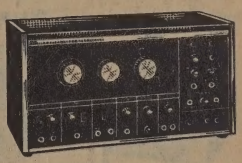
SWEEP/MARKER ALIGNMENT GENERATOR



Model 415. 15,750 hz filter enables user to view I-F and chroma response curves without disabling the horizontal output stage of a receiver under test. This can be done with a minimum of horizontal frequency "grass" superimposed on the oscilloscope patterns. Unity gain through instrument into oscilloscope to eliminate intermediate steps for calibration purposes. Built-in low frequency compensation to eliminate pattern errors resulting from use of an oscilloscope with poor low-frequency response. Sweep freq. rate 60/sec.

62F566. NET **399.95**

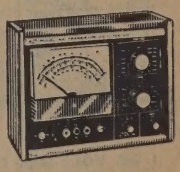
TV ANALYST



Model 1077B. Designed to simplify and speed servicing of black and white and color, VHF and UHF, tube type and transistorized TV receivers. Supplies a complete test pattern or other patterns by means of a flying spot scanner system using a positive transparency. Generates signals for point-to-point signal injection anywhere in a TV receiver. RF outputs at all UHF channels-VHF channels-plus IF 20-48 Mhz. Outputs at 4.5 Mhz with 1000 hz audio for TV sound analyzing. Outputs for sync, video, chroma, and audio. Provides low impedance output for analyzing transistorized as well as tube type receivers. Low impedance calibrated bias supply. Horizontal and vertical signals. Weight approximately 30 pounds.

62F555. NET **399.95**

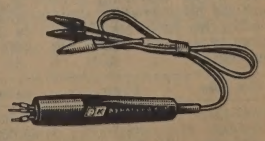
DYNAMIC TRANSISTOR/FET TESTER



Model 162. Tests transistors and FET's in and out of circuit. Provides three transistor leakage tests for the purpose of discovering failures not found in other transistor testers. Simplified test procedure in testing transistors in and out of circiut. High sensitivity meter for accurate leakage tests. Collector current: 100 microamps to 1 ampere in steps of 10. Collector voltage: constant 1½ volts. Beta 1 to 50 and 10 to 500. Leakage: 5 ranges in steps of 10. GM: 0 to 50,000 microhms. (Readings to 5000.) Leakage: 5 ranges in steps of 10. GM: 0 to 50,000 microhms. Wt. 6 lbs. 12 oz. with batteries.

62F597. NET **99.95**

DYNA-FLEX 3-POINT PROBE



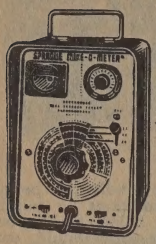
Model FP-3. First practical way to test transistors, diodes, IC's and other compact components mounted on printed circuit boards. Makes positive, non-slip contact with three termination points at one time with one hand. Each needle point tip is spring loaded, and automatically adjusts to any spacing from 1/32" to 3/8". Point probes resistance less than .005 ohm.

62F567. NET **12.95**

Test Equipment

SPRAGUE TEST EQUIPMENT

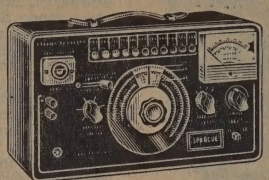
MODEL M-3 COMPACT CAPACITOR ANALYZER



Gives capacitance and power factor measurements by the accurate Wein Bridge method. Automafic discharge of capacitor when test switch is released. 110-125 VAC 50-60 hz. steel case finished in blue. Shpg. wt. 6 lbs.

62F628. NET....**39.95**

MODEL TO-6 TEL-OHMIKE

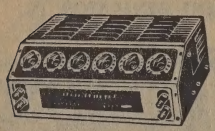


Capacitor analyzer measuring up to 2000 mf in five overlapping ranges. Low-voltage check. High voltage check 8⅞x14⅝x6⅛". 115VAC 650-60 Hz. Shpg. 13 lbs.

62F632. NET **149.50**

CLAROSTAT TEST EQUIPMENT

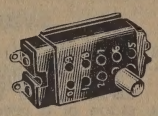
POWER RESISTOR DECADE



Model 240C. This handy power resistor box permits changing resistance values in a working circuit at the flip of a switch. Saves time and work in developing new circuits where some values are unknown. Ideal for checking voltage regulation of power supplies, since load can be varied over a wide range. Handles any value from 1 to 999,999 ohms, in steps of 1 ohm. Power rating is 225 watts. Maximum voltage should not exceed 1,000 VDC or 660 VAC. Housed in ventilated metal cabinet. Size: 13" x 8½" x 5¾". Shpg. wt. 11 lbs.

62F730. NET. **115.50**

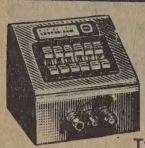
PRECISION RESISTANCE DECADE BOX



Used whenever accurate steps of resistance values are required. Two-piece molded housing. Temp. coefficient less than 100 ppm. Temp. 40°C. at rated current. Accuracy 1% except 260-1 5%. Approx. shpg. wt. 3 oz. per individual unit.

Stk. No.	Type	Total Res. of Decade	Max. Current	NET
62F723	260-1	0.9	1 amp	4.15
62F724	260-2	9.0	350 ma	4.15
62F725	260-3	90	100 ma	4.15
62F726	260-4	900	35 ma	4.15
62F727	260-5	9K	10 ma	4.15
62F728	260-6	90K	3.5 ma	4.15
62F729	260-7	900K	1.0 ma	4.15

OHMITE TEST EQUIPMENT



Type 3405, 3406, 3407

Type 3410

A resistance decade box with an accuracy of ±0.1%. Four models cover the resistance range from 1 ohm to 1 megohm in a choice of 4 and 6 decade models. Thumbwheel switches simplify selection of resistanct values. Switch feature allows advancing or decreasing of values from

Stk. No.	Model	Resistance Range (Ohms)	Ohms Per Step	No. of Decades (Switches)	NET
62F2410	3405	0 to 9.999K	1	4	85.00
62F2411	3406	0 to 99.99K	10	4	85.00
62F2412	3407	0 to 999.9K	100	4	90.00
62F2413	3410	0 to 999.999K	1	6	125.00

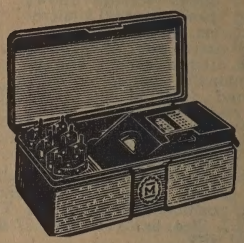
•NEW 0.1% PRECISION DETER-OHM RESISTANCE DECADE BOX

- •Direct in line Numeric readout
- •Simplified selection of resistance values
- •Cont. rotation Rocker type thumbwheel switches

9 thru 0 to 1 or vice versa, without retracing other values, Switch life 50,000 operations. Power ¼ Watt per resistor Operating temp. +15 to +35°C. T.C. of resistors, 10 ppm/°C nominal, max 20 ppm/°C. Size 5"W x 4¼"D x 4¼"H. Finish metallic blue. Shpg. wt. 1.6 lbs.

MILLEN TEST EQUIPMENT

GRIP DIP METER



Model 90651. Uses the calibrated RF oscilator principle. 2" meter reads oscilator grid current. Common use: To find resonant freq of non-energized tuned circuits. Oscillating detector. Range: 1.7-300 MHz. 105-125 v. 60 Hz. 11⅜"x5⅛"x4"h. Wt. 7 lbs.

97F220. NET **90.00**

97F221. 90651-C. Case only 6.29

Type 46721. Link probe. 220 KHz to 65 MHz.

97F231. NET 2.55

97F232 46702 coil. 925-2000 KHz.

97F233. 46703 coil. 500-1050 KHz.

97F234. 46704 coil. 325-600 KHz.

97F235. 46705 coil. 220-350 KHz.

97F238. 46706 coil. 165-225 KHz.

All coils listed above. **NET EACH**....**9.40**

GRIP-DIP METER

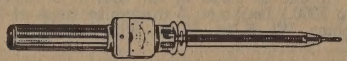
model 90651-A. Calibrated stable RF oscilator unit with a transistorized electronic voltmeter to indicate the amplitude of the output. Features a Transistor D.C. Amplifier and Taut Band Meter. Amplifier is to increase sensitivity, reads frequencies from 1.7 to 300 MC. Taut Band Meter to eliminate any possibility of the meter becoming "sticky". Uses same stable oscilator as Model 90651 without spurious dips. Has a transformer-type power supply and seven coils protected by form fitting molded covers.

97F200 .....**103.50**

NEWARK FOR LOWEST PRICES

POMONA

DC VOLTAGE TEST PROBES WITH BUILT-IN METER

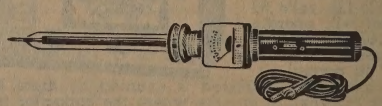


Test probe teaturing a built-in voltmeter. Easy to make high voltage adjustments: unit is small enough to fit in tool box or caddy. No batteries. Sensitivity 20,000 ohms/volts (50 ua) movement Accuracy: ±3% full scale. Length: 14¾" overall. Wt. 8 ounces.

Stk. No.	Type	Volts	Mult. Res.	Net
34F887	2900	30,000	600 Megohm	19.95
34F967	3157*	15,000	300 Megohm	29.95
34F968	3163*	6,000	120 Megohm	29.95

*Supplied with Model 3295 Carrying Case.

10 KVAC TEST PROBE

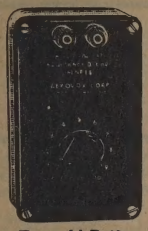


Model 3200. Excellent for testing of high potential AC voltages. Shielded meter movement for protection from stray magnetic fields. SUPPLIED WITH MODEL 3295 CARRYING CASE. Just ground the test probe instrument by attaching aligator clip to chassis, contact test probe tip to high voltage being measured and read voltage from the built-in meter. Range: 10,000 Volts AC. Sensitivity: 2,000 Ohms-Volt (500 UA) movement. Accuracy: ±3% 30 cps to 1000 cps. Multiplier Resistance: 20 Megohm ±2%. Handle is of high impact thermoplastic. Probe—high impact polystyrene. Length: 14¾" overall. Wt. 8 ounces.

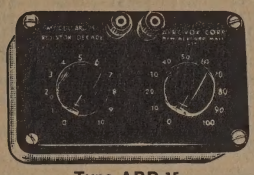
34F970. NET **29.95**

AEROVOX DECADE BOXES

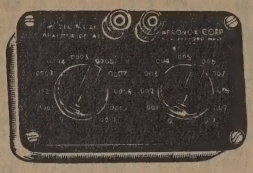
• Provide Accurate Standards of Resistance, Capacitance & Inductance



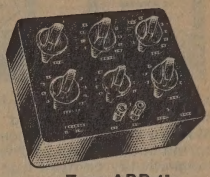
Type ALD-42



Type ARD-15



Type ACD-23



Type ARD-41

All units provide accurate standards of resistance, capacitance, and inductance. Ideal for laboratory and experimental use. Decade boxes of the highest quality are available in ranges most needed for electronic and electrical laboratories for a price below that of equivalent quality standards. Boxes are available in 11 units; 4 resistance decades, 3 capacitance decades, and 4 inductance decades. Face plates are black with white numerals for maximum legibility. Heavy duty construction of seamless, drawn steel and gray enamel housing insure trouble free operation and unimpaired accuracy. Resistance model **ARD-41** is housed in special high impact plastic case which is capable of rugged handling. In "Use" column of the following table, C indicates the Capacitance Decade Box, L the Inductance Decade Box, and R the Resistance Decade Box. Except for ALD-42 the Capacitance Decade Boxes have operating ranges of 400 to 20,000 cps. ALD-42 has a range of 400 to 5,000 cps. The new decade box, ARD-41, has a range of 0 to 1.1 megohms in 1 ohm steps, combining all the three other resistance decades into one compact box. Multiple-dial Capacitance Decade Boxes have the highest value multiplier to the left so that readings are instantly visible.

CAPACITANCE

Stock No.	Mfr. Type	Use	Dielectric	Dials	Range	Steps	Accuracy ± 1st Dial	Accuracy ± 2nd Dial	Rating 1st Dial	Rating 2nd Dial	NET
62F1300	ACD-13	C	Mica	2	0 to .011 mfd.	0.0001 mfd.	3%	3%	600 VDC 220 VAC	600 VDC 220 VAC	19.50
62F1301	ACD-23	C	Oil-Paper	2	0 to 1.1 mfd.	0.01 mfd.	3%	3%	600 VDC 220 VAC	600 VDC 220 VAC	23.25
62F1302	ACD-33	C	Oil-Paper	3	0 to 10.0 mfd.	1.0 mfd.	3%	3%	600 VDC 220 VAC	....	28.50

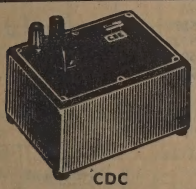
INDUCTANCE

Stock No.	Mfr. Type	Use	Dielectric	Dials	Range	Steps	Accuracy ± 1st Dial	Accuracy ± 2nd Dial	Rating 1st Dial	Rating 2nd Dial	NET
62F1303	ALD-12	L	Toroidal	1	0 to 10 mh.	1.0 mh.	2%	....	250 MaDC	.....	29.90
62F1304	ALD-22	L	Toroidal	1	0 to 100 mh.	10.0 mh.	2%	....	79 MaDC	.....	29.90
62F1305	ALD-32	L	Toroidal	1	0 to 1.0 hy.	100.0 mh.	2%	....	25 MaDC	.....	32.40
62F1306	ALD-42	L	Toroidal	1	0 to 10.0 hy.	1.0 hy.	2%	....	8 MaDC	.....	35.50

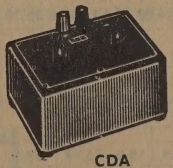
RESISTANCE

Stock No.	Mfr. Type	Use	Dielectric	Dials	Range	Steps	Accuracy ± 1st Dial	Accuracy ± 2nd Dial	Rating 1st Dial	Rating 2nd Dial	NET
62F1307	ARD-15	R	Wire-Wound	2	0 to 110 ohms	1.0 ohms	5%	3%	1.0 Amp.	0.5 Amp.	22.85
62F1308	ARD-23	R	Wire-Wound	2	0 to 11 K	100 ohms	3%	3%	100 Ma.	50 Ma.	22.50
62F1309	ARD-31	R	Carbon Deposited	2	0 to 1.1 meg	10K ohms	1%	1%	5 Ma.	2 Ma.	23.80
62F1310	ARD-41	R	Wire-Wound & Metal Film	6	0 to 1.1 meg	1.0 ohms	1%	1%	1st Dial 2 Ma. 2nd Dial 5 Ma. 3rd Dial 15 Ma.	4th Dial 50 Ma. 5th Dial 150 Ma. 6th Dial 500 Ma.	44.95

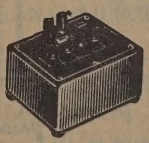
CORNELL-DUBILIER TEST EQUIPMENT



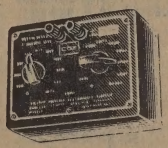
CDC



CDA



CDE



RDA

CDT

CAPACITOR AND RESISTOR DECADES

CDC, CDA & CDE Capacitor and RDA Resistor decade boxes provide accurate source of precision values for breadboarding and substitution. Common size heat and shock-resistant phenolic individual boxes, direct-reading value ranges, six-way molded nylon terminal posts, and calibration chart for capacitance boxes, these handy units are widely used in electronic and electical application work. Size: $3\frac{13}{16}$x5x$3\frac{5}{8}$, weight 2 lbs.

Stock No.	Model	Max. Cap. Mfd.	Steps Mfd.	1-9	10-Up
62F645	CDB-3	1.1	0.01	17.28	15.80
62F646	CDC-3	10.0	1.0	28.61	26.20
62F647	CDE	150	10	17.00	15.80

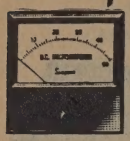
Stock No.	Model	Res. Ohms	Steps Ohms	1-9	10-Up
62F655	RDA	1-110	1	19.82	18.15
62F656	RDB	100-11K	100	21.87	19.99
62F654	RDC	10K-1meg	10K	19.64	17.95

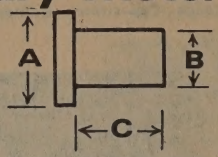
CDT TANTALUM BOX

CDT decade capacitors provide a reliable source of precision selected capacitance for substitution purposes in a wide variety of applications. Features CDE capacitors, smooth range selection, & heat- and shock-resistant phenolic cases. Capacitance tol: ±5% (10-100 mfd.), ±10% (100-1000 mfd.). Capacitor Dielectric: Polarized Tantalum Foil—10-100 mfd. Plain: 100-1000 mfd. etched. Maximum Voltage: 50 VDC Polarized Capacitance, mfd.: Min.—10; Max.—1100; Step—10. 2 Rotary Switches. Shipping Weight: 7 lbs.

62F638. NET **139.54**

Simpson Century Meter Series





Size Chart

Model	A	B	C	Model	A	B	C
2121	1-½"	1.51	2.04	2153	3-½"	2.69	2.04
2122	2-½"	2.16	2.04	2154	4-½"	2.69	2.04
2123	3-½"	2.69	2.04	2143	3-½"	2.69	2.04
2124	4-½"	2.69	2.04	2144	4-½"	2.69	2.04
2152	2-½"	2.16	2.04				

Annular panel instrument construction. Century Series panel instruments have rugged phenolic cases and glass windows. Movements have stay-accurate dependability. DC movements have spring-backed pivot and jewel. AC movements have self shielding magnetically damped iron vane.

Damping is achieved by moving a metal vane through a magnetic field. This motion induces currents in the vane which sets up magnetic fields opposing those of the stationary magnets thus tending to bring the pointer to rest.

DC AMPS

Range	Model 2121 1½	1-9	10-24	25-49	50-Up	Model 2122 2½"	1-9	10-24	25-49	50-Up	Model 2123 3½"	1-9	10-24	25-49	50-Up	Model 2124 4½"	1-9	10-24	25-49	50-Up
0-1	55F5402					. . .					55F5258					52F5267				
0-3	. . . . .					55F5252					55F5259					. . .				
0-5	55F5403	19.80	17.82	16.83	15.84	55F5253	20.25	18.23	17.21	16.20	55F5260	21.15	19.04	17.98	16.92	52F5268	22.95	20.66	19.51	18.36
0-10	55F5404					55F5254					55F5261					52F5269				
0-15	. . .					55F5255					55F5262					52F5270				
0-25	. . .					55F5256					55F5263					. . .				
0-30	. . .					. . .					. . .					52F5271				
0-50	. . .					55F5257					55F5264					52F5272				
0-100	. . .					. . .					55F5265					52F5273				
0-200	. . .					. . .					55F5266					. . .				

DC MILLIAMPS

Range	Model 2121 1½	1-9	10-24	25-49	50-Up	Model 2122 2½"	1-9	10-24	25-49	50-Up	Model 2123 3½"	1-9	10-24	25-49	50-Up	Model 2124 4½"	1-9	10-24	25-49	50-Up
0-1	55F5414	18.90	17.01	16.07	15.12	55F5332					55F5340					55F5350	21.90	19.71	18.62	17.52
0-3	. . .	. . . .	. . . .	. . . .	. . . .	. . .					55F5341					. . . . .	. . . .	. . . .	. . . .	. . . .
0-5	. . .	. . . .	. . . .	. . . .	. . . .	55F5333	19.95	17.96	16.92	15.92	55F5342	20.55	18.50	17.47	16.44	55F5351	21.90	19.71	18.62	17.52
0-10	55F5415	18.90	17.01	16.07	15.12	55F5334					55F5343					55F5352	21.90	19.71	18.62	17.52
0-25	. . .	. . .	. . .	. . .	. . .	55F5335					55F5344					. . . . .	. . . .	. . . .	. . . .	. . . .
0-50	. . .	. . .	. . .	. . .	. . .	55F5336					55F5345					55F5353	22.95	20.66	19.51	18.36
0-100	55F5416	19.80	17.82	16.83	15.84	55F5337	20.25	18.23	17.21	16.20	55F5346	21.15	19.04	17.98	16.92	55F5354	22.95	20.66	19.51	18.36
0-200	. . .	. . .	. . .	. . .	. . .	55F5338					55F5347					. . . . .	. . . .	. . . .	. . . .	. . . .
0-300	. . .	. . .	. . .	. . .	. . .	. . . . .					55F5348					. . . . .	. . . .	. . . .	. . . .	. . . .
0-500	. . .	. . .	. . .	. . .	. . .	55F5339					55F5349					55F5355	22.95	20.66	19.51	18.36

DC MICROAMPS

Range	Model 2121 1½	1-9	10-24	25-49	50-Up	Model 2122 2½"	1-9	10-24	25-49	50-Up	Model 2123 3½"	1-9	10-24	25-49	50-Up	Model 2124 4½"	1-9	10-24	25-49	50-Up
0-50	. . .	. . .	. . .	. . .	. . .	55F5300	25.65	23.09	21.80	20.52	55F5309	26.10	23.49	22.19	20.88	55F5322	28.20	25.38	23.97	22.56
0-100	55F5405	22.05	19.85	18.74	17.64	55F5301	22.95	20.66	19.51	18.36	55F5311	24.00	21.60	20.40	19.20	55F5324	26.70	24.03	22.70	21.36
0-200	. . . .	. . . .	. . . .	. . . .	. . . .	55F5302	20.85	18.77	17.72	16.68	55F5313	21.90	19.71	18.62	17.52	55F5326	30.00	27.00	25.50	24.00
0-500	55F5406	19.80	17.82	16.83	15.84	55F5303	20.55	18.50	17.47	16.44	55F5314	21.90	19.71	18.62	17.52	55F5327	23.40	21.06	19.89	18.72
25-0-25	55F5407	24.90	22.41	21.17	19.92	. . .	. . .	. . .	. . .	. . .	55F5315	26.40	23.76	22.44	21.12	55F5328	28.35	25.52	24.10	22.68
50-0-50	55F5408	22.35	20.12	19.00	17.88	55F5304	23.40	21.06	20.19	19.02	55F5316	24.00	21.60	20.40	19.20	55F5329	26.85	24.17	22.82	21.48
100-0-100	55F5409	20.25	18.23	17.21	16.20	55F5305	21.15	19.04	17.98	16.92	55F5317	22.05	19.85	18.74	17.64	55F5330	24.30	21.87	20.66	19.44
500-0-500	. . .	. . . .	. . .	. . .	. . .	. . .	. . . .	. . .	. . .	. . .	55F5318	20.85	18.77	17.72	16.68	55F5331	22.05	19.85	18.74	17.64

DC VOLTS

Range	Model 2121 1½	1-9	10-24	25-49	50-Up	Model 2122 2½"	1-9	10-24	25-49	50-Up	Model 2123 3½"	1-9	10-24	25-49	50-Up	Model 2124 4½"	1-9	10-24	25-49	50-Up
0-5	55F5410	19.80	17.82	16.83	15.84	55F5357					55F5366					. . . . .				
0-10	55F5411	19.80	17.82	16.83	15.84	55F5358					55F5367					55F5376				
0-15	55F5412	19.80	17.82	16.83	15.84	55F5359					55F5368					55F5377				
0-25	. . . . .	. . . .	. . . .	. . . .	. . . .	55F5360					55F5369					. . . .				
0-30	55F5413	19.80	17.82	16.83	15.84	55F536.	21.15	19.04	17.98	16.92	55F5370	24.00	21.60	20.40	19.20	55F5378	21.90	19.71	18.62	17.52
0-50	. . . . .	. . . .	. . . .	. . . .	. . . .	55F5362					55F5371					55F5379				
0-100	. . . . .	. . . .	. . . .	. . . .	. . . .	55F5363					55F5372					55F5380				
0-150	. . . . .	. . . .	. . . .	. . . .	. . . .	55F5364					55F5373					55F5381				
0-300	. . . . .	. . . .	. . . .	. . . .	. . . .	55F5365					55F5374					. . . .				
0-500	. . . . .	. . . .	. . . .	. . . .	. . . .	. . . . .					55F5375					. . . .				

DC MILLIVOLTS

Range	Model 2121 1½	1-9	10-24	25-49	50-Up	Model 2122 2½"	1-9	10-24	25-49	50-Up	Model 2123 3½"	1-9	10-24	25-49	50-Up	Model 2124 4½"	1-9	10-24	25-49	50-Up
0-50	. . . .	. . . .	. . . .	. . . .	. . . .	55F5397	19.20	17.28	16.32	15.36	. . . . .	. . . .	. . . .	. . . .	. . . .	55F5398	22.95	20.66	19.51	18.36

AC AMPS

Range	Model 2152 2½"	1-9	10-24	25-49	50-Up
0-1	55F5274	18.15	16.34	15.43	14.52
0-5	55F5275	18.15	16.34	15.43	14.52
0-10	55F5276	18.15	16.34	15.43	14.52
0-15	55F5277	18.15	16.34	15.43	14.52
0-25	55F5278	18.90	17.01	16.07	15.12
0-30	55F5279	18.90	17.01	16.07	15.12
0-50	55F5280	18.90	17.01	16.07	15.12
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .

Range	Model 2153 3½"	1-9	10-24	25-49	50-Up
0-1	55F5281	19.20	17.28	16.32	15.36
0-2	55F5282	19.20	17.28	16.32	15.36
0-3	55F5283	19.20	17.28	16.32	15.36
0-5	55F5284	19.20	17.28	16.32	15.36
0-10	55F5285	19.20	17.28	16.32	15.36
0-15	55F5286	19.20	17.28	16.32	15.36
0-25	55F5287	19.20	17.28	16.32	15.36
0-50	55F5288	19.95	17.96	16.92	15.92
0-75	55F5289	19.95	17.96	16.92	15.92
0-100	55F5290	19.20	17.28	16.32	15.36

Range	Model 2154 4½"	1-9	10-24	25-49	50-Up
0-5	55F5291	20.40	18.36	17.34	16.32
0-10	55F5292	20.40	18.36	17.34	16.32
0-15	55F5293	20.40	18.36	17.34	16.32
0-25	55F5294	21.15	19.04	17.98	16.92
0-50	55F5295	21.15	19.04	17.98	16.92
0-150	55F5296	20.40	18.36	17.34	16.32
0-200	55F5297	20.40	18.36	17.34	16.32
0-300	55F5298	20.40	18.36	17.34	16.32
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .

AC VOLTS

Range					
0-10	55F5382	19.20	17.28	16.32	15.36
0-15	55F5383	19.20	17.28	16.32	15.36
0-300	55F5384	20.10	18.09	17.09	16.08
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .

Range					
0-10	55F5385	20.10	18.09	17.09	16.08
0-15	55F5386	20.10	18.09	17.09	16.08
0-150	55F5387	21.60	20.44	18.36	17.28
0-250	55F5388	21.60	20.44	18.36	17.28
0-300	55F5389	21.60	20.44	18.36	17.28

Range					
0-150	55F5392	22.95	20.66	19.51	18.36
0-250	55F5393	22.95	20.66	19.51	18.36
0-300	55F5394	22.95	20.66	19.51	18.36
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .
. . . . .	. . . . .	. . . .	. . . .	. . . .	. . . .

Century Series Continued On Next Page

Century and Bold-Vue Meters Series Simpson

CENTURY SERIES PANEL METERS (Continued)

AC RECTIFIED VOLTS

Range	Model 2143 3½"	1-9	10-24	25-49	50-Up
0-150	55F5234	28.80	25.92	24.48	23.04

Range	Model 2144 4½"	1-9	10-24	25-49	50-Up
0-150	55F5237	31.95	28.76	27.16	25.56

SEGMENTAL VOLTS

Range	Model 2143 3½"	1-9	10-24	25-49	50-Up
100-130	55F5235	63.00	56.70	53.65	50.40

Range	Model 2144 4½"	1-9	10-24	25-49	50-Up
100-130	55F5238	63.45	57.11	53.93	50.76

"A" SCALE

Range	Model 2143 3½"	1-9	10-24	25-49	50-Up
VU	55F5236	34.20	30.78	29.07	27.36

Range	Model 2144 4½"	1-9	10-24	25-49	50-Up
VU	55F5239	37.20	33.48	31.52	29.76

DC MICROAMP TAUT BAND

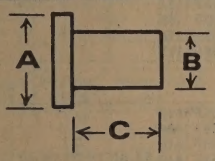
Range	Model 2122 2½"	1-9	10-24	25-49	50-Up
0-10	.....				
0-15	.....				
0-25	55F5299	35.40	31.86	29.09	27.32
0-50	.....				
0-100	.....				

Range	Model 2123 3½"	1-9	10-24	25-49	50-Up
0-10	55F5306	42.75	38.48	36.34	34.20
0-15	55F5307	38.25	34.43	32.51	30.06
0-25	55F5308	37.05	33.35	31.49	29.64
0-50	55F5310	28.35	25.52	24.10	22.68
0-100	55F5312	26.10	23.49	22.19	20.88

Range	Model 2124 4½"	1-9	10-24	25-49	50-Up
0-10	55F5319	46.20	41.58	39.27	36.96
0-15	55F5320	41.70	37.53	35.45	33.36
0-25	55F5321	40.20	36.18	34.17	32.16
0-50	55F5323	30.45	27.41	25.88	24.36
0-100	55F5325	28.80	25.92	24.48	23.04

DC GALVANOMETER

Range	Model 2122 2½"	1-9	10-24	25-49	50-Up
500-0-500	55F5356	19.95	17.96	14.96	13.96



SIZE CHART

Model	A	B	C
1222	2.69	2.17	1.19
1223	3.50	2.75	1.19
1252	2.69	2.17	1.19
1253	3.50	2.75	1.19

NEWARK FOR ALL YOUR ELECTRONIC NEEDS

An answer to customer requests for a three hole mount with bold appearance. Easy to read numerals and is self-shielded. Accuracy ±2%. Terminals 10-32 studs. All models are supplied with necessary mounting and terminal hardware. Molded black phenolic case with high temperature plastic cover—black trim. Shpg. Wt. 1222—10½ Oz. 1223—12½ Oz. 1252—10 Oz. 1253—12½ Oz.

D.C. AMPS

Model 1222-2½"

Ranges	Stk. No.	1-9	10-24	25.49	50-up
....	.....	....	....	....	....
0-5	55F5203	20.25	18.23	17.21	16.20
0-10	55F5204	20.25	18.23	17.21	16.20

Model 1223—3½"

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-1	55F5200	19.20	17.28	16.32	15.36
0-5	55F5201	19.20	17.28	16.32	15.36
0-10	55F5202	19.20	17.28	16.32	15.36

D.C. MILLIAMPS

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-1	55F5217	19.95	17.96	14.96	13.96
...	.....	....	....	....	....
...	.....	....	....	....	....
...	.....	....	....	....	....

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-1	55F5218	20.55	18.50	17.47	16.44
0-50	55F5219	20.55	18.50	17.47	16.44
0-100	55F5220	21.15	19.04	17.98	16.92
0-500	55F5221	21.15	19.04	17.98	16.92

D.C. MICROAMPS

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-50	55F5222	25.65	23.09	21.80	20.52
0-100	52F5223	22.95	20.66	19.51	18.36
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
50-0-50	55F5224	23.40	21.06	20.19	19.02
.....	.....	.....	.....	.....	.....

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-50	55F5225	26.10	23.49	21.19	20.88
0-100	55F5226	24.00	21.60	20.40	19.20
0-200	55F5227	21.90	19.71	18.62	17.52
25-0-25	55F5228	26.40	23.76	22.40	21.12
50-0-50	55F5229	24.00	21.60	20.40	19.20
100-0-100	55F5230	22.05	19.85	18.74	17.64

D.C. VOLTS

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-10	55F5208	21.15	19.04	17.98	16.92
....	.....	.....	.....	....	.....
0-30	55F5209	21.15	19.04	17.98	16.92
0-50	55F5210	21.15	19.04	17.98	16.92
....	.....	.....	.....	.....	.....
....	.....	.....	.....	.....	.....

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-10	55F5211				
0-15	55F5212				
0-30	55F5213	21.90	19.71	18.62	17.52
0-50	55F5214				
0-100	55F5215				
0-150	55F5216				

A.C. AMPS

Model 1252—2½"

Ranges	Stk. No.	1-9	10-24	25-49	50-Up
0-5	55F5205	16.50	14.85	14.03	13.20
....	....	.....	.....	.....	.....

Model 1253—3½"

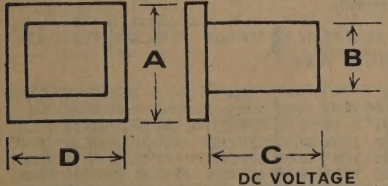
Ranges	Stk. No.	1-9	10-24	25-49	50-up
0-5	55F5206	17.40	15.66	14.79	13.92
0-50	55F5207	18.00	16.20	15.30	14.40

A.C. VOLTS

Range	Stk. No.	1-9	10-24	25-49	50-Up
0-150	55F5231	20.10	18.09	17.09	16.08
.....	.....	.....	.....	.....	.....

Ranges	Stk. No.	1-9	10-24	25-49	50-up
0-150	55F5232	21.60	19.44	18.36	17.28
0-300	55F5233	21.60	19.44	18.36	17.28

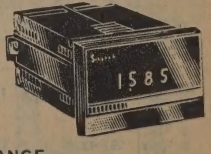
DIGITAL PANEL METER



Size Chart

Model 2800	
A	3.00"
B	2.77"
C	7.56"
D	4.87"

Model 2800. Digital instrument. Non-blinking readouts assure fast, clear readings. Solid state circuitry (except for readout tubes. Accuracy ±0.1% (F.S.) ±1 digit. 5 readings per sec. 3 full time readout digits. Greater than 90 dB at 60HZ, Temp. range +15C to +35C. Power req. 117v.60HZ 9VA.



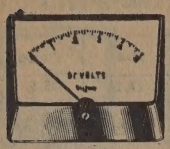
DC VOLTAGE

Stk. No.	Range	Input Imp.	Max. Indic.	NET
62F2304	00.0-99.9 Millivolts	1.0 K	199.9 MV	210.00
62F2305	.000-.999 Volts	100 K	1.999 V	210.00
62F2306	0.00-9.99 Volts	1 Meg.	19.99 V	210.00
62F2307	00.0-99.9 Volts	1 Meg.	199.9 V	210.00
62F2308	000. -999. Volts	1 Meg.	1010. V	210.00

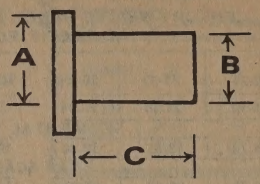
DC CURRENT RANGE

Stk. No.	Range	Voltage Drop	Max. Indic.	NET
62F2309	0.00-9.99 microamp	50 MV	19.99 MA	210.00
62F2310	00.0-99.9 microamp	50 MV	199.9 MA	210.00
62F2311	.000-.999 milliamp	50 MV	1.999 MA	210.00
62F2312	0.00-9.99 milliamp	50 MV	19.99 MA	210.00
62F2313	00.0-99.9 milliamp	50 MV	199.9 MA	210.00

Simpson "Wide-Vue" Panel Meters



All meters have self shielded type movement (calibration not affected by stray magnetic fields or magnetic fields or magnetic mounting.) DC ammeters up to 50 amps are self contained. All meters are accurate ±2% of F.S. Plastic covers for maximum protection of meter face. Average shipping weight 1 lb.



SIZE CHART			
Model	A	B	C
1212	1.76"	1.50"	.87"
1227	2.47"	2.17"	1.06"
1327	3.25"	2.73"	1.08"
1329	4.68"	2.75"	1.08"

DC AMMETERS- Self-Shielding Type Movement

Range	1212 1½"	1-9	10-24	25-49	50-UP	1227 2½"	1-9	10-24	25-49	50-Up	1327 3½"	1-9	10-24	25-49	50-Up	1329 4½"	1-9	10-24	25-49	50-Up
0-1	55F447					55F1172					55F1559					55F1609				
0-1.5	. . . . .					55F1173					55F1181					55F1191				
0-2	55F448					55F1174					55F1560					55F1610				
0-3	55F449					55F1175					55F1561					55F1611				
0-5	55F466					55F1512					55F1562					55F1612				
0-10	55F467					55F1513					55F1563					55F1613				
0-15	. . . . .	19.80	17.82	16.83	15.84	55F1176	20.25	18.23	17.21	16.20	55F1564	21.15	19.04	17.98	16.92	55F1614	22.95	20.66	19.51	18.36
0-25	. . . . .					55F1177					55F1565					55F1615				
0-30	. . . . .					55F4852					55F1182					55F1192				
0-50	. . . . .					55F1178					55F1566					55F1616				
0-100	. . . . .					55F1179					55F1183					55F1193				
0-150	. . . . .					55F1180					55F1184					55F1194				
0-200	. . . . .					. . . . .					55F1185					55F1195				
0-300	. . . . .					. . . . .					55F1186					55F1196				
0-500	. . . . .					. . . . .					55F1187					55F1197				

DC MILLIAMMETERS Self-Shielding Type Movement

0-1	55F481					55F1517					55F1567					55F1617				
0-3	. . . . .					55F1198					55F2501					55F2506				
0-5	55F482					55F1518					55F1568					55F1618				
0-10	55F483	18.90	17.01	16.07	15.12	55F1519	19.95	17.96	16.92	15.92	55F1569	20.55	18.50	17.47	16.44	55F1619	21.90	19.71	18.62	17.52
0-15	55F484					55F1199					55F2502					55F2507				
0-20	. . . . .					. . . . .					55F2503					55F2508				
0-25	55F485					55F1520					55F1570					55F1620				
0-50	55F486					55F1521					55F1571					55F1621				
0-100	55F487					55F1522					55F1572					55F1622				
0-150	55F488					55F1523					55F1573					55F1623				
0-200	55F489	19.80	17.82	16.83	15.84	55F1524	20.25	18.23	17.21	16.20	55F1574	21.15	19.04	17.98	16.92	55F1624	22.95	20.66	19.51	18.36
0-250	55F490					55F2500					55F1575					55F1625				
0-300	55F491					55F1526					55F1576					55F1626				
0-500	55F492					55F1527					55F1577					55F1627				
0-750	. . . . .					. . . . .					55F2504					55F2509				
0-1000	. . . . .					. . . . .					55F2505					55F2510				

DC MICROAMMETERS Self-Shielding Type Movements

0-50	55F473	24.75	22.28	20.24	19.80	55F1529	25.65	23.09	21.80	20.52	55F1579	26.10	23.49	22.19	20.88	55F1629	28.20	25.38	23.97	22.56
0-100	55F474	22.05	19.85	18.74	17.64	55F1530	22.95	20.66	19.51	18.36	55F1580	24.00	21.60	20.40	19.20	55F1630	26.70	24.03	22.70	21.36
0-200	55F475	20.10	18.09	17.09	16.08	55F1531	20.85	18.77	17.72	16.68	55F1581	21.90	19.71	18.62	17.52	55F1631	24.00	21.60	20.40	19.20
0-500	55F476	19.80	17.82	16.83	15.84	55F1532	20.55	18.50	17.47	16.44	55F1582	21.60	19.44	18.36	17.28	55F1632	23.40	21.06	19.89	18.72
25-0-25	55F477	24.90	22.41	21.17	19.92	. . . . .	. . .	. . .	. . .	. . .	55F2512	26.40	23.76	22.44	21.12	55F2516	28.35	25.52	24.10	22.68
50-0-50	55F478	22.35	20.12	19.00	17.88	55F1533	23.40	21.06	20.19	19.02	55F1583	24.00	21.60	20.40	19.20	55F1633	26.85	24.17	22.82	21.48
100-0-100	55F479	20.25	18.23	17.21	16.20	55F4850	21.15	19.04	17.98	16.92	55F2513	22.05	19.85	18.74	17.64	55F2517	24.30	21.87	20.66	19.44
500-0-500	55F480	19.20	17.28	16.32	15.36	55F4851	20.10	18.09	17.09	16.08	55F2514	20.85	18.77	17.72	16.68	55F2518	22.05	19.85	18.74	17.64

DC VOLTMETERS Self-Shielding Type Movements

0-5	55F436					55F1143					55F1146					55F1166				
0-8	. . . . .					. . . . .					55F1147					55F1167				
0-10	55F437					55F1500					55F1550					55F1600				
0-15	55F438					55F1501					55F1551					55F1601				
0-25	55F439					55F1502					55F1552					55F1602				
0-30	55F440	19.80	17.82	16.83	15.84	55F1503	21.15	19.04	17.98	16.92	55F1553	21.90	19.71	18.62	17.52	55F1603	24.00	21.60	20.40	19.20
0-50	55F441					55F1504					55F1554					55F1604				
0-100	55F442					55F1505					55F1555					55F1605				
0-150	55F443					55F1506					55F1556					55F1606				
0-200	. . . . .					. . . . .					55F1148					55F1168				
0-250	. . . . .					. . . . .					55F1149					55F1169				
0-500	. . . . .					55F1508	21.90	19.71	18.62	17.52	55F1558	22.95	20.66	24.75	22.28	55F1608	24.75	22.28	20.24	19.80
0-750	. . . . .					55F1144	26.70	24.03	22.70	21.36	55F1164	22.95	20.66	24.75	22.28	55F1170	24.75	22.28	20.24	19.80
0-1000	. . . . .					55F1145	27.45	24.71	23.33	21.96	55F1165	28.35	25.52	30.30	27.27	55F1171	30.30	27.27	25.76	24.24

DC MILLIVOLTMETERS Self-Shielding Type Movements

0-50	55F446	19.80	17.82	16.83	15.84	55F1637	20.25	18.23	17.21	16.20	55F1638	21.15	19.04	17.98	16.92	55F1639	22.95	20.66	19.51	18.36

DC MICROAMMETERS—TAUT BAND

Range	1212T 1¼"	1-9	10-24	25-49	50-Up	1227T 2½"	1-9	10-24	25-49	50-Up	1327T 3½"	1-9	10-24	25-49	50-Up	1329T 4½"	1-9	10-24	25-49	50-Up
0-5	. . .	. .	. . .	. . .	. .	. . . . .	. . .	. . .	. . .	. . .	55F4329	48.60	43.74	41.31	38.88	55F4331	51.60	46.44	43.86	41.28
0-10	. . .	. . .	. . .	. . .	. .	55F2223	40.95	36.86	34.81	32.76	55F2228	42.75	38.48	36.34	34.20	55F2233	46.20	41.58	39.27	36.96
0-15	55F4348	37.20	33.48	31.52	29.7	55F2224	37.20	33.48	31.52	29.76	55F2229	38.25	34.43	32.51	30.06	55F2234	41.70	37.53	35.45	33.36
0-25	55F4349	34.65	31.19	29.45	27.7	55F2225	35.40	31.86	30.09	28.32	55F2230	37.05	33.35	31.49	29.64	55F2235	40.20	36.18	34.17	32.16
0-50	55F4350	27.15	24.44	23.08	21.7	55F2226	27.75	24.98	23.59	22.20	55F2231	28.35	25.52	24.10	22.68	55F2236	30.45	27.41	25.88	24.36
0-100	55F4351	24.30	21.87	20.66	19.4	55F2227	25.20	22.68	21.42	20.16	55F2232	26.10	23.49	22.19	20.88	55F2237	28.80	25.92	24.48	23.04
0-200	55F4352	22.50	20.25	19.13	18.0	55F4328	23.70	21.33	20.15	18.96	55F4330	24.60	22.14	20.11	19.68	55F4332	27.15	24.44	23.08	21.72

NEWARK—For Dependable Service

Range Microamps	Ohms. Res.	Stk. No.	8" Model 728 T 1-9	10-24	25-49	50-Up
0-100	500	55F4335	39.45	35.51	33.53	31.56

Wide Vue Panel Meters Simpson

DC GALVANOMETERS

Models 1227 and 1327 Wide-Vue type with 2.5" and 3.04" scale length respectively and self-shielding type movement Model 1227 has Iron-Vane type external movement. When ordering for use on steel panel specify panel thickness and add $1.65 for recalibration. Model 1227 scale length 1.8". All are accurate within 2% F.S., have rect. faces. Range 50-0-50. Average shipping wt., 1 lb.

Sensitivity-Microamps	Res. Ohms	Model 1227 2½"	1-9	10-24	25-49	50-Up	Model 1327 3½"	1-9	10-24	25-49	50-Up
500-0-500	43	55F1548	19.95	17.96	14.96	13.96	55F1598	19.95	17.96	14.96	13.96
75-0-75	1800	55F1549	21.60	19.44	18.36	17.28	55F1599	23.40	21.06	19.89	18.72

AC MILLIAMMETERS—Magnetically Damped Movements

Range Ma.	Approx. Resis.	Model 1257 2½"	1-9	10-24	25-49	50-up	Model 1357 3½"	1-9	10-24	25-49	50-Up	Model 1359 4½"	1-9	10-24	25-49	50-up
0-50	80	.....	.....	.....	.....	.....	55F2539	19.20	17.28	16.32	15.36	55F2543	20.40	18.36	17.34	16.32
0-100	20	.....	.....	.....	.....	.....	55F2540	19.20	17.28	16.32	15.36	55F2544	20.40	18.36	17.34	16.32
0-250	5	.....	.....	.....	.....	.....	55F2541	19.20	17.28	16.32	15.36	.....	.....	.....	.....	.....
0-500	.9	55F2538	18.15	16.34	15.42	14.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

RF AMMETERS— Self Shielding Meter Movements

Range Amps	Approx. Resis.	Model 1337 3½"	1-9	10-24	25-49	50-Up	Model 1339 4½"	1-9	10-24	25-49	50-Up
0-1	.343	55F2242	24.30	21.87	20.66	19.44	55F2245	27.75	24.98	23.59	22.20
0-1.5	.200	55F2243	24.30	21.87	20.66	19.44	55F2246	27.75	24.98	23.59	22.20

AC VOLTMETERS—Magnetically Damped Movements

Range Volts	Approx. Resis.	Model 1257 2½"	1-9	10-24	25-49	50-Up	Model 1357 3½"	1-9	10-24	25-49	50-Up	Model 1359 4½"	1-9	10-24	25-49	50-Up
5	33	.....	.....	.....	.....	.....	55F2524	20.10	18.09	17.09	16.08	55F2531	22.50	20.25	19.13	18.00
0-10	133	55F1534	19.20	...	16.32	15.36	55F1584	20.10	18.09	17.09	16.08	55F1634	22.50	20.25	19.13	18.00
0-15	300	55F4800	19.20	...	16.32	15.36	55F2525	20.10	18.09	17.09	16.08	55F2532	22.50	20.25	19.13	18.00
0-25	833	55F2522	19.20	17.28	16.32	15.36	55F2526	20.10	18.09	17.09	16.08	55F2533	22.50	20.25	19.13	18.00
0-50	3,333	55F2523	19.20	17.28	16.32	15.36	55F2527	20.10	18.09	17.09	16.08	55F2534	22.50	20.25	19.13	18.00
0-100	16,666	.....	19.80	17.82	16.83	15.84	55F2528	20.85	18.77	17.22	16.68	55F2535	22.50	20.25	19.13	18.00
0-150	25,000	55F1535	20.10	18.09	17.09	16.08	55F1585	21.60	19.44	18.36	17.28	55F1635	22.95	20.66	19.51	18.36
0-250	41,166	55F4802	20.10	18.09	17.09	16.08	55F2529	21.60	19.44	18.36	17.28	55F2536	22.95	20.66	19.51	18.36
0-300	50,000	55F1536	20.10	18.09	17.09	16.08	55F1586	21.60	19.44	18.36	17.28	55F1636	22.95	20.66	19.51	18.36
0-500	83,333	.....	25.65	23.09	21.80	20.52	55F2530	27.30	24.57	23.21	21.84	55F2537	22.95	20.66	19.51	18.36

*REQUIRE EXTERNAL CURRENT TRANS. AMMETERS—Magnetically Damped Type Movements

0-1	.287	55F2580	18.15	16.34	15.43	14.52	55F1537					55F1587				
0-1-5	.185	55F2581	18.15	16.34	15.43	14.52	55F2588					55F2595				
0-2	.115	.....	.....	.....	.....	.....	55F2589					55F2596				
0-3	.027	.....	.....	.....	.....	.....	55F2590	19.20	17.28	16.32	15.36	55F2597	20.40	18.36	17.34	16.32
0-5	.012	55F2582	18.15	16.34	15.43	14.52	55F1538					55F1588				
0-10	.0031	55F2583	18.15	16.34	15.43	14.52	55F1539					55F1589				
0-15	.0022	55F2584	18.15	16.34	15.43	14.52	55F1540					55F1590				
0-25	.0003	55F2585	18.15	16.34	15.43	14.52	55F1541	19.95	17.96	16.92	15.92	55F1591	21.15	19.04	17.98	16.92
0-50	.0006	55F2586	18.15	16.34	15.43	14.52	55F1542	19.95	17.96	16.92	15.92	55F1592	21.15	19.04	17.98	16.92
0-75	.0005	.....	.....	.....	.....	.....	55F1008	21.60	19.44	18.36	17.28	55F1009	22.95	20.66	19.51	18.36
0-100*	.012	.....	.....	.....	.....	.....	55F2591	19.20	17.28	16.32	15.36	55F2598	20.40	18.36	17.34	16.32
0-150*	.012	.....	.....	.....	.....	.....	55F2592	19.20	17.28	16.32	15.36	55F2599	20.40	18.36	17.34	16.32
0-200*	.012	.....	.....	.....	.....	.....	55F2593	19.20	17.28	16.32	15.36	55F2600	20.40	18.36	17.34	16.32
0-300*	.012	55F2587	18.15	16.34	15.43	14.52	55F2594	19.20	17.28	16.32	15.36	55F2601	20.40	18.36	17.34	16.32

AC VOLTMETERS—RECTIFIER TYPE

Rectifier type instruments accurate to ±3%. Models 1247, and 1257 mount in 2.17" dia. holes. Models 1347, and 1357 mount in 2.73" dia. hole. Models 1349, and 1359 mount in 2.75" dia. holes. Cover is clear methyl methacrylate. Avg. Shpg. wt.: 1 lb.

Range Volts	Model 1214 1½"	1-9	10-24	25-49	50-Up	Model 1247 2½"	NET	Model 1347 3½"	1-9	10-24	25-49	50-up	Model 1349 4½"	1-9	10-24	25-49	50-Up
0-5	55F468	27.15	24.44	23.08	21.72	55F712	25.20	55F2602					55F2607	31.95	28.76	27.16	25.56
0-10	.....	....	....	....	....	.....	....	55F2603					55F2608	31.95	28.76	27.16	25.56
0-15	.....	....	....	....	....	.....	....	55F2604	28.80	25.92	24.48	23.04	.....	.....	.....	.....	.....
0-50	.....	....	....	....	....	.....	....	55F2605					.....	.....	.....	.....	.....
0-150	.....	....	....	....	....	55F714	25.20	55F1543					55F-1593	31.95	28.76	27.16	25.56

VOLUME LEVEL INDICATORS—VU METERS

Scale	1214 1½"	1-9	10-24	25-49	50-up	1247 2½"	1-9	10-24	25-49	50-Up	1347 3½"	1-9	10-24	25-49	50-Up	1349 4½"	1-9	10-24	25-49	50-Up
A	55F472	30.30	27.27	25.76	24.24	55F716	33.45	30.11	28.43	26.76	55F1546	34.20	30.78	29.07	27.36	55F2520	37.20	33.48	31.52	29.76
B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	55F1547	34.20	30.78	29.07	27.36	55F2521	37.20	33.48	31.52	29.76

• NEW WIDE VUE MOUNTING BEZEL AND ILLUMINATION KITS

Mounting Bezels, made for wide-vue panel meters and interchangeable with flush and recess type meters of popular styles. Designed for behind panel mounting on material thickness of ⅛" to 3/16". Groove and flange style construction. Each bezel of die cast metal has black enamel satin finish. Is supplied with mounting hardware, template and installation instructions.

Type 1253- use with Models 1327, 1337, 1347, 1357

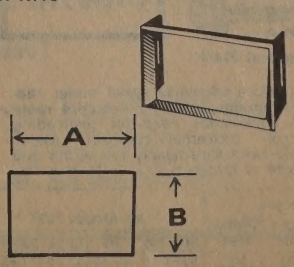
Type 1123- use with Models 1329, 1339 1349, 1359, 1379

SIZE CHART

Model	A	B
1253	3.390	2.078
1123	4.812	2.750

Prices

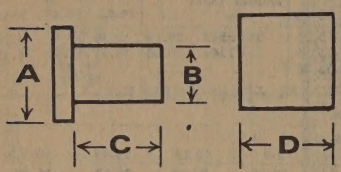
Stk. No.	Type	1-9	10-24	25-49	50-Up
55F4353	1253	2.25	2.03	1.91	1.80
55F4354	1123	2.25	2.03	1.91	1.80



Simpson Panel Meters

DESIGNER SERIES

Model 523. 2% full scale accuracy. Has black phenolic case with glass windows. Supplied with hardware. Model 523 scale length 7-9 mm. Model 524 scale length 89 mm. Shipping wt. 523 11½ oz., 524 12 oz.



SIZE CHART

Model	A	B	C	D
523	2.67	2.16	1.31	3.95
524	2.90	2.16	1.31	4.50

DC AMPERES

Range	Model 523 3½ Inch	1-9	10-24	25-49	50-Up	Model 524 4½ Inch	1-9	10-24	25-49	50-Up
0-10	55F733	21.15	19.04	17.97	16.92					

DC MILLIAMMETERS

0-1	55F729	20.55	18.50	17.47	16.44	55F731	21.90	19.71	18.62	17.52
0-100	.....	.....	.....	.....	.....	55F732	22.95	20.66	19.51	18.36

DC MICROAMMETERS

0-25	55F717	32.40	29.16	27.54	25.92	55F723	35.70	32.13	30.35	28.56
0-50	55F718	26.10	23.49	22.19	20.88	55F724	28.20	25.38	23.97	22.56
0-100	55F719	24.00	21.60	19.60	19.20	55F725	26.70	24.03	22.70	21.36
0-200	.....	....				55F726	24.00	21.60	19.60	19.20
50-0-50	55F721	24.00	21.60	19.60	19.20	55F727	26.85	24.17	22.82	21.48
100-0-100	55F722	22.05	19.85	18.74	17.64	55F728	24.30	21.87	20.66	19.44

DC VOLTS

0-15	55F735	21.90	19.71	18.62	17.52	.....	...	...	...	...
0-30	55F736	21.90	19.71	18.62	17.52	55F740	24.00	21.60	19.60	19.20
0-50	55F737	21.90	19.71	18.62	17.52	.....	...	...	...	...

AC AMPERES

Range	Model 553 3½ Inch	1-9	10-24	25-49	50-Up	Model 554 4½ Inch	1-9	10-24	25-49	50-Up
0-10	55F744	19.20	17.28	16.32	15.36	.....	...	.....	.....	.....

AC VOLTS

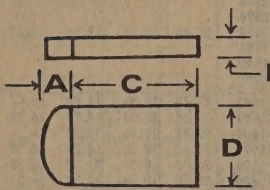
0-150	55F746	21.60	19.44	18.36	17.28	55F756	22.95	20.66	19.51	18.36

VU METER

Range	Model 543 3½ Inch	1-9	10-24	25-49	50-Up	Model 544 4½ Inch	1-9	10-24	25-49	50-Up
'A' Scale	.....	...	...	...	...	55F764	...	....	....	....

EDGEWISE PANEL METERS STACK-HORIZONTALLY OR VERTICALLY

Core magnet meter movement. Self-shielded. Scale length 1⅞". All mounting hardware. DC accuracy ±2% of full scale. Standard scale. Molded lucite case Terminals: solder type (ammeters stud type) Shipping weight 5 ozs.



SIZE CHART

Model	A	B	C	D
1522	.59	.68	2.91	2.50
1542	.59	.68	2.91	2.50

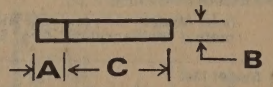
MODEL 1522

Range DC	Stock No.	1-9	10-24	25-49	50-up
0-10 volts 0-15 volts 0-50 volts 0-150 volts	55F2628 55F2629 55F1122 55F1123	21.15	19.04	17.98	16.92
0-5 amperes 0-25 amperes	55F1125 55F2632	22.35	20.12	19.00	17.88
0-1 Milliamperes 0-10 Milliamperes	55F1126 55F1127	20.85	18.77	17.72	16.68
0-25 microamperes	55F2641	31.20	28.08	26.52	24.96
0-50 microamperes	55F1130	27.30	24.57	23.21	21.84
0-100 microamperes	55F1131	24.60	22.14	20.91	19.68
0-200 microamperes	55F2642	22.35	20.12	19.00	17.88
0-500 microamperes	55F2643	21.60	19.44	18.36	17.28

MODEL 1542

VU Meter "A" scale 0-150 AC volts Rect. 1000 Ohms per volt	55F1132	34.65	31.19	29.45	27.72
	55F1141	27.00	24.30	22.95	21.60

Individual Meter



SIZE CHART

Model	A	B	C	D
1921 1½"	.37	.50	2.14	1.69
1622 2½"	.37	.56	2.14	2.31

Vertical Stack

CAN BE VERTICALLY STACKED AS SHOWN

Miniature edgewise panel meter features unique Self-Shielding core magnet, eliminates need for protruding barrel. Extremely-compact. Meter scale extending nearly full width and height of meter.

Range Micro amps	Ohms. Res.	8" Model 728T Stk. No.	1-9	10-24	25-49	50-Up
100	500	55F4335	37.50	33.75	31.88	30.00

DC VOLTMETERS

Range	App. Res./v.	1921 1½"	1-9	10-24	25-49	50-up	1622 2½"	1-9	10-24	25-49	50-up
0-10	5000	55F4300					55F4314				
0-15	5000	55F4301					55F4315				
0-25	5000	55F4302	22.50	20.25	19.13	18.00	55F4316	23.85	21.47	20.27	19.08
0-50	5000	55F4303					.....				
0-150	5000	55F4304					.....				

DC MILLIAMMETERS

0-1	18	55F4306					55F4320				
0-5	2	55F4307	22.05	19.85	18.74	17.64	.....	23.70	21.33	20.15	18.96
0-10	5						55F4322				
0-25	2	55F4309					55F4323				
0-50	1	.....					55F4324				
0-100	5		23.25	20.93	17.76	18.60	.....	24.60	22.14	20.11	19.68
0-500	1	55F4312					.....				

DC MILLIVOLT METERS

0-50	400	55F4313	23.55	21.20	20.02	18.84	.....	.....	.....	.....	.....

DC MICROAMMETERS

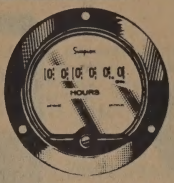
0-25	7760	.....	.....	.....	.....	.....	55F4341	30.15	27.14	25.63	24.12
0-50	2020	55F4337	28.65	25.79	24.35	22.92	55F4342	29.85	26.87	25.37	23.88
0-100	1060	55F4338	25.65	23.09	21.80	20.53	55F4343	27.15	24.44	23.08	21.72
0-200	310	.....	.....	.....	.....	.....	55F4344	24.90	22.41	21.17	19.92
0-500	63	.....	.....	.....	.....	.....	55F4345	24.15	21.74	20.53	19.42

ELAPSED TIME PANEL METERS

2½"DC Model 106

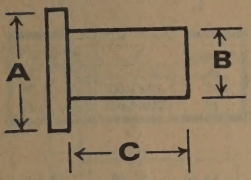
2½"AC Model 107

2½"Model 108


3½"Model 55ET

3½"Model 57ET

3½"Model 1357ET



SIZE CHART

Model	A	B	C
106	2.64	2.32	1.73
107	1.88	2.80	1.40
108	2.69	2.20	2.30
55ET	3.50	2.75	2.55
57ET	3.12	2.75	2.60
1357ET	3.25	2.75	2.37

Model 1357ET has Wide-Vue styling. Model 107 has modern appearance, with clear lucite cover. DC Model 106 gives accurate (±2%) time readouts where synchronous AC power is not available. Model 106 withstands ambient temperatures from -40°C to 65°C (-40°F to 149°F).
*Adapter for Model 106. Simply screws onto one terminal.
‡Matches standard Model 47 rectangular panel meters.
†Matches standard Model 45 round panel meters.
††Matches Wide-Vue panel meters.

120 Volt Models

Stk. No.	Model Size	Model Number	1-9	10-24	25-49	50-Up
55F4355	2½"	106	21.00	18.90	17.85	16.80
55F4356	. . . . .	Adapter*	1.05	.95	.89	.84
55F4357	. . . . .	Adapter*	1.05	.95	.39	.84
55F4358	2½"	107	15.75	14.18	13.39	12.60
55F4359	3½"†	55ET	26.70	24.03	22.70	21.36
55F4360	3½"††	135ET	26.70	24.03	22.70	21.36

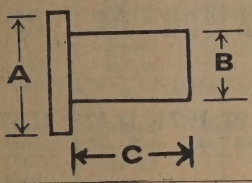
120 Volts cont.

Stk. No.	Model Size	Model Number	1-9	10-24	25-49	50-Up
55F4361	3½"‡	57ET	26.70	24.03	22.70	21.36

240 Volt Models

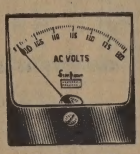
Stk. No.	Model Size	Model Number	1-9	10-24	25-49	50-Up
55F4362	2½"	107	15.75	14.18	13.39	12.60
55F4363	3½"†	55ET	27.00	24.30	22.95	21.60
55F4364	3½"‡	57ET	27.00	24.30	22.95	21.60
55F4365	3½"††	1357ET	27.00	24.30	22.95	21.60

SEGMENTAL VOLTMETERS (Expanded Scale 100-130AC Volts)

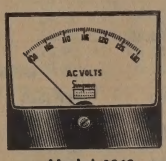


SIZE CHART

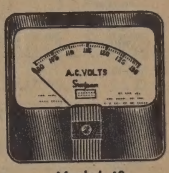
Model	A	B	C
1347	3.25"	2.73	1.08
1349	4.00"	2.75	1.08
49	4.20"	2.75	1.00



Model 1347



Model 1349

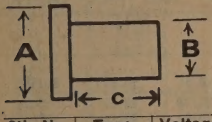


Model 49

Stk. No.	Scale Lgth.	1-9	10-24	25-49	50-Up
55F1006	3.14"	63.00	56.70	53.55	50.40
55F2659	3.93"	63.00	56.70	53.55	50.40
55F1007	3.5"	63.00	56.70	53.55	50.40

Units used primarily in monitoring AC line voltages. Operating Frequency: 20-2000 cps. Accuracy: ±.5% of center scale value at 25°C. and 60 cps sine wave. Sen.: 160 to 100 ohms/volt end scale values. Decreases as voltage increases. Av. Shpg. wt. 1 lb.

ELECTRO-MECHANICAL COUNTERS MODELS 103-104

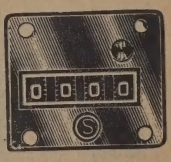


SIZE CHART

Model	A	B	C
103+104	1.84"	1.03"	1.88"

Stk. No.	Type	Voltage	1-9	10-24	25.49	50-Up
55F4853	103	117VAC	16.80	15.12	14.28	13.44
55F4854	104	6VDC	16.80	15.12	14.28	13.44
55F4855	104	12VDC	16.80	15.12	14.28	13.44

Four-Digit Counters, rated at 10 counts per second. Are reset to 0000 with a single push button control. The black matte finish bezel is made from tough thermosetting materials which withstand high impacts. Min. pulse duration is 500 millisec. "on" and 50 millisec. "off". Power Consump; 4.2 watts (nominal).



FRONT ADJUSTABLE METER RELAYS SINGLE CONTACT TYPE MODEL 29XA

Stk. No.	Range	Description	Ohms	1-9	10-24	25-49	40-Up
55F2653	0-50	DC Microammeter	5200	61.95	55.76	52.66	49.56
55F2654	0-100	DC Microammeter	1800	59.25	53.33	50.36	47.40
55F2655	0-200	DC Microammeter	1000	55.50	49.95	47.18	44.40
55F2656	0-500	DC Microammeter	280	54.75	49.28	46.54	43.80
55F2657	0-1	DC Milliammeter	140	53.40	48.06	45.39	42.72
55F2658	0-50	DC Millivoltmeter	10	53.55	48.20	45.52	42.84

Model 29X4. D'Arsonval Type Relays. Externally adjusted limit setting contacts are non-lock and intended for circuits w/external lock provisions or for light duty non-lock. applications. Accuracies: ±2% of full scale. Contacts: Gold Alloy. For use @ 15VDC, 10 ma max., on resistive or diode protected inductive loads. Size: Ht.—4.20, barrel Ht.—2.75 lgt—1.00. Shpg. wt. 1 lb.

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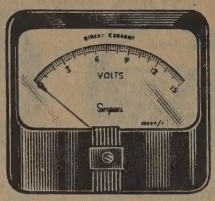
Simpson Panel Meters

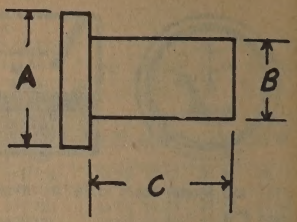
STANDARD PHENOLIC AND GLASS PANEL METERS

Model 27

Model 25



Model 29



All DC meters have the Simpson self shielded movement and are self contained for ranges up to and including 50 amperes. Higher ranges DC ammeters (50MV) listed are calibrated for 5 ft. leads and require external shunts. Accuracy ± 2% of full scale; Scale length Model 25 & 27-2.5" (63.7mm), Model 29-3.9" (99 .0mm). (*)Require external shunt. Average Shipping weight 1 lb.

SIZE CHART

Model	A	B	C
25	3.50"	2.75	1.31
27	3.12x3.00"	2.75	1.36
29	4.20x4.66"	2.75	1.00

DC AMMETERS—Self contained Shunt through 50 amps

Range	Model 27 3½" Rect.	Model 25 3½" Rnd.	1-9	10-24	25-49	50-Up	Model 29 4½" Rect.	1-9	10-24	25-49	50-Up
0-1	55F060	.....					55F209				
0-1.5	.....	55F1115					.....				
0-2	55F061	55F1056					55F259				
0-3	55F062	55F1057					55F260				
0-5	.....	55F1058					55F210				
0-10	55F064	55F1059	21.15	19.04	17.98	16.92	55F211	22.95	20.66	19.51	18.36
0-15	.....	.....					.....				
0-25	55F065	55F1060					55F261				
0-30	55F4828	.....					.....				
0-50	.....	.....					55F212				
0-75*	.....	55F1117					.....				
0-100*	.....	55F1118					.....				
30-0-30	.....	.....					55F262	23.55	21.20	20.02	18.84
50-0-50	55F067	.....	22.35	20.12	19.00	17.88	55F263	23.55	21.20	20.02	18.84

DC MILLIAMMETERS SELF-SHIELDED MOVEMENT

0-1	55F000	55F1040					55F171				
0-5	.....	55F1041	20.55	18.50	17.47	16.44	55F257	21.90	19.71	18.62	17.52
0-10	55F002	55F1042					55F204				
0-25	.....	55F1043					55F188				
0-50	55F004	55F1044					55F258				
0-100	55F005	55F1045					55F172				
0-150	.....	55F1046					.....				
0-200	.....	55F1047	21.15	19.04	17.98	16.92	55F174	22.95	20.66	19.51	18.36
0-250	55F008	55F1048					.....				
0-300	55F009	55F1049					55F207				
0-500	55F010	55F1050					55F189				
0-1000	55F011	.....					55F208				

DC MICROAMMETERS SELF-SHIELDED MOVEMENT

Range	Model 27 3½"Rect.	Model 25 3½"Rnd.	1-9	10-24	25-49	50-Up	Model 29 4½"Rect.	1-9	10-24	25-49	50-Up
0-50	55F071	55F1031	26.00	23.40	22.10	20.80	55F176	28.20	25.38	23.97	22.56
0-100	55F072	55F1032	24.00	21.60	19.60	19.20	55F177	26.70	24.03	22.70	21.36
0-200	55F073	.....	21.90	19.71	18.62	17.52	55F178	24.00	21.60	19.60	19.20
0-500	55F074	.....	21.60	19.44	18.36	17.28	.....	....	...	...	...
25-0-25	55F075	55F1035	26.40	23.76	22.44	21.12	.....	....	...	...	...
50-0-50	55F076	.....	24.00	21.60	19.60	19.20	.....	....	...	...	...
100-0-100	55F077	.....	22.05	19.85	18.74	17.64	.....	....	...	...	...

DC VOLTMETERS SELF SHIELDED MOVEMENT

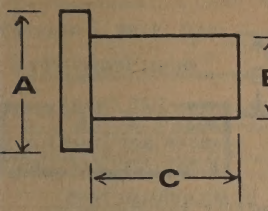
Range	Model 27 3½" Rect.	Model 25 3½" Rnd.	1-9	10-24	25-49	50-Up	Model 29 4½" Rect.	1-9	10-24	25-49	50 Up
0-5	55F039	.....					55F167				
0-10	55F041	.....					55F168				
0-15	55F042	.....					.....				
0-25	55F038	55F1014					55F169				
0-30	55F080	.....	21.90	19.71	18.62	17.52	55F145	24.00	21.60	19.60	19.20
0-50	55F043	55F1015					55F183				
0-100	.....	.....					55F252				
0-150	55F045	55F1017					55F170				
0-250	55F046	55F1018					55F253				
0-300	55F047	.....					55F184				
0-500	55F050	.....	22.95	20.66	19.51	18.36	55F185	24.75	22.28	20.24	19.80
0-1000*	55F051	.....	28.35	25.52	24.10	22.68	.....	30.30	27.27	25.76	24.24
0-1500*	55F052	.....	28.35	25.52	24.10	22.68	55F187	30.60	27.54	26.01	24.48
0-2000*	55F053	.....	29.40	26.46	25.02	23.52	55F254	31.20	28.08	26.52	24.96
0-2500*	55F037	.....	29.85	26.87	25.40	23.88	.....	31.80	28.62	27.03	25.44
0-3000*	55F054	.....	30.15	27.14	25.63	24.12	55F255	32.10	28.89	27.29	25.68
0-5000*	55F055	.....	30.90	27.81	26.27	24.72	55F201	33.90	30.51	28.82	27.12

*External multipliers mod 183 furnished with meter.

DC MILLIVOLTMETERS SELF-SHIELDED MOVEMENT

0-50 0-100	55F1000 55F1001	21.15	19.04	17.98	16.92	55F1004 55F1005	22.95	20.66	19.51	18.36

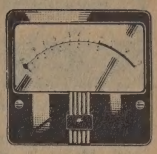
VOLUME LEVEL METERS



SIZE CHART

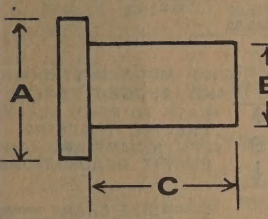
Model	A	B	C
47	3.12"	2.75"	1.36"
142	3.94"	3.25"	1.00"

Model 142. Self Shielding Meter Movement. Type A scale stressing level in VU for monitoring. Impedance is 3900 "O" V.U. defelection. Illuminated face. Shipping Weight: 1 lb.



Stk. No.	Model	Scale	1-9	10-24	25-29	50-Up
55F160	47	2.6"	34.20	30.78	29.07	27.37
55F162	142	3½	40.65	36.59	34.55	32.55

LABORATORY QUALITY AC INSTRUMENTS

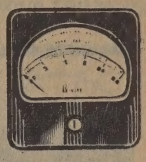


SIZE CHART

Model	A	B	C
55	3.50"	2.75"	1.31"
57	3.12"	2.75"	1.36"
59	4.20"	2.75"	1.00

Moving iron vane type movements. No rectifiers used. With sinusoidal input accuracy is guaranteed to ±3% of full scale. Mounts in 2¾" holes. Other dimensions same as DC counterparts. Mounting template and hdwr. furnished. Average shipping wt. 1 lb.

Model 55


Model 57,59

AC AMMETERS

Range	Model 57 3½" Rect.	Model 55 3½" Rnd.	1-9	10-24	25-49	50-Up	Model 59 4½" Rect.	1-9	10-24	25-49	50-Up
0-1	55F130	55F1085					55F182				
0-2	55F131	.....					.....				
0-3	55F132	.....					55F194				
0-5	55F133	55F1088	19.20	17.28	16.32	15.36	55F195	20.40	18.36	17.34	16.32
0-10	55F134	55F1089					55F196				
0-15	55F156	55F1119					55F282				
0-25	55F135	55F1090	19.95	17.96	16.92	15.92	55F197	21.15	19.04	17.98	16.92
0-50	55F136	55F1091	19.95	17.96	16.92	15.92	55F219	21.15	19.04	17.98	16.92
0-75†	55F157	55F1120	19.20	17.28	16.32	15.36	55F283	20.40	18.36	17.34	16.32
0-100†	55F158	55F1121	19.20	17.28	16.32	15.36	55F284	20.40	18.36	17.34	16.32

(†) Require External Transformer

AC MILLIAMMETERS

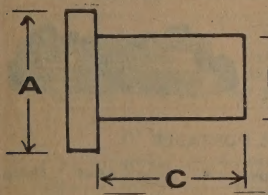
Range	Model 57 3½" Rect.	Model 55 3½" Rnd.	1-9	10-24	25-49	50-Up	Model 59 4½" Rect.	1-9	10-24	25-49	50-Up
0-50	55F100	.....					.....				
0-100	.....	.....					55F213				
0-250	55F102	55F1078	19.20	17.28	16.32	15.36	55F214	20.40	18.36	17.34	16.32
0-500	55F103	.....					55F199				

AC VOLTMETERS

Range	Model 57 3½" Rect.	Model 55 3½" Rnd.	1-9	10-24	25-49	50-Up	Model 59 4½" Rect.	1-9	10-24	25-49	50-Up
0-5	.....	55F1066					.....	.....	.....	.....	.....
0-10	55F111	55F1067					.....	.....	.....	.....	.....
0-15	55F112	55F1068	20.10	18.09	17.09	16.08	55F180	22.50	20.25	19.13	18.00
0-25	.....	55F1641					.....	.....	.....	.....	.....
0-50	.....	55F1069					.....	.....	.....	.....	.....
0-150	.....	55F1071					55F181	22.95	20.66	19.51	18.36
0-250	55F273	.....	21.60	19.44	18.36	17.28	.....	.....	.....	.....	.....
0-300	.....	55F1072					55F191	22.95	20.66	19.51	18.36
0-500	.....	55F1073	27.30	24.57	23.21	21.84	55F192	22.95	20.66	19.51	18.36
0-1000	55F275	.....	31.80	28.62	27.03	25.44	.....	.....	.....	.....	.....

(*)External multiplier model 183 furnished with meter.

WATTMETERS—Dynamometer Type



SIZE CHART

Model	A	B	C
77	3.12	2.75	2.11
79	4.20	2.75	1.68

Self contained dynamometer type. Measure DC and single phase AC power to 250 cycles per second. Calibrated for non-magnetic panels. Frequency range of 25-125 cycles. Mount 2¾ holes. Scale length 2.3 inches. Accuracy 2% of full scale. Shipping Weight 1 lb.

3½" Model 77

4½" Model 79

MODEL 77-3½" RECTANGULAR METER

Stk. No.	Range	Max. Amps	Max. Volts	1-9	10-24	25-49	50-Up
55F226	0-75	1.0	150				
55F227	0-150	2.0	150	42.75	38.48	36.34	34.20
55F228	0-300	4.0	150				
55F229	0-750	10.0	150				
55F1137	0-600	4.0	300				
55F230	0-1500	10.0	300	46.35	41.72	39.40	37.08
55F1138	0-3000	20.0	300				

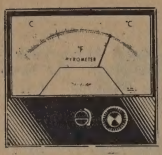
MODEL 79-4½" RECTANGULAR METER

Stk. No.	Range	Max. Amps	Max. Volts	1-9	10-24	25-49	50-Up
55F232	0-75	1.0	150				
55F233	0-150	2.0	150	53.10	47.79	45.08	42.48
55F234	0-300	4.0	150				
55F235	0-750	10.0	150				
55F1139	0-600	4.0	300				
55F236	0-1500	10.0	300	56.70	51.03	48.20	45.36
55F1140	0-3000	20.0	300				

NEWARK—YOUR ONE POINT SOURCE FOR ALL YOUR ELECTRONIC NEEDS

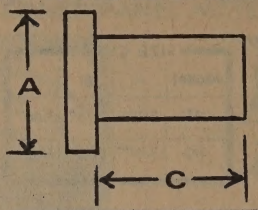
Simpson Panel Meters

RUGGED SEAL SELF-CONTAINED CONTACTLESS METER RELAYS



3½"Model 3323XA 4½"Model 3324XA are internally provided for each control point. Control relays open in event of power failure. Slave relays will switch 10 amps at 115 VAC, resisting load. Meter is unaffected by control point setting. Calibration accuracy is 2% of full scale. Control point differential: within 0.5% of full scale. DC power for control circuitry is completely self-contained for single and double control points. Operates from 115 V, 50-500 Hz AC. Average shipping weight 1 lb.

Set points are adjusted thru external, front panel gear drive and are indicated by pointers. Sensing is accomplished by an infinite life lamp and photo-conductors. A solid state switching circuit and DPDT slave relay



- FAIL SAFE CIRCUITRY
- HIGH SENSITIVTY

SIZE CHART

Model	A	B	C
3323XA	3.25"	2.69"	1.23"
3324XA	4.15"	2.69"	1.21"

DC MICROAMMETERS

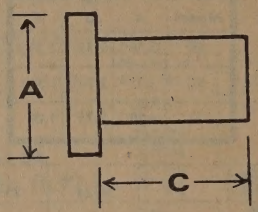
	3½" Model 3323XA		4½" Model 3324XA	
	Double Control		Single Control	
Range	Stk. No.	NET	Stk. No.	NET
0-50	55F753	112.20	55F2467	150.00
0-100	55F754	143.25	.....	.....

MODEL 29 AND MODEL 3324 4½" PYROMETERS

Model 29

Model 3324

Model 29 standard bakelite. **Model 3324** for extreme conditions. Compensated for temp. changes and include copper circuit compensation. Calibrated for use with iron constantan thermocouples. Pyrometers of —150 +250°F (—100 to +120° C) are calibrated for 5 ohm thermocouple resistance. All other units are calibrated for 10 ohm thermocouple resistance. Furnished with an external adjustable series resistor. Shpg. wt.: 2 lb.



MODEL 3324

- TWO MODELS—STANDARD AND RUGGED SEALED
- EASY TO READ SCALES, PRECISE TRACKING
- CENTIGRADE AND FAHRENHEIT GRADUATIONS

SIZE CHART

Model	A	B	C
29	4.20"	2.75"	1.00"
3324	3.56"	2.69"	1.21"

MODEL 29

	Range		Sens.				
Stk. No.	°F	°C	MA	1-9	10-24	25-49	50-Up
55F700	—150 to +250	—100 to +120	.20	38.25	34.43	32.51	30.60
55F701	0 to 300	—20 to +150	.20				
55F702	0 to 500	—20 to +260	.35				
55F703	0 to 750	—20 to +400	.30				

MODEL 3324

	Range		Sens				
Stk. No.	°F	°C	MA	1-9	10-24	25-49	50-Up
55F704	-150 to ±250	—100 to +120	.20	52.05	46.85	44.24	41.64
55F705	0 to 300	—20 to +150	.20				
55F706	0 to 500	—20 to +260	.35				
55F707	0 to 750	—20 to +40	.30				

MODEL 3324XA PYROMETER RELAYS MAX. DEPTH BEHIND PANEL - 6.25"

		Range		
Stk. No.	Description	°F	°C	NET
55F5240	Single Control I/C	-75 to +225	—60 to +105	120.00
55F5241	Double Control I/C	-75 to +225	—60 to +105	156.00
55F5242	Single Control I/C	0 to +300	—20 to +150	120.00
55F5243	Double Control I/C	0 to +300	—20 to +150	165.00
55F5244	Single Control I/C	0 to +500	—20 to +260	117.00
55F5245	Double Control I/C	0 to +500	—20 to +260	153.00

		RANGE		
Stk. No.	Description	°F	°C	NET
55F5246	Single Control I/C	0 to +750	—20 to+ 400	117.00
55F5247	Double Control I/C	0 to +750	—20 to+ 400	153.00
55F5248	Single Control I/C	0 to +1000	—20 to+ 500	117.00
55F5249	Double Control I/C	0 to +1000	—20 to+ 500	153.00
55F5250	Single Control C/A	0 to +1500	—20 to+ 800	117.00
55F5251	Double Control C/A	0 to +1500	—20 to+ 800	153.00

THERMOCOUPLES

Types 21221 and 21224. Iron constantan thermocouple wire in stainless steel overbraid. Glass cloth overbraid. Shpg. wt. ¼ lb.

Types 21222 and 21233. Glass cloth overbraid. For general purpose use or permanent mounting in protected sheaths or conduit.

Stock No.	Mfr's. No.	Resistance	1-9	10-24	25-49	50-Up
55F708	21221	5 ohms	16.50	14.85	14.03	13.20
55F709	21222	10 ohms	5.85	5.27	4.97	4.68
55F710	21223	10 ohms	4.90	4.41	4.17	3.92
55F711	21224	10 ohms	30.15	27.14	25.63	24.12

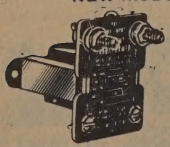
CURRENT TRANSFORMERS FOR AC AMMETERS

Inserted one turn primary type for use with switchboard and panel ammeters where external transformers are required.

Stk. No.	Mfr's. No.	Pri.	Sec.	1-9	10-24	25-49	50-Up
55F269	1293	50 amps	5	28.35	25.52	24.10	22.68
55F2575	1306	75 amps	5	20.85	18.23	17.21	16.20
55F270	1297	100 amps	5	17.25	15.53	14.66	13.60

Stk. No.	Mfr's. No.	Pri.	Sec.	1-9	10-24	25-49	50-Up
55F2576	1298	150 amps	5	15.30	13.77	13.01	12.24
55F2577	1299	200 amps	5	15.30	13.77	13.01	12.24
55F2578	1300	300 amps	5	17.25	15.53	14.46	13.60
55F2579	1301	500 amps	5	20.85	18.23	17.21	16.20

• NEW MODEL 186 CURRENT TRANSFORMERS



For use with 0-10 VAC Meters & Controllers. Convert meter relays to AC current control units. Frequency range: 30 Hz to 5 kHz. Accuracy: ±2%, (may be used with 0-10 volt, 1000 μ/volt or 2000 μ/volt AC rectifier type meter.) Not for use in circuits where sustained overloads are possible.

Stk. No.	Range	V.A.	NET
55F4366	0-50mA	0.40	16.05
55F4367	0-100mA	0.50	14.85
55F4368	0-200mA	0.37	14.85
55F4369	0-300mA	0.48	14.85
55F4370	0-500mA	0.53	14.85
55F4371	0-750mA	0.37	14.85
55F4372	0-1 amp.	0.42	13.35
55F4373	0-2 amp.	0.54	13.35
55F4374	0-3 amp.	0.66	13.35
55F4375	0-5 amp.	0.75	13.35
55F4376	0-10 amp.	1.45	13.35
55F4377	0-15 amp.	1.05	13.35
55F4378	0-20 amp.	1.04	13.35
55F4379	0-25 amp.	1.50	13.35
55F4380	0-30 amp.	1.10	13.35
55F4381	0-40 amp.	1.09	13.35
55F4382	0-50 amp.	1.90	13.35

SHUNTS FOR DC AMMETERS

For use with switchboard and panel meters where external shunts are required. Includes 5" leads. Shpg. wt. 1 lb.

EXTERNAL PORTABLE

Stk. No.	Mfr's. No.	Amps.	1-9	10-24	25-49	50-Up
55F294	6700	1	11.70	10.53	9.95	9.36
55F295	6703	5				
55F264	6704	10				
55F265	6705	15				
55F296	6707	25				
55F297	6708	30				
55F266	6709	50				
55F267	6711	75				
55F2569	6713	100				
55F2570	6715	200				

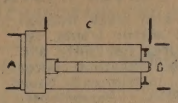
SWITCH BOARD SHUNTS

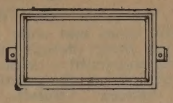
55F268	6500	100	11.70	10.53	9.95	9.36
55F2571	6503	150	12.60	11.34	10.71	10.08
55F2572	6504	200	12.60	11.34	10.71	10.08
55F2573	6506	300	12.60	11.34	10.71	10.08
55F298	6508	500	18.15	16.34	15.43	14.52

• NEW 4235-F DIGITAL PANEL METER

SIZE CHART

Model	A	B	C	D
4235-F	2.102	1.682	3.887	4.140





Model 4235-F. Instrument suitable for use in production testing, general test, servicing and educational applications. Employs a dual slope analog to digital conversion technique, high noise rejection, stability and accuracy for voltage or current measurements. Seven bar fluorescent readout provides a single plane display for easy viewing. Low power drain, Over range to 1.999. Sampling rate 3 times a sec. Display response time 1 second. 100% overrange blanking on all ranges except 1000V (prevents error). Operating range 0 to 40°C. Accuracy (Voltage ± .1% of reading ± 1 Digit, Current ± .15% of reading ± 1 Digit. Characteristics: Height - 2.359, Width 4.140, Depth - 4.846. Weight 1 lb.

DC VOLTS

Stk. No.	Type	Imped Meg Ohms	Range	Max Voltage	1-24	25-49
62F2460	F89-1301	100	10 Millivolts	100		
62F2461	F89-1302	1000	100 Millivolts	250		
62F2462	F89-1303	1000	1 Volt	250	240.00	180.00
62F2463	F89-1304	10	10 Volts	1000		
62F2464	F89-1305	10	100 Volts	1000		
62F2465	F89-1306	10	1000 Volts	1000		

DC CURRENTS

Stk. No.	Type	Shunt Ohms	Range	Max Current	1-24	25-49
62F2466	F89-13-07	10K	1 Micro amp	2Ma		
62F2467	F89-13-08	10K	10 Micro amp	2Ma		
62F2468	F89-13-09	1K	100 Micro amp	10Ma	240.00	180.00
62F2469	F89-13-10	100	1 Milliamp	20Ma		
62F2470	F89-13-11	10	10 Milliamp	100Ma		
62F2471	F89-13-12	1	100 Milliamp	500Ma		
62F2472	F89-13-13	.1	1 Amp	2.5 amps		

G/P SERIES PORTABLE INSTRUMENT FOR SCHOOL OR LAB

DC MILLIVOLTMETER

Stk. No.	Ranges	NET
55F4209	0-50-100-250	35.10

DC VOLTMETERS 320/GP

55F4199	0-1-5-25	35.60
55F4200	0-25-100-500	36.40
55F4201	0-6-60-600	36.40

DC OHMMETERS 320-G/P

Stk. No.	Descrip. and Range	NET
55F4217	0-1K-100K (in. 1.5V battery, test leads)	39.40

WATTMETER 360-G/P

55F4220	0-150 Watts (Max. 150 volts 2 amperes)	57.90

DC MICROAMMETERS SUSPENSION TYPE

Stk. No.	Ranges	NET
55F4202	0-10-50-250	68.00

DC MILLIAMMETERS 320G/P

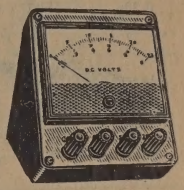
Stk. No.	Ranges	NET
55F4205	0-25-1.5	34.70
55F4206	0-25-100-500	35.10
55F4207	0-1-10-100	35.10

DC AMMETERS 320/GP

55F4208	0-1-5-25	35.60

MILLIAMMETERS AND AMMETERS AC IRON VANE TYPE 330-G/P

Stk. No.	Descrip. and Range	NET
55F4215	0-5 Ampere	27.00
55F4216	0-25 Ampere	27.00



Now you can make all types of electrical measurements right in your own lab or shop set-up. Five-way binding posts. Rugged case and movement construction safe-guards, against rough handling. Overload protection of all models, guards against electrical damage from misuse. Case dim. 4¼x3⅞x4¼".

STANDARD PANEL METERS

METER DIMENSIONS (All Shpg. Wts. 1 lb.)

Mfr's. Type	Flange Shape	Flange Size	Body Dia.	Body Depth	Scale Length
327T	Square	3x3"	2¾"	1"	2.49"
321T	Round	3½" Dia.	2¾"	15/16"	2.49"
331S	Round	3½" Dia.	2¾"	15/16"	2.22"
420	Square	4.625	2¾"	.781	4.04"

420

321-T—331-S

327-T

D.C. AMMETERS

Range	Model 327T	Model 321T	1-24	25-49	50-Up	Model 420	1-24	25-49	50-Up
0-1	.....	55F1246				.....			
0-5	55F582	55F1248	18.90	15.12	14.18	55F5628	20.00	16.00	15.00
0-10	55F583	55F1249				55F5629			
0-50	55F587	55F1253				55F5630			

D.C MILLIAMMETERS

0-1	55F596	55F1227				55F5502			
0-10	55F522	55F1229				55F5505			
0-50	.....	.....	18.40	14.72	13.80	55F5506	19.40	15.52	14.55
0-100	55F526	55F1233				.....			
0-300	55F5500	.....				.....			
0-500	55F531	55F1238				.....			

D.C. MICRO AMMETERS

*0-20	.....	55F1241	33.10	26.48	24.83	*55F5550	34.10	27.28	25.58
*00-50	55F631	.....	23.60	18.88	17.70	*55F5551	27.30	21.84	20.48
*00-100	55F632	55F1243	22.00	17.60	16.50	*55F5552	24.70	19.76	18.53
*50-0-50	55F2092	55F2090	23.60	18.88	17.70	.....	.....	.....	.....

(*)Suspension Type, (+)Pivot & Jewel

D.C. VOLTMETERS

0-15	55F541	.....				55F5510			
0-25	55F542	.....				55F5511			
0-30	.....	.....	20.00	16.00	15.00	.....	21.00	16.80	15.75
0-50	55F543	55F1203				55F5513			
0-100	55F544	55F1204				55F5514			
0-150	.....	55F1205				.....			

AC AMMETERS

Range	Model 331S	Model 337S	1-24	25-49	50-Up	Model 430	1-24	25-49	50-Up
0-5	.....	55F5633				55F5643			
0-10	55F1269	.....				55F5644			
0-15	55F1328	55F5635	17.90	14.32	13.43	55F5645	18.90	15.12	14.18
0-25	55F1270	55F5636				55F5646			
0-30	55F498	.....				55F5647			
0-50	55F1272	55F5638				55F5547			

A.C. VOLTMETERS

0-10	.....	.....				55F5524	18.90	15.12	14.18
0-150	55F1258	55F5521	18.90	15.12	14.18	.....	.....	.....	.....
0-250	55F1283	55F5522				55F5525	20.00	16.00	15.00
0-300	55F1259	.....				55F5526	20.00	16.00	15.00

TRIPLETT Panel Meters

G SERIES PANEL INSTRUMENTS

1½", 2½", 3½", 4½", models with black molded plastic cases and clear molded plastic fronts. An all new meter design that features flexibility and interchangeability, with optional mounting bezel for behind panel mounting. DC instruments have the famous Triplett BAR-RING Movements. Diodes protect against instantanous overload on DC movements. AC movements are fuse protected. Provides a dominant scale with plenty of dial area for multiple scales. DC scale lengths: 4½", 4.035", 3½" 3.163", 2½", 2.536". AC scale lengths: 4.25", 4½", 3.43", 3½, 2.688", 2½", 2.155".

AC VOLTMETERS

Range	Model 230-G 2½"	1-24	25-49	50-Up	Model 330-G 3½"	1-24	25-49	50-Up	Model 430-G 4½"	1-24	25-49	50-Up
0-150	55F4161	17.90	14.32	13.43	55F4165	18.90	15.12	14.18	55F4169	20.00	16.00	15.00
0-250	55F5566				55F5567				55F5568			
0-300	55F4163				....				55F4171			

AC AMMETERS

Range	Model 230-G 2½"	1-24	25-49	50-Up	Model 330-G 3½"	1-24	25-49	50-Up	Model 430-G 4½"	1-24	25-49	50-Up
0-1	55F5569				55F5571				55F5573			
0-5	55F4172				55F4177				55F4182			
0-10	55F4173				55F4178				55F4183			
0-15	55F5570	16.80	13.44	12.60	55F5572	17.90	14.32	13.43	55F5574	18.90	15.12	14.18
0-25	55F4174				55F4179				55F4184			
0-30	55F4175				55F4180				55F4185			
0-50	55F4176				55F4181				55F4186			

AC MILLIAMMETERS

Range	Model 230-G 2½"	1-24	25-49	50-Up	Model 330-G 3½"	1-24	25-49	50-Up	Model 430-G 4½"	1-24	25-49	50-Up
0-10	55F4187				55F4191				55F4195			
0-100	55F4188				55F4192				55F4196			
0-250	55F4189	16.80	13.44	12.60	55F4193	17.90	14.32	13.43	55F4197	18.90	15.12	14.18
0-500	55F4190				55F4194				55F4198			

DC VOLTMETER 1000 OHMS/V

Range	Model 220-G 2½"	1-24	25-49	50-Up	Model 320-G 3½"	1-24	25-49	50-Up	Model 420-G 4½"	1-24	25-49	50-Up
0-10	55F4100				55F4104				55F4108			
0-15	55F5575				55F5580				55F5585			
0-25	55F5576				55F5581				55F5586			
0-30	55F5577				55F5582				55F5587			
0-50	55F4101	18.90	15.12	14.18	55F4105	20.00	16.00	15.00	55F4109	21.00	16.80	15.75
0-100	55F5578				55F5583				55F5588			
0-150	55F4102				55F4106				55F4110			
0-250	55F5579				55F5584				55F5589			
0-300	55F4103				55F4107				55F4111			

DC MILLIVOLTMETERS

Range	Model 220-G 2½"	1-24	25-49	50-Up	Model 320-G 3½"	1-24	25-49	50-Up	Model 420-G 4½"	1-24	25-49	50-Up
0-50	55F4112	17.90	14.32	13.43	55F4113	18.90	15.12	14.18	55F4114	20.00	16.00	15.00

DC AMMETER

Range	Model 220-G 2½"	1-24	25-49	50-Up	Model 320-G 3½"	1-24	25-49	50-Up	Model 420-G 4½"	1-24	25-49	50-Up
0-1	55F4148				55F4152				55F4156			
0-5	55F4149				55F4153				55F4157			
0-10	55F4150				55F4154				55F4158			
0-15	55F5590	17.90	14.32	13.43	55F5592	18.90	15.12	14.18	55F5594	20.00	16.00	15.00
0-25	55F5591				55F5593				55F5595			
0-50	55F4151				55F4155				55F4159			

DC MILLIAMMETERS

Range	Model 220-G 2½"	1-24	25-49	50-Up	Model 320-G 3½	1-24	25-49	50-Up	Model 420-G 4½"	1-24	25-49	50-Up
0-1	55F4130				55F4136				55F4142			
0-5	55F5596				55F5600				55F5604			
0-10	55F4131				55F4137				55F4143			
0-15	55F4132				55F4138				55F4144			
0-25	55F5597				55F5601				55F5605			
0-50	55F4133	17.30	13.84	12.98	55F4139	18.40	14.72	13.80	55F4145	19.40	15.52	14.55
0-100	55F4134				55F4140				55F4146			
0-200	55F5598				55F5602				55F5606			
0-500	55F4135				55F4141				55F4147			
0-1000	55F5599				55F5603				55F5607			

DC MICROAMMETERS— (Pivot & Jewel)

Range	Model 220-G 2½"	1-24	25-49	50-Up	Model 320-G 3½"	1-24	25-49	50-Up	Model 420-G 4½"	1-24	25-49	50-Up
0-50	55F4116	22.60	18.08	16.95	55F4121	23.60	18.88	17.70	55F4126	24.70	19.76	18.53
0-100	55F4117	21.00	16.80	15.75	55F4122	22.00	17.60	16.50	55F4127	23.10	18.48	17.33
0-200	55F4118	19.40	15.52	14.55	55F4123	20.50	16.40	15.38	55F4128	21.50	17.20	16.13
0-500	55F5608	18.40	14.72	13.80	.....	....	....	....	.....	....	....	....

DC MICROAMMETERS—(Suspension Type)

Range	Model 220-G 2½"	1-24	25-49	50-Up	Model 320-G 3½"	1-24	25-49	50-Up	Model 420-G 4½"	1-24	25-49	50-Up
0-20	55F4224	32.00	27.60	24.00	.....	....	....	....	55F4235	34.10	27.28	25.58
0-50	55F4225	25.20	20.16	18.90	.....	....	....	....	55F4236	27.30	21.84	20.48
0-100	55F4226	22.60	18.08	16.95	.....	....	....	....	55F4237	24.70	19.76	18.53
0-500	55F4228	21.00	16.80	15.75	.....	....	....	....	55F4239	23.10	18.48	17.33
50-0-50	55F4119	22.60	18.08	16.95	55F4124	23.60	18.88	17.70	55F4129	24.70	19.76	18.53
100-0-100	55F4231	21.50	17.20	16.13	.....	....	....	....	55F4242	23.60	18.88	17.70
500-0-500	55F4232	20.50	16.40	15.88	.....	....	....	....	55F4243	22.60	18.08	16.95

Panel Meters and Pyrometers api

SERIES 7000 CHANGEABLE DC PANEL METERS

AMPERES DC

Range	Stock No.	Model 7035 3½" 1-9	Model 7035 3½" 10-24	Stock No.	Model 7045 4½" 1-9	Model 7045 4½" 10-24
0-1	62F2615	20.50	18.45	62F2621	22.00	19.80
0-3	62F2616			62F2622		
0-5	62F2617			62F2623		
0-10	62F2618			62F2624		
0-15	62F2619			62F2625		
0-25	62F2620			62F2626		

MILLIAMPERES DC

0-1	62F2627	18.50	16.55	62F2633	20.00	18.00
0-5	62F2628			62F2634		
0-10	62F2629			62F2595		
0-50	62F2630			62F2596		
0-100	62F2631			62F2597		
0-500	62F2632			62F2598		

MICROAMPERES DC

0-20	62F2599	31.50	28.35	62F2605	33.00	29.70
0-50	62F2600	25.50	22.75	62F2606	27.00	24.30
0-100	62F2601	22.50	20.25	62F2607	24.00	21.60
50-0-50	62F2602	23.00	20.70	62F2608	24.00	21.60
0-200	62F2603	20.50	18.45	62F2609	22.00	19.90
100-0-100	62F2604	21.00	18.90	62F2610	22.50	20.25

VOLTS DC

0-15	62F2611	20.50	18.45	62F2577	22.00	19.80
0-30	62F2612			62F2578		
0-50	62F2613			62F2579		
0-150	62F2614			62F2580		
0-300	62F2575			62F2581		
0-500	62F2576			62F2582		

MILLIVOLTS DC

0-10	62F2583	30.50	27.45	62F2585	32.00	28.80
0-50	62F2584	20.50	18.45	62F2586	22.00	19.80

AMPS AC ±2% ACC. TRACKING

0-1	62F2559	27.00	24.30	62F2565	28.50	25.75
0-5	62F2560			62F2566		
0-10	62F2561			62F2567		
0-30	62F2562			62F2568		
0-50	62F2563			62F2569		
0-150	62F2564			62F2570		

VOLTS AC ±2% ACC. TRACKING

0-10	62F2587	23.50	21.15	62F2592	24.75	22.25
0-15	62F2588			62F2593		
0-150	62F2589			62F2594		
0-300	62F2590			62F2557		
0-500	62F2591			62F2558		

VU METER

Scale A	62F2571	32.00	28.80	62F2573	32.00	28.80
Scale B	62F2572			62F2574		

	Stk. No.	Type 7035	NET	Stk. No.	Type 7045	NET
Bezel Kits	55F5672	1125-226	1.75	55F5674	1125-223	2.00
Lens Kits	55F5673	1125-225	1.25	55F5675	1125-222	1.25

PYROMETERS

Range	Stock No.	7035 (3½")	Stock No.	7045 (4½")
0-300 F 0-150C	62F2545	35.00	62F2551	39.50
0-500 F 0-260C	62F2546	33.25	62F2552	37.50
0-750 F 0-400C	62F2547	33.25	62F2553	37.50
0-1000F 0-500C	62F2548	32.75	62F2554	37.00
0-1500F 0-800C	62F2549	32.75	62F2555	37.00
0-2500F 0-1100C	62F2550	29.25	62F2556	32.50

SLIDE IN SCALES — ZERO LEFT

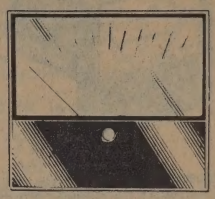
Divisions	Model 7035 3½" Stock No.	Model 7035 3½" NET	Model 7045 4½" Stock No.	Model 7045 4½" NET
40	62F2495	1.50	62F2635	1.50
50	62F2496		62F2636	
60	62F2497		62F2637	
75	62F2498		62F2638	
100	62F2499		62F2639	

SLIDE IN SCALES — ZERO CENTER

Divisions	Model 7035 3½" Stock No.	Model 7035 3½" NET	Model 7045 4½" Stock No.	Model 7045 4½" NET
40	62F2640	1.50	62F2645	1.50
50	62F2641		62F2646	
100	62F2642		62F2647	
Blank	62F2643		62F2648	
Blank Arc	62F2644		62F2449	

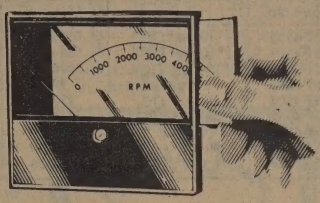
TRANSFORMERS FOR AC LOAD COMPACK

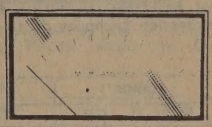
Stk. No.	Prim. Range (Amps)	NET	Stk. No.	Prim. Range (Amps)	NET
55F4621	3	7.50	55F4628	50	7.50
55F4622	5		55F4642	75	17.50
55F4623	7.5		55F4643	100	17.50
55F4624	10		55F4644	150	17.50
55F4625	15		55F4645	200	17.50
55F4626	25		55F4646	250	17.50
55F4627	30		55F4647	300	17.50



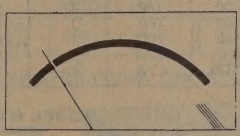
7000 Series Meter

Changeable Scale





Optional Bezel Mount



Optional Lens Mount

- CHANGEABLE SCALE
- LATEST STYLING
- 3 OPTIONAL MOUNTINGS
- ALL TAUT BAND
- 1% TRACKING

CHANGEABLE PANEL METERS

Precise and rugged, offer more versatility. All taut band shieled movements, tracking, 1%; accuracy, 2%. Phenolic cases and glass windows. Slip-in scales permit reduced inventory. Mounting options provide maximum styling versatility. Wt. 1½ lbs.

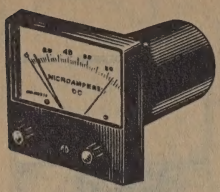
METER DIMENSIONS

Model	Flange	Body dia.	Depth
7035	3.01x3.51"	2.79"	1.94"
7045	4.05x4.61"	2.79"	1.94"

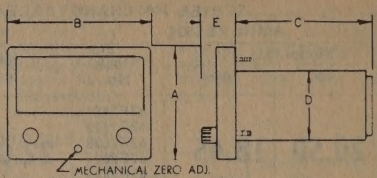
50 MILLIVOLT SHUNTS-COMMERCIAL TYPE

Stk. No.	Amps DC	1-9	10-24	25-49
55F4650	1	15.00	12.75	12.00
55F4651	5			
55F4652	10			
55F4653	25			
55F4654	50			
55F4655	75			
55F4656	100			
55F4657	150			
55F4658	250			

api Compack Optical Meter Relay Controllers



- Solid state circuitry, fail-safe wiring
- Taut Band movements in most ranges
- Fully continuous reading
- Complete package—no external components



	503-K	603-K
A	4.27 Max.	4.36 Max.
B	4.71 Max.	5.75 Max.
C	5.500 Max.	5.500 Max.
D	2.79 Max.	2.79 Max.
E	1.39 Max.	1.39 Max.

ON-OFF TEMPERATURE CONTROL

Models 503-KH (Single set point) and 503-KD (Double set point). Compacks packaged complete with power supply, control circuitry and load relays coupled to an Optical Meter Relay. Screw type terminal connections are at rear of meter barrel. (ill.) All circuit components wired fail safe below set point on KH and between set points on KD. Units easily converted from automatic on-off control to push button reset latching circuit, SPDT relay contacts-load rating: 5 A. resistive at 115 VAC, Dial arc 4". *Taut Band movement.

503-KH SINGLE SET POINT

Stock No.	Range	1-9	10-24	25-49
55F4500	*10 μa DC	139.00	125.10	118.15
55F4501	*50 μa DC	121.00	108.90	102.85
55F4502	*100 μa DC	116.00	104.40	98.60
55F4503	1 ma DC	99.00	89.10	84.15
55F4504	*10 mv DC	120.00	108.00	102.00
55F4505	50 mv DC	111.00	99.00	94.35
55F4506	‡AC load	114.00	102.60	96.90
55F4507	*50 μa AC	125.00	113.40	107.10
55F4508	1 ma AC	113.00	101.70	96.05

503-KD DOUBLE SET POINT

Stock No.	Range	1-9	10-24	25-49
55F4509	*10 μa DC	164.50	147.60	139.40
55F4510	*50 μa DC	146.00	131.40	124.10
55F4511	*100 μa DC	141.00	126.90	119.85
55F4512	*50/0/50 μa DC	141.00	126.90	119.85
55F4513	*5/0/5 μa DC	164.00	147.60	139.40
55F4514	1 ma DC	134.00	120.60	113.90
55F4515	*10 mv DC	145.00	130.50	123.25
55F4516	50 mv DC	136.00	122.40	115.60
55F4517	‡AC load	139.00	125.10	118.15
55F4518	*50 μa AC	150.00	135.90	128.35
55F4519	1 ma AC	138.00	124.20	117.30

Models 603-KH (single set point) and 603-KD (double set point). Same circuit description as 503-KH & KD with addition of electrical cold junction compensation, automatic thermocouple break protection & copper error correction. Medium resistance thermocouple actuated pyrometers. Taut Band. Damped against vibration. Dual Fahrenheit-Centigrade mirrored scales. Dial arc 5". Adjustable for thermocouples 0-10 ohms. For control or alarm applications. Wt. 2 lbs.

Range					603-KH High set point			603-KD Double set point			
F°	C°	TC	Type	Stock No.	1-9	10-24	25-49	Stock No.	1-9	10-24	25-49
0/300	0/150	1/C	J	55F4520	138.00	124.20	117.30	55F4526	163.00	146.70	138.55
0/500	0/260	1/C	J	55F4521	135.00	121.50	114.75	55F4527	160.00	144.00	136.00
0/750	0/400	1/C	J	55F4522	135.00	121.50	114.75	55F4528	160.00	144.00	136.00
0/1000	0/500	1/C	J	55F4523	135.00	121.50	114.75	55F4529	160.00	144.00	136.00
0/1200	0/650	1/C	J	55F4648	135.00	121.50	114.75	55F4649	160.00	144.00	136.00
0/1500	0/800	C/A	K	55F4524	132.00	118.80	112.20	55F4530	157.00	141.30	133.45
0/2500	0/1370	C/A	K	55F4525	132.00	118.80	112.20	55F4531	157.00	141.30	133.45

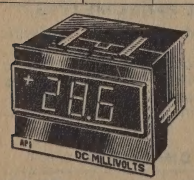
MODEL 603KTP TIME PROPORTIONING TEMPERATURE CONTROL

Model 603-KTP Compensation and Thermocouple break protection same as 603-KH & KD but control circuit provides proportional control from relay output. Ratio of relay on time to "off" time proprotional to deviation from set point. PR Band approx. 3%. Time cycle settable to 5 10, or 15 seconds. Capable of straight line control better than ± degree. F. Taut Band, damped against vibration. Wt. 2 lbs.

Stock No.	Range F°	Range C°	TC	Type	1-9	10-24	25-49
55F4532	0/300	0/150	1/C	J	174.25	156.83	133.31
55F4533	0/500	0/260	1/C	J	172.25	154.80	131.58
55F4534	0/750	0/400	1/C	J	172.25	154.80	131.58

Stock No.	Range F°	Range C°	TC	Type	1-9	10-24	25-49
55F4535	0/1000	0/500	1/C	J	172.25	154.80	131.58
55F4536	0/2500	0/1370	C/A	K	169.00	152.10	129.29

DIGITAL PANEL METERS



For use where repeatability, resolution, and freedom from reading errors are mandatory. Have ⅞ inch high seven bar segmented display for better readability. Both 3 and 3½ digit DPM's require only 1½" behind the panel with remotely mounted power supply and can be front or rear panel mounted. Standard features are autopolarity, T²L/DTL compatible BCD output, ±0.1%of reading ±1 digit accuracy, 1000 megohm input impedance, 100db common mode rejection, and 30 db normal mode rejection. Input connections are made by either screw terminals or standard printed circuit card connector. BCD uses printed circuit connector. Includes front panel mounting hardware. Size 4½"Wx3"Hx3⅝"D behind the panel.

MODEL 4304

Stock No.	Range	Input Imp.	Max. Input Volt	1-9	10-24
55F4870	0-199.9MV	100 Megs	250V		
55F4871	0-1.999V	1000 Megs	250V		
55F4872	0-19.99V	10 Megs	1000V		
55F4873	0-199.9V	10 Megs	1000V	245.00	220.50
55F4874	0-19.99μa	10,000	.....		
55F4875	0-199.9μa	1,000	.....		
55F4876	0-1.999MA	100	.....		
55F4877	0-19.99MA	10	.....		
55F4878	0-199.9MA	1	.....		

• NEW DIGITAL COMPARATOR

- Separable Logic Circuitry..
- Go/No Go Testing..
- Algebraic Comparison..

Model 4310. For use with model 4304 panel meter. Provides limit or on-off control with 2 amp 120 VAC (SPST) relay output. Simply set number on thumbwheel switches and select polarity of plus or minus. Relay close at selected set point. Use buffer and double cable for operating more than one set point with a single meter.

Size: 4.510 x 3.010 x 1.500.

62F2491. Model 4310-0-1999. NET 165.00

ACCESSORIES

62F2492. Cable with connectors. NET 18.00

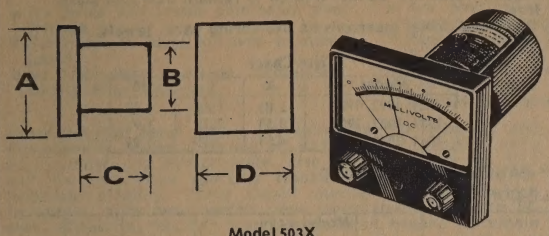
62F2493. Buffer to drive use 2 to 4 4310's. NET 30.00

62F2494. Cable, connects two 4310 to buffer. NET 30.00

Accessories For 4304

55F4879, Input Connector NET 3.50
55F4880, BCD Connector NET 3.50
55F4883, Interconnecting Cable NET 8.50
55F4882, Mounting Bezel NET 1.50

• NEW "ULTIMETER" SOLID STATE METER-RELAY CONTROLLERS



Model 503X. Relay control independent of meter movement, yet control point is set with familar red pointer. Solid state, with integrated circuits used for comparison functions. Automatic reset, wired failsafe. Relay output, SPDT, 5A at 115VAC resistive. ±1% F. S. accuracy.
Model 603X. Temperature controllers have cold junction compensation and thermocouple break protection. Shpg. Wt. 1½ lbs.

TABLE OF DIMENSIONS IN INCHES

Model	A	B	C	D
503	4.27	2.79	1.95	4.71
603	4.36	2.79	1.95	5.75

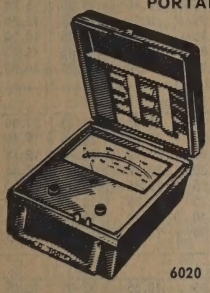
Model 503X

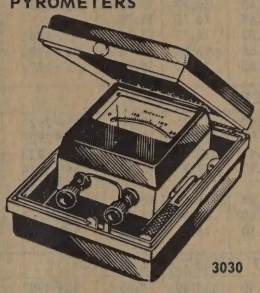
DC Range	IMP Ohms	Single Set Point			Double Set Point		
		Stk. No.	1-9	10-24	Stk. No.	1-9	10-24
0-1 μA	10K	62F2515	135.00	121.50	62F2523	155.00	139.50
0-10 μA	1000	62F2516	112.00	100.80	62F2524	132.00	118.80
0-50 μA	200	62F2517	112.00	100.80	62F2525	132.00	118.80
50-0-50 μA	100	62F2518	122.00	109.80	62F2526	142.00	127.80
0-100 μA	100	62F2519	112.00	100.80	62F2527	132.00	118.80
0-1 mA	10	62F2520	112.00	100.80	62F2528	132.00	118.80
0-10 mA	10K	62F2521	112.00	100.80	62F2529	132.00	118.80
0-50 mA	50K	62F2522	112.00	100.80	62F2530	132.00	118.80

Model 603X (Thermocouple)

Temp. Range	Single Set Point			Double Set Point		
	Stk. No.	1-9	10-14	Stk. No.	1-9	10-14
0-150F	62F2531	155.00	139.50	62F2538	175.00	157.50
0-300F	62F2532	135.00	121.50	62F2539	155.00	139.50
0-500F	62F2533	135.00	121.50	62F2540	155.00	139.50
0-750F	62F2534	135.00	121.50	62F2541	155.00	139.50
0-1000F	62F2535	135.00	121.50	62F2542	155.00	139.50
0-1500F	62F2536	135.00	121.50	62F2543	155.00	139.50
0-2500F	62F2537	135.00	121.50	62F2544	155.00	139.50

PORTABLE PYROMETERS


6020


3030

Model 6020. For checking laboratory ovens, furnaces, refrigeration equipment, solder pots and oil baths. Scales indicate Fahrenheit and Centigrade. Fully compensated for ambient and copper error with bimetal and thermistor. 1% accuracy. 5.5" meter scale. Aluminum trimmed plastic case. Size: 8.5 x 6.5". Shpg. wt.: 2 lbs.
Model 3030. Same as Model 6020 but pocket size with 3" scale. Case size: 5.5 x 3.75". Shipping Weight: 1 Lb.

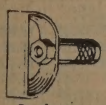
Model 6020

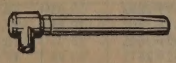
Stk. No.	Temperature Range °F	Temperature Range °C	Each
55F4775	—100+1100	—70/+590	85.00
55F4776	—100+600	—70/+310	
55F4777	0/300	0/150	
55F4778	0/500	0/260	
55F4779	0/750	0/400	
55F4780	0/1000	0/500	
55F4781	0/1500	0/800	

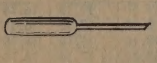
Model 3030

Stk. No.	Temperature Range		Each
55F4782	—100/+1100	—70/+590	68.00
55F4783	—100/+600	—70/+600	
55F4784	0/300	0/150	
55F4785	0/500	0/260	
55F4786	0/750	0/400	
55F4787	0/1000	0/500	
55F4788	0/1500	0/800	

PROBES FOR MODELS 6030/3030


Surface Str

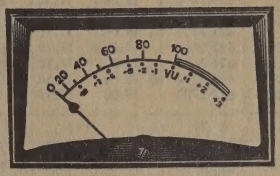

Surface Angle


Needle

Probes for models 6020 and 3030 pyrometers. Interchangeable; carried inside meter case. Lead length is 3.5 feet, armored wire.

Stk. No.	Description	Net
55F4793	Surface-Straight	30.00
55F4794	Surface-Angle	35.00
55F4795	Needle	30.00
55F4796	General Purpose	30.00
55F4797	Wire	6.00
55F4798	Probe Handle	5.00

STYLIST VU METERS



Model 361 and Model 561. VU Meters, for measuring amplitude of audio signals. Two scales, **Type A** scale; for recording uses. **Type B** scale emphasizing percent modulation for broadcasting. Illuminated from behind thru a lucite window at top of case. 6 volt illumination bracket is included. Except Model 426. Conforms to ASA C16.5-1954 specs.

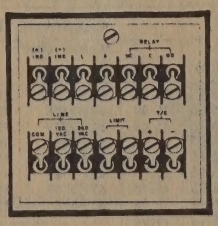
MODEL 361

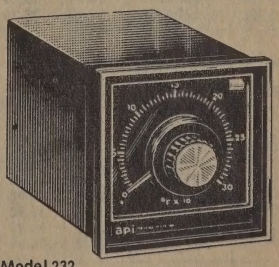
Stk. No.	Scale	Type	Size	1-9	10-14
55F4662	A	361	$3^{11}/_{32}$" x 1⅞"	34.00	28.90
55F4663	B	361			

MODEL 561

55F4664	A	561	$4^{13}/_{16}$" x 2¾"	34.00	28.90
55F4665	B	561			

• NEW TEMPERATURE CONTROL




Model 232

• Din-Dimensioned • Quick Snap Installation

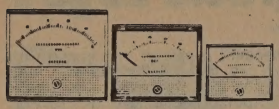
• Sure-Lock Set-Point

Solid state control or limit for industrial and commercial ovens, laboratory environmental chambers, process plants, plastics and packaging machines. Indicator scale is 6.5" electrical cold junction. T/C break protection for use with 0 to 100 ohm, T/C with no readjustment. When used as a limit set point knob is also a reset button. Relay is SPDT 5 amp, accuracy ±2%. Input impedance (100,000 ohms) Required depth for panel is 6". 120 or 240 VAC 50-60Hz. Weight 31 lbs. Recommended panel cutout 3.620 x 3.620.

Range	T/C	On-Off No-Indicator Stock No.	On-Off No-Indicator Each	On-Off With Indicator Stock No.	On-Off With Indicator Each	Timeproportioning With Indicator Stock No.	Timeproportioning With Indicator Each
0/300°F	T/C	62F2500	85.00	62F2505	105.00	62F2510	125.00
0/500°F	T/C	62F2501		62F2506		62F2511	
0/800°F	T/C	62F2502		62F2507		62F2512	
0/1000°F	T/C	62F2503		62F2508		62F2513	
0/2500°F	C/A	62F2504		62F2509		62F2514	

YOU CAN DEPEND ON NEWARK
FOR
EVERYTHING IN INDUSTRIAL ELECTRONICS

WESTON® Panel Meters



Clear view plastic fronts are securely fastened to shell by unique clip to provide adjust-tight seal. Feature long scale meters DC and AC rectifier. Meter has self shielded movement that is unaffected by steel panels or stray magnetic fields, AC meters have iron—vane movement all meters are furnished in clear plastic front, spring-back jewels to prevent damage from shock and vibration. 2% accuracy. Supplied with complete mounting hardware, terminals are 8-32 studs with hex nuts, 5 amps and above terminal ¼-28.

- *2% accuracy with lane pointer.
- **Plastic fronts are Statnul treated to remain dust and static free.
- * Pivot and Jewel mechanisms use spring back, jewels, for rugged use.

Size Chart

Model	A	L	M
1921, 1922, 1924	2.81	1.24	2.00
1931, 1932, 1934	3.51	1.15	1.91
1941, 1942, 1934	4.53	1.15	1.91

PLASTIC FRONTS 2½" 3½" & 4½" PANEL METERS 2% ACC.

D.C. AMMETERS (SELF-CONTAINED)

Range	Model 1921 2½"	1-9	10-24	25-49	50-99	Model 1931 3½"	1-9	10-24	25-49	50-99	Model A41 4½"	1-9	10-24	25-49	50-99
0-1	62F2690	19.00	17.10	16.15	15.20	55F4932	19.60	17.65	16.70	15.70	55F4943	20.95	18.90	17.85	16.70
0-2	62F2691	19.00	17.10	16.15	15.20	55F2910	29.10	17.65	16.70	15.70	55F2931	20.95	18.90	17.85	16.70
0-5	62F2692	19.00	17.10	16.15	15.20	55F2911	19.60	17.65	16.70	15.70	55F2932	20.95	18.90	17.85	16.70
0-10	62F2693	19.00	17.10	16.15	15.20	62F2912	19.60	17.65	16.70	15.70	55F4944	20.95	18.90	17.85	16.70
0-30	62F2694	19.00	17.10	16.15	15.20	55F4935	19.60	17.65	16.70	15.70	55F4947	20.95	18.90	17.85	16.70

D.C. MILLIAMMETERS

0-1	62F2695	19.00	17.10	16.15	15.20	55F2904	19.60	17.65	16.70	15.70	55F2925	20.95	18.90	17.85	16.70
0-10	62F2696	19.00	17.10	16.15	15.20	55F4965	19.60	17.65	16.70	15.70	. . .	20.95	18.90	17.85	16.70
0-20	. . .	. . .	. . .	. . .	. . .	55F4966	19.60	17.65	16.70	15.70	. . .	20.95	18.90	17.85	16.70
0-50	62F2697	19.00	17.10	16.15	15.20	55F2906	19.60	17.65	16.70	15.70	55F2927	20.95	18.90	17.85	16.70
0-100	62F2698	19.00	17.10	16.15	15.20	55F2907	19.60	17.65	16.70	15.70	. . .	20.95	18.90	17.85	16.70
0-200	62F2699	19.00	17.10	16.15	15.20	55F4967	19.60	17.65	16.70	15.70	55F4982	20.95	18.90	17.85	16.70
0-300	62F2700	19.00	17.10	16.15	15.20	55F4968	19.60	17.65	16.70	15.70	55F4983	20.95	18.90	17.85	16.70
0-500	62F2701	19.00	17.10	16.15	15.20	55F2908	19.60	17.65	16.70	15.70	55F2929	20.95	18.90	17.85	16.70

D.C. MICROAMMETERS

0-50	62F2702	24.25	21.85	20.65	19.40	55F2900	24.85	22.40	21.15	19.90	55F2921	26.25	23.65	22.35	21.00
0-100	62F2703	22.65	20.40	19.30	18.15	55F2901	23.10	20.80	19.65	18.50	55F2922	24.25	21.85	20.65	19.40
0-200	62F2704	21.55	19.40	18.35	17.25	55F2902	22.65	20.40	19.30	18.15	55F2923	23.40	21.10	19.90	18.75
0-500	62F2705	20.95	18.90	17.85	16.80	55F2903	20.95	18.90	17.85	16.80	55F2924	22.30	20.10	19.00	17.85
25-0-25	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	55F5006	26.25	23.65	22.35	21.00
50-0-50	62F2706	22.65	20.40	19.30	18.15	55F4995	23.10	20.80	19.65	18.50	55F5007	24.25	21.85	20.65	19.40
100-0-100	62F2707	21.55	19.40	18.35	17.25	55F4996	22.65	20.40	19.30	18.15	55F5008	23.40	21.10	19.00	17.85
500-0-500	62F2744	19.00	17.10	16.15	15.20	55F4997	19.00	17.10	16.15	15.20	55F5009	20.95	18.90	17.85	16.80

D.C. VOLTMETERS CORE MAGNET (SELF-SHIELDING)

0-5	62F2745	20.10	18.10	17.10	16.10	55F4901	22.65	20.40	19.30	18.15	55F4905	20.05	18.05	17.05	16.05
0-10	62F2746	20.10	18.10	17.10	16.10	55F2913	22.65	20.40	19.30	18.15	55F2934	20.05	18.05	17.05	16.05
0-15	62F2747	20.10	18.10	17.10	16.10	55F2914	22.65	20.40	19.30	18.15	55F2935	20.05	18.05	17.05	16.05
0-25	62F2748	20.10	18.10	17.10	16.10	55F4902	22.65	20.40	19.30	18.15	55F4906	20.05	18.05	17.05	16.05
0-30	62F2749	20.10	18.10	17.10	16.10	55F2915	22.65	20.40	19.30	18.15	55F2936	20.05	18.05	17.05	16.05
0-50	62F2750	20.10	18.10	17.10	16.10	55F2916	22.65	20.40	19.30	18.15	55F2937	20.05	18.05	17.05	16.05
0-150	62F2751	20.10	18.10	17.10	16.10	55F2918	22.65	20.40	19.30	18.15	55F2939	20.05	18.05	17.05	16.05
0-500	62F2752	20.10	18.10	17.10	16.10	55F2920	22.65	20.40	19.30	18.15	. . .	. . .	. . .	. . .	. . .

A.C. AMMETER 25-500 CYCLES

Range	Model 1924 2½"	1-9	10-24	25-49	50-99	Model 1934 3½"	1-9	10-24	25-49	50-99	Model 1944 4½"	1-9	10-24	25-49	50-99
0-1	62F2753	18.75	16.90	15.95	15.00	62F2777	19.00	17.10	16.15	15.20	62F2794	20.10	18.10	17.10	16.10
0-2	62F2754	18.75	16.90	15.95	15.00	62F2778	19.00	17.10	16.15	15.20	62F2795	20.10	18.10	17.10	16.10
0-5	62F2755	18.75	16.90	15.95	15.00	62F2779	19.00	17.10	16.15	15.20	62F2796	20.10	18.10	17.10	16.10
0-10	62F2756	18.75	16.90	15.95	15.00	62F2780	19.00	17.10	16.15	15.20	62F2797	20.10	18.10	17.10	16.10
0-20	62F2757	18.75	16.90	15.95	15.00	62F2781	19.00	17.10	16.15	15.20	62F2798	20.10	18.10	17.10	16.10
0-50	62F2758	18.75	16.90	15.95	15.00	62F2782	19.00	17.10	16.15	15.20	62F2799	20.10	18.10	17.10	16.10
0-100*	62F2759	18.75	16.90	15.95	15.00	62F2783	19.00	17.10	16.15	15.20	. . .	. . .	. . .	. . .	. . .
0-200*	62F2760	18.75	16.90	15.95	15.00	62F2784	19.00	17.10	16.15	15.20	. . .	. . .	. . .	. . .	. . .
0-300*	62F2761	18.75	16.90	15.95	15.00										

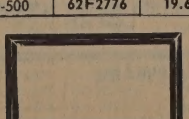
*Amp Range For Use With External Model 605 Current Transformer Not Supplied

A.C. MILLIAMMETERS

0-10	62F2762	18.75	16.90	15.95	15.00	55F5087	19.00	17.10	16.15	15.20	55F5096	20.10	18.10	17.10	16.10
0-50	62F2763	18.75	16.90	15.95	15.00	55F2947	19.00	17.10	16.15	15.20	55F2959	20.10	18.10	17.10	16.10
0-100	62F2764	18.75	16.90	15.95	15.00	55F2948	19.00	17.10	16.15	15.20	. . .	20.10	18.10	17.10	16.10
0-200	62F2765	18.75	16.90	15.95	15.00	55F5088	19.00	17.10	16.15	15.20	55F5097	20.10	18.10	17.10	16.10
0-250	62F2766	18.75	16.90	15.95	15.00	55F5089	19.00	17.10	16.15	15.20	. . .	20.10	18.10	17.10	16.10
0-500	62F2767	18.75	16.90	15.95	15.00	55F2949	19.00	17.10	16.15	15.20	55F2811	20.10	18.10	17.10	16.10

AC. VOLTMETER 25-125. CYCLES

0-3	62F2768	19.60	17.65	16.70	15.70	62F2786	20.10	18.10	17.10	16.10	62F2803	20.95	18.95	17.85	16.80
0-10	62F2769	19.60	17.65	16.70	15.70	62F2887	20.10	18.10	17.10	16.10	62F2804	20.95	18.95	17.85	16.80
0-15	62F2770	19.60	17.65	16.70	15.70	62F2788	20.10	18.10	17.10	16.10	62F2805	20.95	18.95	17.85	16.80
0-25	62F2771	19.60	17.65	16.70	15.70	62F2789	20.10	18.10	17.10	16.10	62F2812	20.95	18.95	17.85	16.80
0-30	62F2772	19.60	17.65	16.70	15.75	. . .	20.10	18.10	17.10	16.10	62F2806	20.95	18.95	17.85	16.80
0-50	62F2773	19.60	17.65	16.70	15.70	62F2790	20.10	18.10	17.10	16.10	62F2807	20.95	18.95	17.85	16.80
0-150	62F2774	19.60	17.65	16.70	15.70	62F2791	20.10	18.10	17.10	16.10	62F2808	20.95	18.95	17.85	16.80
0-300	62F2775	19.60	17.65	16.70	15.70	62F2792	20.10	18.10	17.10	16.10	62F2809	20.95	18.95	17.85	16.80
0-500	62F2776	19.60	17.65	16.70	15.70	. . .	20.10	18.10	17.10	16.10	62F2810	20.95	18.95	17.85	16.80



Type 1909 for modern picture frame look and streamlined appearance on plastic front meters. Behind panel mounting on panel ⅛" max. thickness. Black satin finish, with bezel hardware. Template instructions. 8 oz.

(BEHIND-PANEL BEZEL MOUNTINGS)

Stock No.	Meter Size	1-9	10-24	25-49	50-99
62F2814	2½	1.50	1.35	1.28	1.20
62F2815	3½	1.65	1.49	1.40	1.32
62F2816	4½	1.70	1.53	1.45	1.36

MODEL 1941 TAUT BAND DC METERS

- No pivots and jewels eliminates pivot friction
- Error due to pivot fall-over is eliminated
- No movement springs eliminates spring-set or hysteresis
- Are physically interchangeable with pivot and jewel 1900 series
- Require less driving energy
- May be operated in any position without degrading performance
- Are four times more sensitive than conventional meters

Super sensitive panel meters recognized for top reliability and dependability. Rated accuracy at ±1% for 4½" supplied knife edge pointer and mirror scale, also ±2% accuracy for 3½" and 4½ size. Have specially treated acnico 5 magnets for long-term stability. "Taut Band" mechanisms provide high sensitivity, ±2% panel meters have lance-type pointer and 100 arcs. Attractive "plastic" fronts and statnul treated to remain completely static-free, screwdriver slotted zero correctors are provided. Miliammeters with ranges of 30 MA or higher are shunted and have 100 millivolt drop. Ammeters have approximately 50 millivolt drop. All panel meters meet ASA electrical requirements in Spec. no. C-39.1 for indicating instruments with 2600 volts RMS, AC dielectric tests. Av. Shpg. wt. 12 oz.

DC AMMETERS

	1% Accuracy 4½"					3½" 2% Accuracy					2% Accuracy 4½"				
Range	Stock No.	1-9	10-24	25-49	50-99	Stock No.	1-9	10-24	25-49	50-99	Stock No.	1-9	10-24	25-49	50-99
0-1	.....	.....	.....	.....	.....	62F2650	21.70	19.40	18.30	17.25	62F2664	22.90	20.60	19.45	18.35
0-5	55F3257	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	62F2665	22.90	20.60	19.45	18.35
0-10	55F5134	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	62F2666	22.90	20.60	19.45	18.35
0-20	55F5136	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-30	.....	.....	.....	.....	.....	62F2652	21.70	19.40	18.30	17.25	62F2667	22.90	20.60	19.45	18.35

DC MILLIAMMETERS

0-1	55F3244	30.90	27.80	26.25	24.70	62F2653	21.70	19.40	18.30	17.25	62F2668	22.90	20.60	19.45	18.35
0-5	55F3245	30.90	27.80	26.25	24.70	62F2654	21.70	19.40	18.30	17.25	62F2669	22.90	20.60	19.45	18.35
0-10	55F3246	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	.....	22.90	.....	.....	.....
0-20	55F5142	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	.....	22.90	.....	.....	.....
0-50	55F3247	30.90	27.80	26.25	24.70	62F2655	21.70	19.40	18.30	17.25	62F2670	22.90	20.60	19.45	18.35
0-100	55F3248	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-200	44F5144	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-500	55F3249	30.90	27.80	26.25	24.70	.....	.....	.....	.....	.....	62F2671	22.90	20.60	19.45	18.35

DC MICROMMETERS

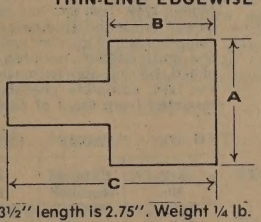
0-50	.....	.....	.....	.....	.....	62F2656	27.30	24.60	23.20	21.85	62F2672	28.66	25.80	24.40	22.95
0-100	55F3237	34.75	31.30	29.55	27.80	62F2657	25.65	23.05	21.80	20.50	62F2673	26.75	24.05	22.75	21.40
0-200	55F3238	34.20	30.80	29.05	27.35	62F2658	24.25	20.79	20.65	19.40	62F2674	25.95	23.35	22.05	20.75
0-500	55F3239	32.25	29.05	27.40	25.80	.....	.....	.....	.....	.....	62F2675	24.55	22.10	20.85	19.65

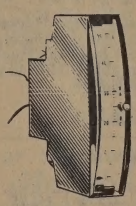
DC VOLTMETERS

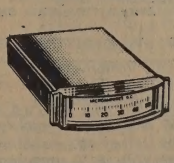
0-2	55F3260	32.00	28.80	27.20	25.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-10	55F3261	32.00	28.80	27.20	25.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-15	55F5122	32.00	28.80	27.20	25.60	62F2659	22.65	20.40	19.25	18.10	.....	.....	.....	.....	.....
0-30	55F5124	32.00	28.80	27.20	25.60	62F2660	22.65	20.40	19.25	18.10	62F2676	24.00	21.60	20.40	19.20
0-50	55F3262	32.00	28.80	27.20	25.60	62F2661	22.65	20.40	19.25	18.10	62F2677	24.00	21.60	20.40	19.20
0-100	.....	.....	.....	.....	.....	62F2662	22.65	20.40	19.25	18.10	.....	.....	.....	.....	.....
0-150	62F2650	32.00	28.80	27.20	25.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-500	55F3264	32.00	28.80	27.20	25.60	62F2663	22.65	20.40	19.25	18.10	.....	.....	.....	.....	.....

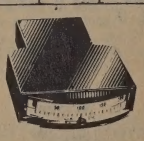
THIN-LINE EDGEWISE PANEL METERS

Space-saving edgewise meters are completely flat and can be stacked. Self-shielded. Cormag mechanism, shock absorbing jewel movement. In-line red pointer and scale to eliminate parallax, front mounted zero corrector (except Model 111.) All DC voltmeters are 5000 ohms/volt. Ac voltmeter are 2000 ohms/volt. Horizontal mounting; clips fasten to meter behind panel. Accuracy 2% of full scale reading on DC meters, 3% on AC. 1½" scale length is 1.24", 2½" length is 1.875", and 3½" length is 2.75". Weight ¼ lb.









Size Chart			
Model	A"	B"	C"
111/112	1.810	2.360	1.615
121/122	3.796	3.687	1.600
131/132	2.187	3.453	1.562

DC AMMETERS (SELF-CONTAINED)

	Model 111-1½"					Model 121-2½"					Model 131-3½"				
Range	Stock No.	1-9	10-24	25-49	50-99	Stock No.	1-9	10-24	25-49	50-99	Stock No.	1-9	10-24	25-49	50-99
0-1	62F2678	18.25	16.43	15.51	14.60	62F2714	20.75	18.68	17.64	16.60	62F2729	23.00	20.70	19.55	18.40

DC MILLIAMMETERS

0-1	62F2679	17.50	15.75	14.88	14.00	62F2715	19.75	17.78	16.79	15.80	62F2730	22.00	19.80	18.70	17.60
0-25	62F2680	18.25	16.42	15.51	14.60	62F2716	20.75	18.86	17.64	16.60	62F2731	23.00	20.70	19.55	18.40
0-100	62F2681	18.25	16.42	15.51	14.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0-500	62F2682	18.25	16.42	15.51	14.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

DC MICROAMMETERS

0-50	62F2683	22.50	20.25	19.13	18.00	62F2717	25.00	22.50	21.25	20.00	62F2732	27.25	24.53	23.16	21.80
0-100	62F2684	19.25	17.33	16.36	15.40	62F2718	21.50	19.35	18.28	17.20	62F2733	23.75	21.38	20.19	19.00
0-500	62F2685	17.75	15.98	15.09	14.20	62F2719	20.00	18.00	17.00	16.00	62F2734	22.50	20.25	19.13	18.00
50-0-50	62F2686	19.25	17.33	16.36	15.40	62F2720	21.50	19.35	18.28	17.20	62F2735	23.75	21.38	20.19	19.00

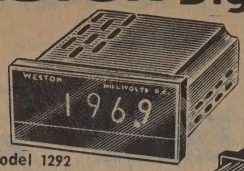
DC VOLTMETERS

0-10	62F2687	18.25	16.43	15.51	14.60	62F2721	20.75	18.68	17.64	16.60	62F2736	23.00	20.70	19.55	18.40
0-25	62F2688	18.25	16.43	15.51	14.60	62F2722	20.75	18.68	17.64	16.60	62F2737	23.00	20.70	19.55	18.40
0-50	62F2689	18.25	16.43	15.51	14.60	62F2723	20.75	18.68	17.64	16.60	62F2738	23.00	20.70	19.55	18.40
0-100	62F2709	18.25	16.43	15.51	14.60	62F2724	20.75	18.68	17.64	16.60	62F2739	23.00	20.70	19.55	18.40
0-150	62F2710	18.25	16.43	15.51	14.60	62F2725	20.75	18.68	17.64	16.60	62F2740	23.00	20.70	19.55	18.40
0-300	62F2711	18.25	16.43	15.51	14.60	62F2720	20.75	18.68	17.64	16.60	62F2741	23.00	20.70	19.55	18.40

AC VOLTMETERS (RECTIFIER TYPE)

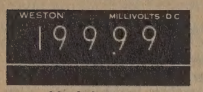
	Model 112-1½"					Model 122-2½"					Model 132-3½"				
Range	Stock No.	1-9	10-24	25-49	50-99	Stock No.	1-9	10-24	25-49	50-99	Stock No.	1-9	10-24	25-49	50-99
0-150	62F2712	23.25	20.93	19.76	18.60	62F2727	25.50	22.95	21.68	20.40	62F2742	28.00	25.20	23.80	22.40
0-300	62F2713	23.25	20.93	19.76	18.60	62F2728	25.50	22.95	21.68	20.40	62F2743	28.00	25.20	23.80	22.40

WESTON Digital Panel Meters

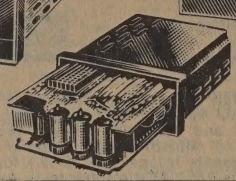


Model 1292

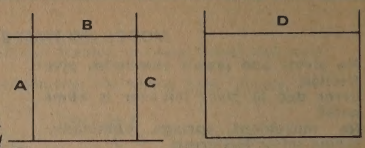
Model 1290



Model 1294



Model 1260



Size Chart

Model	A	B	C	D
1260	1.75"H	x4"W	1.75"H	x4.25"D
1290	1.75"H	x4"W	1.75"H	x4.25"D
1292	1.75"H	x4"W	1.75"H	x4.25"D
1294	1.75"H	x4"W	1.75"H	x4.25"D

Specifications	Model 1294	Model 1290	Model 1292	Model 1260
Accuracy	0.05% RDG ± 1 digit ± 10μv 25°C.±10°C 117V±10%	±0.1% FS±1 Digit 25°C ± 10°C 117V ± 10%	±0.1% FS±1 Digit 25°C±10°C 117V ± 10°	±0.5% FS± 10°C.1 Digit 25°C ± 10°C 117V± 10%
Readings/sec	5/sec	6/sec	5/sec.	10/sec
CMMR	80 db @ 60 Hz	80 db @ 60 Hz	80 db. @ 60 Hz	80 db with 1000 ohms
NMMR	40 db @ 60 Hz	35 db @ 60 Hz	35 db @ 60 Hz	35 db @ 60 Hz
Power requirements	117V±10% 7 watts 60-400 Hz	117V ± 10% 5 watts 60-400 Hz	117V ± 10% 7 watts 60-400 Hz	117V ± 10% 10 watts 50-400 Hz
Response time to full scale	Less than one second	Less than 1 second	Less than 2 seconds	Approx. 1 second
Approx. weight	1-½ Lbs.	1¼ Lb.	1¼ Lb.	Less than 1 Lb.
Overrange	100%	100%	100%	25%
Full buffered display	Yes	Yes	Yes	No
Complete mounting from front of panel	Yes	Yes	Yes	Yes
Dimension	1.75" Hx4" Wx 4.25"D	1.75"Hx4"Wx 4.25"D	1.75"Hx4"Wx 4.25"D	1.75"Hx4"Wx 4.25"D
BCD 1-2-4-8	No	Yes	Yes	No
Logic levels	None	"1"≥1.0V "0"≤0.4	"1" ≥1.0V "0"≤0.4V	None
Polarized viewing window	Yes	Yes	Yes	Yes
Burroughs Nixies Plug In No soldering to replace	Yes	Yes	Yes	Soldered in Nixies
Repairable not potted	Yes	Yes	Yes	Yes

4½ DIGIT BI-POLAR MINATURE PANEL METER

Type 1294. Miniture panel meter utilizes Dual slope integrating technique. Features high imput impedance and basic range of 199.99 millivolts full scale. Power requirements 117V±10% 7 watts 60-400 Hz. Common mode rejection 80db with 1000 ohms @unbalance 60 Hz. Normal mode rejection 40 db @ 60 Hz. 5 readings per second. 100% overrange. Approx weight from 1-½ lbs.

Model 1290. Three and one half digit plus 100% overrange Digital Panel meter in 10 voltage and current ranges. Mounts completely from the front of the panel. Entire chassis pulls out from the front for servicing or replacement. Nixie tubes are pluggable. Fits in any 7 sq. in panel space. Continuous systems operation.

Model 1292. Three and one half digit, bipolar Digital Panel Meter in 10 Voltage and current ranges. As with the 1290, equipped with chassis that pulls out from the front for servicing or replacement. Mounts completely from front of panel. Nixie tubes are pluggable. Fits only 7 sq. in panel space. Continuous systems operation.

Model 1260. Two and one half digit Digital Panel Meter with out of range indication (indicates when unit is above or below standard range). Has 10 current and voltage ranges. Complete power supply and readout mounted on a single side of a printed circuit board, having approximate dimensions of 1.75"x4"x4.25". As with the 1290, complete chassis removal from front of panel. Can be mounted from front of panel.

MODEL 1294 4½ DIGIT 1-BI-POLAR

Stk. No.	Catalog Number	DC. Voltometer Volts or Current Imput Impedance	1-4	5-9
62F2817	0270600	0-199.99 MV @ 10 megohms	375.00	356.25
62F2818	0270601	0-1.9999 Volt @ 100 megohms	350.00	332.50
62F2819	0270602	0-19.999 Volt @ 10 megohms	350.00	332.50
62F2820	0270603	0-199.99 Volt @ 10 megohms	350.00	332.50
62F2821	0270604	0-1000.0 Volt @ 10 megohms	350.00	332.50
		DC. Milliammeter		
62F2822	0270607	0-1.9999 MA	350.00	332.50
62F2823	0270608	0-19.999 MA	350.00	332.50
62F2824	0270609	0-199.99 MA	350.00	332.50
		DC. Microammeter		
62F2825	0270605	0-19.999 microamps	350.00	332.50
62F2826	0270606	0-199.99 microamps	350.00	332.50

Type 9770-0267053. Pc. Connector No. NET 3.75

MODEL 1290—3½ DIGIT

Stk. No.	Catalog Number	DC Voltometers	1-4	5-9
55F5166	0267290	0-100mV @ 10 K-ohms	260.00	247.00
55F5167	0267291	0-1.00 V @ 100 K-ohms	260.00	247.00
55F5168	0267292	0-10.00 V @ 1 megohm	260.00	247.00
55F5169	0267293	0-100 V @ 1 megohm	260.00	247.00
55F5170	0267294	0-1000 V @ 1 megohm	260.00	247.00
		DC. Milliammeter		
55F5173	0267297	0-1 ma @ 100 mV	260.00	247.00
55F5174	0267298	0-10 ma @ 100 mV	260.00	247.00
55F5175	0267299	0-100 ma @ 100 mV	260.00	247.00
		DC. Microammeter		
55F5171	0267295	0-10 μa 100 mV	260.00	247.00
55F5172	0267296	0-100 μa 100 mV	260.00	247.00

55F3270 Type 9790-0267 253 Pc. Connector NET 3.75

MODEL 1292—3½ DIGIT BI-POLAR

Stk. No.	Catalog Number	Dc. Voltometer Volts or Current Input Impedance	1-4	5-9
55F176	0270200	0-100mV @ 100 megohms	283.00	268.85
55F177	0270201	0-1 V @ 1000 megohms	283.00	268.85
55F178	0270202	0-10 V @ 10 megohms	283.00	268.85
55F179	0270203	0-100 V @ 10 megohms	283.00	268.85
55F180	0270204	0-1000 V @ 10 megohms	283.00	268.85
		DC. Milliammeters		
55F5183	0270208	0-1 ma @ 100 mV	283.00	268.85
55F5184	0270210	0-10 ma @ 100 mV	283.00	268.85
55F5185	0270211	0-100 ma @ 100 mV	283.00	268.85
		DC. Microammeters		
55F5181	0270206	0-10 ua @ 100 mV	283.00	268.85
55F5182	0270207	0-100 ua @ 100 mV	283.00	268.85

Type 977-0267253. Pc. Connector Net 3.75
62F2730 9970-0271102. B. C. D. Connector NET

MODEL 1260—2½ DIGIT

Stk. No.	Catalog Number	Voltmeter	1-4	5-9
55F5146	0267381	0-199 MV @ 20 K-ohms	133.00	126.35
55F5147	0267382	0-1.99 V @ 200 K-ohms	133.00	126.35
55F5148	0267383	0-19.9 V @ 2 megohms	133.00	126.35
55F5149	0267384	0-199 V @ 2 megohms	133.00	126.35
55F5150	0267385	0-1KV @ 2 megohms	133.00	126.35
		MICROAMMETERS		
55F5151	0267386	0-19.9 μa @ 10 K-ohms	133.00	126.35
55F5152	0267387	0-199 μa@ 1 K-ohms	133.00	126.35
		MILLIAMMETERS		
55F5153	1267388	0-1.99 ma @ 100 ohms	133.00	126.35
55F5154	0267389	0-19.9 ma @ 10 ohms	133.00	126.35
55F5155	0267390	0-199 ma @ 1 ohms	133.00	126.35

62F2830 9970-0271102 B.C.D. Connector NET 3.00

SINGLE CHANNEL RECORDERS

DC MILLIAMMETERS MODEL 288

Stk. No.	Range	Ohms	Net
62F2193	0-1ma	100	99.50
62F2194	.5-0-5	100	104.50

DC MICROAMMETERS MODEL 288

Stk. No.	Range	Ohms	Net
62F2190	0-10μa	5700	130.50
62F2191	0-50μa	5400	114.50
62F2192	0-100μa	4600	109.50

DC MILLIVOLTMETER MODEL 288

Stk. No.	Range	Ohm	Net
62F2195	0-10mv	10	109.50
62F2196	0-25mv	12.5	109.50
62F2197	0-100mv	100	99.50

RECORDING PYROMETER

Model 2122. Self calibrating. Quickly, easily re-calibrated for thermocouple resistance from 0 to 23 ohms w/o using external resistors or millivolt standards. Accuracy in ±2% of span. Galvanometer; Taut-band suspension. Response time 5 seconds. Maximum writing speed: 1 strike per second. Cold junction compensation from +60 to +125°F 4 switch ranges: 0-400°F; 0-800°F; 0-1200°F; 0-2400°F.; 6 ft. thermocouples included. One 1/c and 1 c/a, each with 6' lead. Shipping weight 7 lbs.

62F2166. NET **190.00**

AC VOLTAGE AND CURRENT

Model 2113. Power tester and recorder for voltage, current or both alternately. Time sharing feature F137 is built in for two-point recording with 2-5/16" usable chart width for each parameter. A dual concentric switch selects voltage and current ranges. Clip leads for voltage and clamp-on transducer for current are furnished with each instrument. Housing is Model 172-1 Dual Pack. Supplied with a 1 RPM motor as standard and cannot be supplied with faster motors. Voltage range, 0-150, 0-300 and 0-600 volts AC. Current range 0-15, 0-30, 0-60 and 0-150 amperes AC. Accuracy ±3%. 7¼"x5⅜"x7½"

62F2165. NET **235.00**

AC CURRENT

Stk. No.	Type	Range	Net
62F2164	2118	0-1 amp AC 0-5 amp AC	135.00

AC VOLTMETERS

62F2198	288R	0-150V	110.00
62F2159	293	70-135V	115.00
62F2160	293A	70-135V 140-270V	120.00
62F2161	293B	70-135V 140-270V 280-540V	130.00
62F2162	2186	105-125V 210-250V	150.00
62F2163	2186A	105-125V 210-250V 420-500V	160.00

PRESSURE RECORDERS

Model 2162. Uses a C-type Bourdon tube with a direct coupled pointer for recording pressure of gases and liquids. Single channel. Maximum pressure 500 psi. Accuracy 2%. Response time 0.5 seconds. Bourdon tube C-type seamless grade A phosphor bronze. 115 VAC/60 Hz.

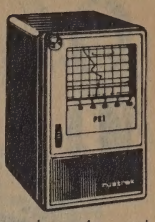
Stock No.	Range	Each
62F2175	0-50 PSI	125.00
62F2176	0-100 PSI	125.00
62F2177	0-300 PSI	125.00

MODEL 2155 THERMOCOUPLE RECORDER

Records output of a thermocouple without need for internal or external amplification. The unit is available with a Fahrenheit temperature range, using either an iron constantan (type J) or chromel alumel (type K) thermocouple. Accuracy ±2%. Temperature span 0-500°F (I/C Type J), 0-1000°F (C/A Type K) other ranges supplied to order. Primary power 105 to 125 volts, 60 Hz. Size 5-5/8"H x 4⅛"D x 3 5/8"W. Shipping weight 3 lbs.

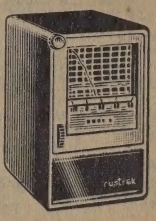
62F2172. 0-500° NET **150.00**

62F2173 0-1000° NET **148.00**



Automatic chart recorders record information every two seconds at 1" per hour. Inkless, dry writing galvanometer movement. Sliding access window. Chart advance thumbwheel. Full 31 day chart re-roll or tear off capability. Quick review and rewind. Strong die-cast aluminum case construction. Easily changed scale and name plate. Accuracy 2% of full scale. Response time 0.8 sec. to 1.0 sec. Usable chart width 2-5/16" Drive mechanism for 115V., 60 Hz. Size 5-5/8" x 3-5/8" x 4 5/16" deep. Shipping wt. 5 lbs.

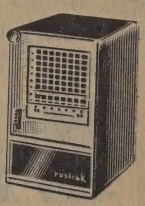
TEMPERATURE RECORDER



Model 2144. Temp. recording instrument covers spans in the range of -100°F to 600°F. Sensor for recorder is a fine nickel wire. No reference point is required. Cold junction compensation or monitoring is unnecessary. Accuracy ±2.5% of span, ±0.5% of full scale temperature. Stability ±0.5% of span.

62F1319. NET **200.00**

DUAL CHANNEL MODEL 291



Same as single channel recorder #288 except contains 2 galvanometers in same size housing for reading from separate signal source on same chart paper. Shpg. wt. 5½ lbs.

Stk. No.	Chan. 1	Chan. 2	Ohm	Net
62F2178	0-1ma DC	0-1ma DC	100	143.50
62F2179	0-50μa DC	0-50μa DC	5400	167.50
62F2180	0-100μa DC	0-100μa DC	4600	158.50

SERIES 292-4 & 8 EVENT RECORDERS

EVENT RECORDER CHART SPEED*(2-RPM MOTOR)

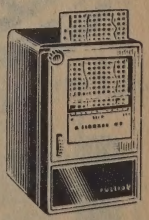
Gear Train Assembly No.	¼	½	1	2	3	6	10	12	15	30	60
Chart Speed (Inches/hr.)	¼	½	1	2	3	6	10	12	15	30	60
A or B (sec.)	720	360	180	90	60	30	18	15	12	6	3

POWER SUPPLY

Model 921-8. Operates from 120v AC to supply 24v- DC for four and eight pen actuators.

62F2184. NET **25.00**

SERIES 292-4 & 8 EVENT RECORDER



Simultaneously records up to 8 ON-OFF events. Requires 24 volts DC at 70 ma for actuators for each channel. Response time. 10 milliseconds. Chart drive for 115 v, 60 Hz. With 2 rpm motor specify gear train for desired recording speed from table at right. Shipping weight 5 lbs. *Based on 0.050" (1.27mm) minimum event time (A) or minimum time between events (B). Choose gear train closest to A or B to suit your particular recording use.

62F2181. Model 292-4 NET **109.00**

62F2182. Model 292-8 NET **155.00**

ACCESSORIES FOR RECORDERS

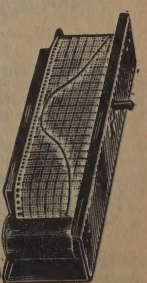
EXTRA GEAR TRAIN UNITS
Can be interchanged in field in seconds.

Stk. No.	Description	NET
62F1320	¼ inch per hour	5.00
62F1321	½ inch per hour	
62F1322	1 inch per hour	
62F1256	2 inches per hour	
62F1257	3 inches per hour	
62F1258	6 inches per hour	
62F1259	10 inches per hour	
62F1323	12 inches per hour	
62F1260	15 inches per hour	
62F1261	30 inches per hour	
62F1324	60 inches per hour	

CHART PAPER
(63 Foot Roll)

Stock No.	Style Description	NET
62F1262	A-50 Divisions	2.25
62F1263	B-75 Divisions	
62F1289	C-65 Divisions	
62F1244	D-20 (Dual Chan.)	
62F1329	EE Event	
62F1968	F-15 (Dual Chan.)	
62F2185	G-20 Divisions *	
62F2186	H-40 Divisions	
62F2187	I-20 Divisions	
62F2188	K-60 Divisions	
62F2189	L-80 Divisions	

CHART VIEWER

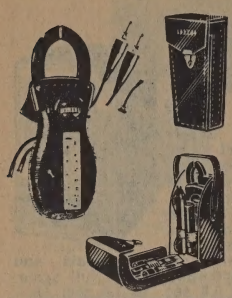


Model 168. View 12" of chart paper at one time. Easily rotates in either direction through use of clutch mechanism. Standard mandrel takes chart paper with 5/8" I.D. core. Sets on non-skid, marproof pads. Use 1⅞" to 3" chart paper. 14" long x 3½" wide. Weight: 3½ lbs.

62F1972. NET **55.00**

Amprobe Test Equipment

AMPROBE SNAP-AROUND VOLT-AMP-OHMMETERS



One volt or amp range revealed in window at one time. Rotary scale eliminates reading errors. Currents may be measured instantly and accurately. Pointer-lock freezes needle at reading with flick of a switch. Take readings in darkness or hard to see areas and then read away from conductor. Valuable tool in balancing circuits, tracing faults and grounds, and diagnosing operating troubles without shutting down equipment. Built-in 25 ohms mid scale ohmmeter on RS-3, RS-3A, RS-1000 and RS-1007. Accuracy within ±3% FS. One hand operation. With VL-11 leads and "G" case. (*) With Extendo lead pack and "A" case.

Stk. No.	Type	AC Volts	AC Amps	Net
62F659	RS-1	0-150/600	0-6/15/40/100	46.85
62F706	RS-2	0-150/300	0-6/15/40/100	46.85
62F658	RS-3	0-150/300/600	0-6/15/40/100/300	59.85
62F707	RS-300	0-150/300/600	0-6/15/40/100/300	55.85
62F708	RS-1000	0-150/300/600	0-15/40/100/300/1000	79.85
62F709	RS-1007	0-150/300/750	0-15/40/100/300/1000	79.85
62F941	RS-1A*	0-150/600	0-6/15/40/100	51.85
62F942	RS-2A*	0-150/300	0-6/15/40/100	51.85
62F943	RS-3A*	0-150/300/600	0-6/15/40/100/300	64.85
62F944	RS-300A*	0-150/300/600	0-6/15/40/100/300	60.85

TEST LEADS

Model VL-11. Bayonet Safety Type. Use with all RS models.
62F945. NET 2.60

OHMMETER BATTERY ATTACHMENT

Model OHB-3. For use with Model RS-3, RS-3A, RS-1000, RS-1007 includes battery and fuse.
62F946. NET 3.25

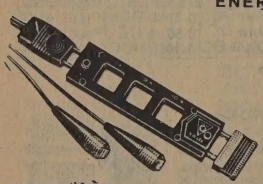
EXTENDO LEAD PACKS

A "Third Hand" for easier safer faster readings. Includes jaw adapter, extension probe leads and insulated clips.
62F988. Model VLK 311. For RS models except RS-1000. RS-1007. NET 4.25
62F947. Model VLK 355. For all Amprobe Juniors. NET 4.25

• NEW DECA-TRAN

Model A-50-1. Deca-Tran can be used with any model to extend current ranges 10 times up to 1200 amps maximum, intermittent duty, 600 amps continuous duty. With 2' Line Cord for remote readings. Accommodates round conductors —2 1/16" (5.33 cm) in diameter and bus bar ¾" (1.80 cm) x 2½" (6.35 cm). With carrying case.
62F1801. NET 34.85

ENERGIZER



Model A-45L. Permits current readings on permanently wired low-current equipment by simplifying series connection. Increases ammeter sensitivity 5x or 10x for more precise reading directly at outlets by splitting double conductor line cords while equipment is connected to line Cap. 10 amps. With pouch.
62F977. NET 7.85

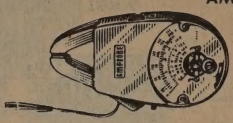
VOLTPROBE VOLTAGE TESTERS

Model VT-100. Designed for convenient use for all residential and commercial circuits indicating nominal voltage levels from 115-550 VAC, 115-750 VDC. Voltage levels are shown "Thermometer Style", visual readout. Automatically shows correct DC polarity. Compact. Only 6" x 2¼" x ¾" Shpg. Wt.
62F986. NET 9.50

• NEW 24 AND 48 VOLT INDICATOR VOLT PROBE

Model VT-124. New AC model with 24 and 48 volt indication as well as levels from 115 to 550 volts. Economical and safe way to perform electrical checks. Indicates most common AC voltages 24, 48, 115, 220, 277, 440, 550 VAC, in pocket size unit. Lightweight and compact with coil cord and probes that tuck inside body. Illuminated windows indicate each voltage level. Indicates live line and approx. level of voltage. Can be used to check fuses, to determine grounded side of line or motor, and to troubleshoot circuits by checking for power in circuit. Operates over a frequency range of 25 to 800 cycles.
62F1805 NET 14.85
Model VC. Case for VT-100 and VT-124.
62F974. NET 2.75

AMPROBE JR.



The only voltage testers in their price class that also measures amperage. They are precision instruments that measure instantly and accurately on a calibrated scale ±3% full scale (not just an indication). Price includes Test Leads, Less case.

Stk. No.	Type	Ranges	Net
62F963	Y25	0-25 Amps AC 0-125/250V AC	25.85
62F967	Y550	0-50 Amps AC 0-150/600V AC	25.85
62F968	Y500	0-100 Amps AC 0-150/600V AC	25.85
62F949	YT1025	0-10/25 Amps AC 0-150/300V AC	30.85
62F948	YT25100	0-25/100 Amps AC 0-150/300V AC	30.85
62F972	YT525100	0-25/100 Amps AC 0-150/600V AC	30.85

Model B Case. Compact, lightweight case designed for Amprobe juniors. (Will hold A-45L Energizer and VLK 355. Leads.
62F975. NET 4.95

AMPROBE JR. YO MODELS AND KITS

The only voltage testers in their price class that measure voltage, current and resistance; furnished with test leads. Also comes as Amprobe Jr. Test-Master Kit consisting of a specially designed carrying case containing the YO Amprobe Jr., on Amprobe A-45L Energizer, battery attachment and test leads. The New YO precision instruments measure instantly and accurately on a calibrated scale. Ohm-meter range: 25 ohms mid-scale; frequency: 60 cycles A.C. (*Indicates Test-Master Kits).

Stk. No.	Type	Ammeter Range	2 Voltage Ranges	NET
62F951*	YO 550	0-50	0-150/600	30.85
62F952	YO 500	0-100	0-150/600	
62F957	TM-YO 550*	0-50	0-150/600	41.85
62F958	TM-YO 500*	0-100	0-150/600	

Type P-1. Flat pouch case for any Amprobe Junior.
62F969. NET 3.50

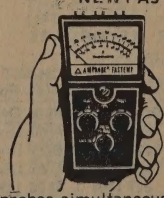
TEST MASTER KITS

TM-43A
In "U" Case

TM-63
In "A" Case

Compact. Neat. Holds instruments in carrying case. All contain the popular rotary scale Amprobe, RS-3 with various combinations of accessory items to suit your needs. Features snap-lock and carrying handles.
Model TM-33A. Contains one RS-3, Deca-Tran A-50-1, Energizer A-45L, VLK-311 Extendo Leads and U case.
62F661. NET 106.50
Model TM 43A. Contains RS-3, Deca-Tran A50-1, Phase Sequence adaptor PSA-1, Energizer A-45L, VLK-311 Extendo in U case.
62F983. NET 117.85
Model TM-63—Includes Model RS-3, VLK 311 "Extendo Leads", A45L Energizer with pointer-lock that freezes pointer. Rotary scale with unbreakable magnifier reveals voltage or amperage at a glance. Impact resistant, light weight, with "A" case.
62F985. NET 71.85
Model TM-60. Same as TM-63 but without instrument.
62F1802. NET 17.35

NEW FASTEMP INDUSTRIAL THERMOMETERS



Electronic thermometer that uses thermistors as sensing element in its probes, means temperature readings in seconds. Taper shape fits hands comfortably. Wide scale plates give good readibility. Overlapping ranges reduce necessity of switching ranges when monitoring fluctuating temperature around switchover point. Press to read button greatly extends battery life; "locks in" for continuous readings. Accommodates three probes simultaneously. Supplied with one RBT-12 universal probe for air, liquid or surface temperatures. Has 15 ft. long leads. Units have dual ranges: Model T-150(—50°F to +50°F) (+40°F to +150°F) T-150C (—45°C to +10°C) (+6°C to +65°C) requires 4 "AA" batteries - not supplied. Unit size: 4 13/16 x 2 1/16 x 1 7/8". Shpg. wt. 1½ lbs.
62F1803. Model T150 NET 44.85
62F1804 Model T150C NET 44.85
62F1806 Model FTC. FASTEMP carrying case with storage space for three probes. 9.85

Time Meters and Recorders

AMPROBE INSTRUMENT
STRIP CHART RECORDERS

AC VOLTMETERS

Stk. No.	Type	Range	Net
62F680	LAV2X	95-130/190-260 V., AC.	109.85
62F979	LAV3X	95-130/190-260/380-520 V., AC.	130.85
62F698	LAV8600	0-150/300/600 V., AC.	114.85

AC AMMETERS

Stk. No.	Type	Range	Net
62F678	LAA81***	0-10/50/250/500 AMPS AC.	120.85
62F679	LAA82**	0,5/25/100/250 AMPS AC.	115.85
62F1810	LAA1500*	0,800/1500 AMPS AC.	149.85

AC VOLTAMMETERS

Stk. No.	Type	Range	NET
62F685	LAVA81***	VOLTS: 95-130; 190-260 AC AMPS: 0-10/50/250/500AC	164.85
62F686	LAVA82**	VOLTS: 95-130;190-260 AC AMPS: 0-5/25/100/250 AC	159.85
62F980	LAVA83***	VOLTS: 95-130; 190-260; 380-520 AC AMPS: 0,10/50/250/500 AC	180.85
62F981	LAVA84**	VOLTS: 95-130; 190-260; 380-520 AC AMPS: 0-5/25/100/250 AC	175.85
62F2455	LAVA87***	VOLTS: 0-150/300/600 AC AMPS: 0-10/50/250/500 AC	168.85

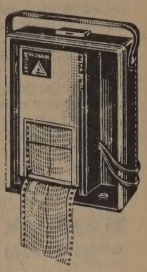
TEMPERATURE RECORDER
FL-RBT-1 Probe Furnished

Stock No.	Type	Range	NET
62F1817	LT8101	-45° to +40°C; +10° to +120°C	125.85

STRIP CHARTS FOR RECORDERS

Perforated and printed 2 colors. Individually boxed 30' rolls.

Stk. No.	Type	Description	Net
62F704	830AV600	Use with LAV8600 ,LAVA 87	1.70
62F689	850A	Use with LAA81, 82, LAVA 81, 82, 83, 84, 87	1.70
62F690	835X3A	Use with LAV2X, 3X, LAVA 81, 82, 83, 84	1.70
62F1812	800AA	Use with LAA1500 (0-800 AMPS AC)	1.70
62F1813	1500AA	Use with LAA1500 (0-1500 AMPS AC)	1.70
62F1814	828T3	Use with LT8101 (-45 to +40°C)	1.95
62F1815	822T4	Use with LT8101 (+10 to +120°C)	1.95



Access Window For Making Notes

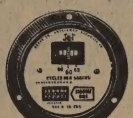
Easy To Load Chart

Compact, rugged recorders that satisfy requirements for OEM applications, service and maintenance work, process control and recording experimental data. AC or DC current, AC or DC voltage, or any variable that can be converted to an electrical signal. Practical, economical and convenient solution to limitless number of measuring problems that arise daily in every business. Instruments in their own carrying case. Designed for high dependability and accuracy and ease of operation. Small size and easy loading plus a unique design feature permits them to be used either as monitoring/recording devices or as indicating instruments making these recorders extremely versatile. Mylar shield seals meter movement and drive mechanism to effectively block out air borne dirt and dust. Built-in viewing/writing window permits you to see record as it is made and to make notations on chart without removing recorder's cover. Can be used as round-the-clock trouble-shooters without the need for an operator to be present. Power requirements: 115VAC, 60 cycles, 2.5 watts. Accuracy: AC amps and volts ±3%FS; AC expanded scale volts ±1.25% FS; Temperature ±3°F on +20°F to +100°F; ±4°F on -50°F to +20°F; ±5°F on +50°F to 250°F. Chart Speed is 12"/hr. Supplied with 1 roll each of the necessary strip charts. Other chart speeds available on special order. Weight 20 oz.

** With A60FL Transducer
*** With A-70FL Transducer
* With A-50FL Transducer

JBT
FREQUENCY & ELAPSED TIME METERS

TIME-FREQUENCY



Type 31-FE. Uses a separate exciting coil for the reeds to achieve close control of reed amplitude and freq. Tenths shown in red; all others in white on black background. Time meter reads 0-9999.9 hrs. 58-62 hz. for 100-130 VAC. 5 reeds indicate at 4.7w. 3¼" metal case. Shpg. wt. 12 oz.
55F688. NET 38.75

2½" METERS—5 REEDS

Model 21-FX. 2½" panel meter. 5 reed cover 58-62 hz. 100-130V, 66 ohms per volt, 0.25 watt power consumption. Flush panel mounting. Meets ASA C39.1-1951 and MIL-M-6B in depth of case and mounting dim. With 2 1/16" molded case. Shpg. wt. 4½ oz.
55F694. NET 25.00

FREQUENCY METERS

Each vibrating reed responds to a different frequency. Input frequency is indicated by reed with greatnest swing. All operate from 100-130V; with accuracy of ±.3% or better. All have 3½" molded case. Shpg. wt. 12 oz.

55F685. Type 31-FX, 5 reeds, 58-62 hz. **NET** 26.10
55F686. Type 34-FX. 9 reeds cover 56-64 hz. **NET** 30.10
55F687. Type 33-FX. 9 reeds cover 380-420 hz. **NET** 37.60

TIME METERS

Type 31-EX-110-125V.
55F691. NET 18.80
Type 31-EXW. 6 digits, 0-99, 999.9 hours. 60 Hz.
55F699. NET 18.75
Type 31-EXW-5. 5 digits, 0-99, 999.9 hrs. 110-125V. 60 Hz.
55F695. NET 17.80
Type 31-EX-200-230V.
55F692. NET 19.80
Model 31-ES. 110-125 volts, 60 Hz. As above except with square black molded case. 3"x3".

55F685. NET 19.75

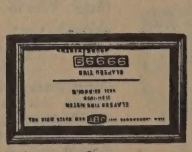
FREQUENCY METERS

34-FB

Series FB. Case design with the time-tested accuracy and reliability of the J-B-T vibrating reed frequency meter. Uses include control panels of Total Energy Systems. Scale is designed for maximum ease of reading to the full limit of accuracy of the instrument, ±o.3% or better of the frequency being measured. Permanently calibrated and does not require subsequent adjustment. Temp. compensations are not necessary, as frequency change per °F is only .0075%, negative. Operating volts of 100-130.

55F785. Type 30 FB, 10 reeds, cover 58-62 hz. **NET** 34.70
55F786. Type 31 FB, 5 reeds, cover 58-62 hz. **NET** 30.30
55F787. Type 33 FB, 9 reeds, cover 380-400 hz. **NET** 41.80
55F788. Type 34 FB, 9 reeds, cover 56-64 hz. **NET** 34.30
55F789. Type 34 FB, 11 reeds, cover 57-62 hz. **NET** 39.60
55F790. Type 34 FB, 21 reeds, cover 45-65 hz. **NET** 48.80
55F791. Type 36 FB 21 reeds, cover 380-400 hz. **NET** 53.80

FREQUENCY & ELAPSED TIME METERS



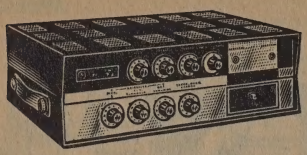
31-EGW-5

34-FG

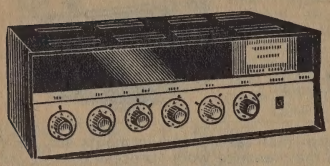
Series FG and EG. Matched frequency and elapsed time meters, with clear plastic fronts and bright textured metal inserts. Dress up any panel. Design flexibility provided by half bezel adapters black plastic or metal picture window. Standard voltage on Frequency meters 100-130; on Elapsed time meters 110-125.

55F792. Type 30 FG, 10 reeds, cover 58-62 hz. **NET** 34.10
55F793. Type 31 FB, 5 reeds, cover 58-62 hz. **NET** 30.00
55F794. Type 31 FB-7, 7 reeds, cover 57-63 hz. **NET** 32.00
55F795. Type 34 FB, 9 reeds, cover 57-63 hz. **NET** 33.90
55F796. Type 31 EGW-5,5 digits, 0-9,9999.9 hours, 60 hz. **NET** ... 21.50
55F797. Type 31 EGW, 6 digits, 0-9, 9999.9 hours, 60 hz. **NET** 22.00
55F798. Type 13 A-234, black half Bezel for FG or EG meters. **NET** 2.75
55F799. Type 13 A-239, metal black half Bezel for FB or EG meters. **NET** 2.75

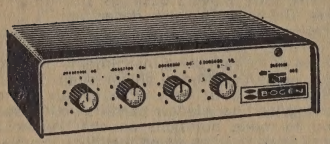
BOGEN Amplifiers



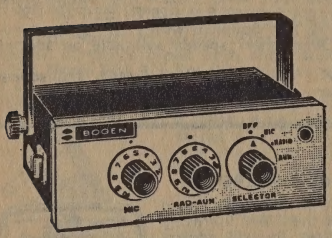
NT-30,60,120



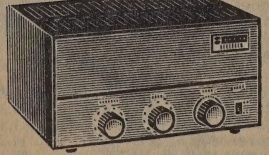
CHS SERIES



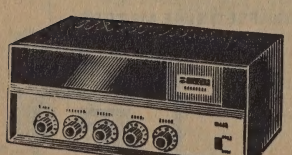
MX6AT



BT35A



CHB 10A



CHB 20 A

CHB 35-50-100

MODEL NT

Flex-Pak public address amplifiers are fully transistorized preamp-mixer amplifier units. 3 high impedance microphones imputs. Each convertible to low-impedence imput by means of Models TM-200, TM-500, TM-50 transformers and 2 aux. inputs. Master volume, bass and treble controls, and notch frequency control. Output impedance 4, 8 and 16 ohms. Connections for 25 v. and 70 v. balanced constant voltage lines. Hum and noise MIC, 62 db (with 3mV input for rated output); Aux 75 db. Power requirements 105-125 vac 50/60 Hz. Power consumption 120 watts for NT-30, 180 watts for NT-60 and 360 watts for NT-120. Size: 16 7/8" x 13 1/4" x 5 1/4".

79F000 NT-30 30 Watts **NET** **214.20**

79F001 NT-60 60 Watts **NET** **244.80**

79F002 NT-120 120 Watts **NET** **290.70**

MODEL CHS 20—20 WATT

Challenger 20 W solid state public address amplifier. Freq Res: 50-15000 Hz ±2 db. Peak power 40 W. Controls: 1 mic, 1 1 vol-(fader) for Aux. 1 & 2, master volume, bass, treble, power switch, and remote control or mic precedence (all inputs). Hum and noise: mic, —66db; aux, —70db. 8 silicon and 2 germ. semiconductors. 5 1/2x10 1/2x15 1/4". Shipping weight, 15 lbs.

96F500. **NET** **100.50**

MODEL CHS 35—35 WATT

Challenger 35 watt solid state PA amplifier with 70 watts peak power. Response, 60-15,000 Hz ±2 db. Output impedance; 4, 8 and 16 ohms, 25 and 70V. Controls: 2 indiv. mic., 1 vol. fader) for Aux. 1 & 2, master volume, bass treble, power switch, and provision for remote control. Hum & Noise: Mic.: —64db, Aux: —67db. Size: 5 1/2" x 10 1/2" x 15 1/4". Shpg. wt., 17 lbs.

96F501. **NET** **115.50**

MODEL CHS 50—50 WATT

Challenger 50 watt solid-state (all silicon) PA amplifier. 100 watts peak. Response, 40-20,000 Hz ±2db. Output impedance: 4, 8, and 16 ohms, 25 and 70V. Controls & size are the same as the CHS 35. Hum and noise is well below rated output with Mic.: —67 db, Aux. —70db. Wt. 21 lbs.

96F502. **NET** **138.00**

MODEL CHS 100—100 WATT

Challenger 100 watt solid state public address amplifiers. Designed for continuous operation at full output from —20°C (—4°F) to +65°C (+149°F.) Features high or low impedance microphone inputs (no transformers required). Separate master volume, bass treble controls; high input sensitivity; low noise and hum. Peak power: 200 W. Frequency response: 40-20,000 Hz ±2db. Output impedance. 2, 8, and 16 ohms. Hum and noise—Mic: 65db; Aux: 70 db. Power consumption: 105-125 V, 50/60 Hz. Semiconductors: Total 14 all silicon. 2 mic inputs with 2 aux inputs on fader. 5 1/2x10 1/2x15 1/4". Shipping wt., 24 lbs.

96F503. **NET** **171.00**

MODEL MX6A-T

Solid-state mixer preamplifier. Features inputs for 4 high or low impedance microphones with individual volume controls. Excellent for electric guitars. The output (6v. @ 2%, 4v @ 1%, and 2v @.05% dist.) is adequate to drive any packaged amplifier through its aux. input. Frequency response, 50-20 Khz ±2db. Hum/noise 68db below 5v. Size 9 1/4" x 6" x 2 5/8". 5 lbs.

96F700. **NET** **52.45**

MIKE CONNECTORS

Broadcast Type. (Common XL Series). For the Bogen M, MX, MU Amplifier.

39F480. **NET** **1.57**

Screw Type Connector. For Challenger Line Amplifiers.

39F000. **NET** ..... **.70**

MODEL BT35A—40 WATT

40-watt transistorized amplifier with less than 10% distortion. Ideal for mobile use on 12 volts direct current. Frequency response 150-15,000 Hz. at ±3db. Hum/noise -90db. Gain: mike. 110db. Aux. 90 db. Sensitivity: Mike 1mv, Aux. 0.4v. Output 4, 8, 16 ohms. Input for siren-fog-horn. Controls: Mike, aux. volume, 4-position selector. 8"W x 6"D x 3"H. Shpg. wt. 8 lbs.

96F561. **NET** **92.70**

MODEL CHB10A—10 WATT

Economy 10-watt amplifier. Frequency response 40-12,000 hz, ±2db. Sensitivity: mike: 6mv.; phonograph: 0.2 volts. Tubes: 1-12AX7/ECC83, 1-7868, and silicon rectifier. Power consumption: 50 watts, 105-125 VAC 50-60 Hz. Gain: mike; 110 db; phonograph: 90db. Tone control action: treble (10kc) —24db. Output impedance: 4, 8 and 16 ohms. 25 volt line (62 ohm) 70v (500 †) 1 speaker socket and screw terminals. Controls: mike vol., phono vol., treble, power switch. Size: 5 3/4"Hx11 1/4"Wx8 1/4"L. Complete with enclosure. Shpg. wt. 12 lbs.

96F550. **NET** **49.50**

MODEL CHB20A—20 WATT

20-watt power amplifier with less than 5% distortion. Frequency response 20 to 20,000 hz. ±2db. Featuring high impedance microphone input and 2 aux. inputs. Hum/noise level —80db Gain: Mike, 125db, Aux. 100db Sensitivity Mike. 3 mv, Aux. .5 v. Output 4, 8, 16 ohms and 25 & 70 volt line. Tone control: treble +10db-16db; Bass +14db-10db. Controls: Mike, aux., Master volume bass, treble, power on 105-125 V AC, 50-60 hz. Power consumption 90 watts. 15 3/4" wide, 10" deep. 6 3/4" high. 6 3/4 lbs. Wt. 17 lbs.

96F557. **NET** **79.50**

MODEL CHB35A—35 WATT

35-watt power output @ 5% distortion amplifier. Freq. Resp.: 20-20,000 hz ±2db. Inputs: 2 microphones (high impedance), 1 magnetic phono cartridge, 2 auxiliary (high impedance, high level). Sensitivity: mike—4mv; aux.—0.2 volts; mag. phone cartridge—12mv. Power consumption: 125 watts 105-125 VAC. 50-60 Hz. Tubes: (s) 1-6EU7, 2-7868, 1-12AX7, plus 3 silicon rectifier; 1-6C4. Controls: mike #1 vol; mike #2 vol., fader for 2 aux. units, master volume, bass treble, power switch, magnetic phono switch, provisions for remote control of 2 microphones or magnetic phono. Size: 6 3/4"H x 15 3/4" W x 10"D. Complete with enclosure. Shipping wt. 21 lbs.

96F554 ..... **97.50**

MODEL CHB50—50 WATT

Similar to CHB35A, but 50 W. output. Sensitivity: mike—5 mv.; aux—0.3 volts; mag. phono cartridge—15 mv. Gain—mike: 120db; auxiliary: 95db; magnetic phono cartridge: 110db. Power consumption: 150 watts. 105-125 VAC, 50-60 Hz. Tubes: (5) tubes and silicon rectifiers 1-6EU7, 1-12AX7, 2-6L6GC, 1-6C4. Tone control action: treble; (10 kc +10db. to) —15db; bass; (50 cps) +11db to —10db. Size: 6 3/4" H x 15 3/4" W x 10"D. Complete with enclosure. Shipping weight 21 lbs.

96F555. **NET** **114.00**

MODEL CHB100—100 WATT

Frequency res: ±2 db, 20 to 20,000 Hz. Hum and Noise: Mic, —70db; Aux, —80db. Sensitivity. mic. 5 mV; Aux., .3V. Gain: mic. 125db; aux, 100 db; magnetic phono: 115 db. Tone control action: Treble (10kc) +12db. to —15db. Bass (50 Hz) 14 db to —9 db. 7 tubes and silicon rectifier; 1—16 EU7, 1-12AX7, 4-7868, 1-6C4, 6 3/4 x 15 3/4 x 10". Shpg. wt: 25 lbs.

96F556. **NET** **148.50**

Amplifiers, Preamplifiers, Transformers

BOGEN

ALL TRANSISTOR BOOSTER AMPLIFIERS

Model NTB-250. 250 watts ideal for sound systems in industrial plants, airports, stadia, etc. Silicon transistor amplifier delivers 350 watts rms at less than 5% distortion. Freq. resp. is ±1 db from 20-30,000 Hz. Sensitivity: produces 250 watts output from a 1.4V input. Output terminal connections on rear panel for 25V, 70V, or 8-ohm connections. A polarized output receptacle on rear provides 120V AC power freq. between 35-5000 Hz. Feedback paralleling receptacles, 2 RCA phono type receptacles and provision for connecting inputs with impedances of 500/600 ohms or 10,000-ohms are on rear. Socket on chassis for plugging in 500/600 ohms line transformer or 10,000-ohms bridging transformer. Output level meter on front panel. AC and DC stabilizing circuits. Automatic protection against short circuits and overloads. Operation shall not be affected by ambient temp. from —4 to 158F. Operates from a 105-125V, 50 or 60 power source Hz or 20-30 VDC. With 2 side brackets for mtg. in 19" panel. Gray panel, black enamel steel chassis. 17⅛"x9¼"x11¾". Shpg. wt. 75 lbs.

96F540. NET 525.00

Model MT100. 100 watts at only 1% distortion. Can be connected in series or parallel with other boosters to achieve any reasonable voltage or power. Sensitivity: Hi-Z .75v, Lo-Z .2v with TL600 transformer. Hum: 80 db. Max. ambient temp. for cont. op.: 70°C (158°F', 12-16v. D.C. or 117v. A.C. 8" x 13" x6". Shpg. wt. 31 lbs.

96F824. NET 255.00

MBT-60. 60 watts. Features a power out put of 60 W RMS less than 3% with full power of 40-10,000 cps ±2 db at less than 5% distortion. Peak power: 110 Watts. Frequency response: 12-20,000 ±1 db. Output Imped: 2.6, 8, 16 ohms (balanced; 25 V CT. (10.4 ohms) and 70 V balanced. Gain 110 db.

96F822. NET 129.75

TUBE TYPE BOOSTER

Model MO100A. 100 watt amplifier outputs are balanced 16Ω, and balanced 25v, 70v, and 115v. Freq. Resp.: 8-50,000 cps ±1 db. Power consumption: 250 watts. Shpg. wt. 29 lbs.

96F823. NET 165.00

TRANSISTORIZED P.A. AMPLIFIER

Model MTA-30. Power out: 30 watts. Frequency Response: 30-20,000 cps ±1 db. Delivers full power: 40-12,000 cps ±2 db. Impedance output: 4, 8, 16, Ω, 25V, 70V, and 163 ohms (70 V) Inputs: 3 (unbalanced 200 ohms) and 200 ohms balanced with T 525U transformer.

96F825. NET 146.85

Model MTA-60. Power out: 60 watts. Same as MTA-30 except: Full power: 40-10,000 cps. Frequency response: 30-20,000 cps ±1 db. Output Imped. 2, 6, 8, 16, 10.4 (25 volt center topped), and 82 ohms (70 volt balanced): Gain (same as MTA-30): Mic—125 db 4& auxiliary—110 db.

96F826. NET 183.90

DE LUXE 30 & 60 WATT AMPLIFIERS

Feature master gain control, built-in remote gain-control circuit, five microphone channels (one converts to Mag Phono/Tape), plus auxiliary, exclusive variable level markers. Black and grey styling with leather carrying handle. Controls: Gain, Mike-phono Switch, Speech Filters, On-Off/Treble, Bass Master gain. Response: 10-38,000 cps. ±1½ db. Distortion less than 2%. Hum: -70db.

MX60A. 60 watt amplifier. Output Impedance: 4, 8, 16 and 83 ohms, balanced 25V line, 70V line, 8 tubes plus 5 silicon rectifiers. 16½" x 12" x 4¾". 33 lbs.

96F595. NET 241.05

MX30A. Same as MX60A above except 30 watt amplifier. 29 lbs.

96F570. NET 196.95

M330A PA AMPLIFIER

30 watts at 2% distortion. 3 microphone channels (2 convert to magnetic cartridge); 2 auxiliary inputs; separate master gain, bass, treble controls; built-in remote gain control circuit; sockets for low impedance transformers; 70 v. and 25 v. output taps. Peak power: 50 watts. Power consumption: 120 watts (105-125 VAC. 50-60 cps.). Response: 20-20,000 cps. ±2 db. Output Imp.: 4, 8, 16 ohms; 25 v. balanced (16 ohms), 70 v. (163 ohms) 14⅞" x 9⅞" x 5¾". Wt. 20 lbs.

96F806. NET 132.30

MODEL M60A AMPLIFIER

60 watt amplifier at less than 3% distortion. Ideal for PA systems. Peak power: 100 watts. Response: 20-20,000 cycles; ±2 db. 7 inputs: 3 microphone, 2 auxiliary, 2 iliary 95 db.; magnetic, 105 db. Output Im-magnetic phone. Gain: mike, 120 db.; auxpedances. 4, 8, 16 ohms. 25-70 volts. Controls: Bass, Treble, Power, Master gain, Auxiliary (fader control), Input controls. 5 tubes, 2 silicon diodes and one bias silicon diode. Power consumption: 160 watts-117 volts. 5¾"x9⅞"x14⅞". Wt. 28 lbs.

96F805. NET 173.25

M120 AMPLIFIER

General purpose PA amp provides 120 watts at 3% distortion, 200 watt peak. Has 7 inputs; 3 for microphones, 2 for phono or tape, and 2 auxiliary inputs for ceramic phono or other high level sources. Freq. Resp.; 20-20,000 cps ±1 db. Gain: mike, 125 db.; aux. 99 db.; magnetic, 118 db. Controls: Power Master gain. Aux., Bass, Treble, Input controls, 16½"x12"x4¾". 42 lbs.

96F800. NET 228.45

MXM-A MIXER-PREAMPLIFIER

A broadcast quality, self-powered mixer-preamp for theatres, radio stations, and PA applications. Each unit accepts 7 signals simultaneously; 5 of which may be from high or low impedance mikes. However three MXM-A units may be paralleled to provide 21 inputs. Output level may be monitored in two ways: visually with the built-in VU meter or aurally by use of a plug-in headphone. Controls include separate speech filters, bass and treble controls to adjust freq. resp. of the mixer from 18 to 38,000 cps ± 1 db. **16½"x12"x4¾". Shpg. wt. 20 lbs.**

96F820. NET 196.95

TRANSISTOR PREAMPLIFIER

RTP-1. All silicon transistor preamp for applications requiring a remote or local unit of true broadcast quality. Will drive any number of booster amplifiers over a 500/600 ohm line which may be several miles in length. Transistor design guarantees minimum maintenance. Inputs: 2 Mic. (high or low impedance), 2 Aux. on fader Control, 1 bridging. Operates on 117 VAC, or 12 VDC with internal batteries (8 Eveready size AA) or external DC supply. Freq. Resp. 20-20,000 cps ±1 db. Power: 5w at 117 VAC; 00.3 amps at 12 VDC, 9" x 9¼" x 3½". Shpg. wt. 6½ lbs.

96F801. NET 144.75

PLUG-IN TRANSFORMERS

Microphone and line transformers designed for plug-in use with Bogen amplifiers.

96F544* Model T50 50 ohms (mic) .. 13.25
96F545 * Model T200 200 ohms (mic.) .. 13.25
96F546* Model T-500 500 ohms (mic.) .. 13.75

*Use with M60A, M330A, M120, MX30A, MX60A, MXM-A, RTP-1.

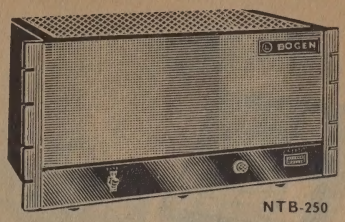
● NEW FOR 'NT' SERIES AMPS.

95F542 TM-50 50 ohms (mic.) 13.30
95F538 TM-200 200 ohms (mic.) 13.30
95F539 TM-500 500 ohms (mic.) 13.80
Model TL600 500/600 ohm (line)
96F543† 13.85

†Use with MXM-A, MT100. MO100A.

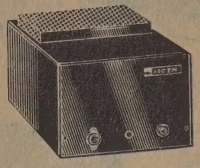
Model T525U. Use with the MTA30, the MTA60, and the MTM- if a balanced, low-impedance mike line is required.

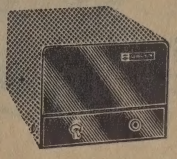
96F828. NET 13.25



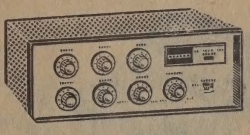
NTB-250

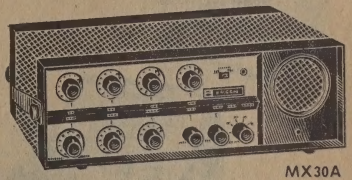
MT-100
MBT-60



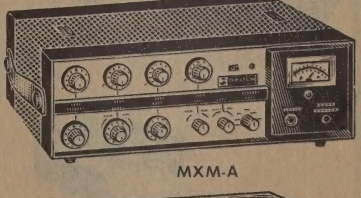

MO100A

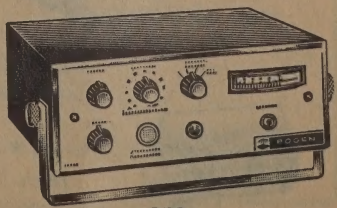
MTA-30
MTA-60



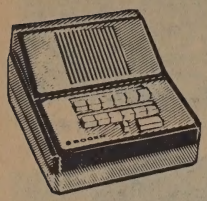

MX30A
MX60A

M330A M60A M120

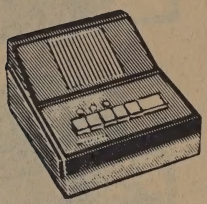

MXM-A


RTP-1

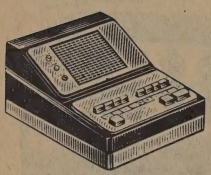
BOGEN Intercoms



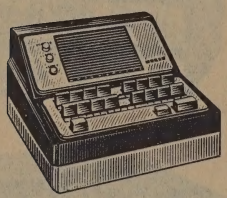
IE-13



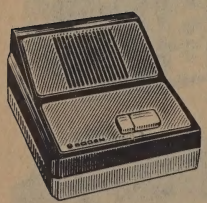
Master unit used in 1E-4S system



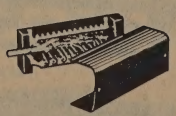
IM-9



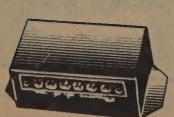
IM-17



RIM-1



JB-X



TBR-1

IE INTER COMS WITH PUSH BUTTON CONTROLS

Series "IE" Intercoms. 7 or 13 station systems are available with fully transistorized circuitry. Can select (1) all master system using all IE-7 or IE-13; (2) or a "single master-multiple remote" system. Designed for installation so remote can have either private operation (for inter-office situations) or non-private operation (for stockroom or other areas where a remote must reply without operating any controls). All masters operate on 117 VAC and may be adapted to 12 VDC battery operation. For single master-multiple remote system use 3 conductor wire to each remote. For all master system use one more conductor than total number of masters in the system.

IE-4S ANNUNICATOR SYSTEM

May be used with up to three RIE-1 remote stations. Originate calls by means of beep-tone and magnetic annunciator. Remains visible until cleared by master. Registers incoming calls and identifies calling remote if operator is absent from master station. Has volume control, press to talk bar, three push-button and clearing buttons. Packaged with one IE-4 master and one RIE remote. Size 6 7/8" wide, 7 9/16" deep, and 4" & 3" high. Wt. 8 lbs. Use 2 conductor cable between master and each remote.
96F504. NET **44.95**

IE-7 Master Station. For system up to 7 stations. Fully transistorized. Multiple simultaneous conversations possible. Private or non private remotes to call one or 7 masters. Volume control, press to talk, 6 push buttons with dictate lock, and identification strips. Grey cabinet. Size: 6 3/8" w, 7 9/16" d. & 4" high. Weight 4 lbs.
96F505. NET **37.45**

IE-13 Master Station. For systems combining up to 13 stations. Has volume control, press to talk bar with dictate lock 12 push buttons with identification strips. 8 ohm speaker. Size: 6 7/8" w, 7 9/16" d, 4" high. Weight 4 lbs.
96F506. NET **46.45**

Model RIE-1 Remote Station. Can initiate calls to one master and reply when called. Private or non-private switch. Dimensions same as IE masters. Weight 3 lbs.
96F507. NET **11.95**

TBR-1 Relay Accesory. Permits tie-in point to plant P. A. system, paging from any master station and receiving hands-free reply from loud speaker or horn. Size: 6 7/8" wide, 7 9/16" deep, and 4 & 3" high. Weight 2 lbs.
96F508. NET **29.95**

JB-E. Junction box for use with **IE-7 & IE-13** Masters.
96F509. NET **5.25**

SERIES IM SOLID STATE INTERCOMS

Instant, high quality voice communication. Up to seventeen stations, in any combination of masters and remotes you want. Master stations are completely private. Unlimited flexibility provides up to eight simultaneous private conversations in a seventeen station system. Remotes can be either private-best for inter-office use-or-non-private. Up to six watts of peak output power from the master.

IM-9 MASTER STATION: Two tone gray cycolac plastic cabinet with 8 selector push buttons, a talk-listen button with a "dictate" lock, standby button, privacy button and separate indicator lights for privacy, busy indication, and standby. Optionally 6w. or 1 w. peak output. Selector button No. 8 can be used with the TBR-1 relay accessory and a P.A. amplifier to provide paging from any master as well as hands free replies from the P.A. loudspeaker or horn. Plastic covered station I.D. strips simplify station selection, A five ft. master cable terminates in a heavy-duty plug for quick solderless connection to junction box. Master stations operate from 120VAC 50/60 Hz (10 w. power consumption). Loudspkr. IMP. 45 ohms (balanced line). Dimensions: 5"H, 7 3/4"W, 9 1/4"D. Shipping Weight 7 lbs.
79F003. NET **112.45**

IM-17 MASTER STATION: Same features as the IM-9 but with sixteen selector push buttons and provision for using two TBR-1 relay accessories for paging two areas. Shipping Weight 8 lbs.
79F004. NET **140.25**

RIM-1 REMOTE: Has a non-selective call initiation switch (to one master), volume control and privacy switch. When called, remote can reply, private or non-private, as desired. Dimensions 7 9/16" L, 6 7/8" W, 4 3/8" H. Shipping Weight : 3 lbs.
79F005. NET **19.20**

RIM-3 REMOTE: Similar to RIM-1 but with selective call-initiation switch to three masters, 5 ft. cable. Dimensions: 7 9/16" L, 6 7/8" W, 4 3/8" H. Shipping Weight 3 lbs.
79F006 NET **27.55**

JB-X JUNCTION BOX: Junction box for terminating master station cables and interconnecting cables; with spaced terminal receptacle strips and cover. One required for each IM-9 or IM-17 master. Shipping Weight 2 lbs.
79F007 NET **8.95**

TBR-1 RELAY ACCESSORY: Permits tie-in to plant P.A. systems to provide paging from any master station and hands-free reply from loud speaker or horn. In IM-17 systems two TBR-1 accessories can be used (and 2 P.A. amplifiers) for two-area operation. Shipping Weight 2 lbs.
96F508.NET **29.95**

NEWARK STOCKS THE WORLD'S MOST COMPLETE INVENTORY OF INDUSTRIAL ELECTRONICS EQUIPMENT

- Phone, Write, Wire for Price Quotations
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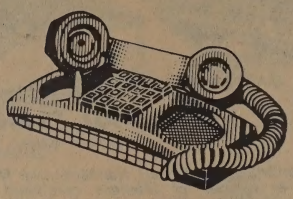
To Serve You Better— Stocking Warehouses from Coast-to-Coast

TELEPHONE SYSTEMS

SERIES TSL

- 16 Station System Can Handle 8 Seperate Conversations
- Conference Calls With Up To 16 Individuals
- Stations Can Be Used Simultaniously Without Interference

PRS-16



TSL-16

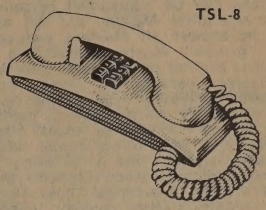
An extremely flexible system for inter-office or inter-plant service. Provides multiple, simultaneous conversations without a central exchange. As many as 8 seperate conversations at one time. Up to sixteen individuals can take part in conference calls. 100% trunkage is provided. Single calls do not tie up system. Designed for wall or desk mounting and each supplied with a junction box. Use wire with at least three more conductors than the total number of phones in system.

Type TSL-16. 16 station phone: has 1 ring button and 15 station selector buttons. 9½"x3¼". Shpg. wt. 4 lbs.
96F779. NET **48.25**

Type PRS-16. Power supply. Required with each telephone system. Plug into any standard electrical outlet. Uses 3 conductor cable to connect into any convenient junction box. 6"x2"x3½". Shpg. wt. 5 lbs.
96F781. NET **41.55**

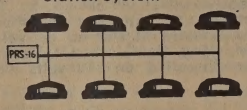
Type TSL-8. Station phone: similar to TSL-16. 1 ring button and 7 station selector buttons.
96F780. NET **40.75**

Type TRC. Phone page adapter allows paging with TSL series phones. 4"x4"x2". Shpg. wt. 2 lbs.
96F782. NET **31.65**



TSL-8

TSL
Station System



TQ PHONES

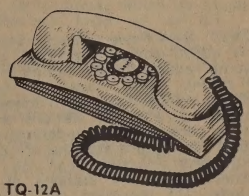
Simple push-button intercom system. Lift receiver and press for desired station. Buzzer signals receiving end. Either selective ringing or conference calls. Up to 13 stations in a system. Phones may be operated as much as 500 ft. apart. from the power supply. Desk or wall mount. 9½"x3¼"x3¼".

TQ6-A. Phones for up to 7 stations.
96F775. NET **29.05**

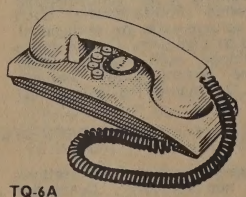
TQ-12A. Phones for up to 13 stations.
96F776. NET **32.65**

Type TRA. Phone page adapter for TQ series. Does not need separate power supply. 4"x4"x2". Shpg. wt. 2 lbs.
96F787. NET **31.65**

Type PRS-1A. Power supply for TQ series. One required with each system. Use three conductor cable. 6"x2"3½"-for operation from any standard outlet. Shpg. wt. 4 lbs.
96F777. NET **25.00**

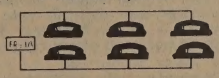


TQ-12A



TQ-6A

TQ
6-Station System



CABLES FOR TSL AND TO SYSTEMS

No. of Cond.	100' Spool		500' Spool	
	Stk. No.	Each	Stk. No.	Each
3	36F040A	3.66	36F040F	14.65
6	36F043A	8.30	36F043F	36.60
10	36F200A	10.80	36F200F	49.50
15	36F198A	20.55	36F198F	92.25
20	36F199A	31.50	36F199F	145.50

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- Garland, Texas (Dallas Area)

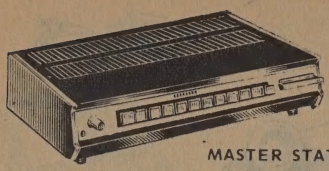
Cleveland, Ohio — Salt Lake City, Utah — Dayton, Ohio — Milwaukee, Wis.

- Minneapolis, Minn.
- Houston, Texas
- Cincinnati, Ohio

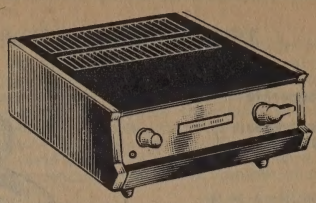
Plainview, Long Island, N.Y. — Brisbane, California (San Francisco Area)

- Denver, Colorado
- Grand Rapids, Mich.
- New York, N.Y.
- Washington, D.C.-Baltimore

TALK-A-PHONE Intercommunications Systems

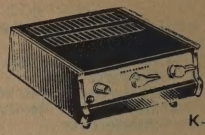


MASTER STATION



K-C-41

K-C-41M



K-C-42

K C-42M

ALL TRANSISTOR INTERCOMS

"CHIEF" MASTER STATIONS

Can be used in any combination—with all Masters—one Master and Staff Stations—or a number of Masters combined with Staff Stations. 6, 12, and 20 Station Masters, together with Staff Stations can be intermixed in same system. Masters can talk with any other Master, as well as with Staffs. Staff Stations can be answer all Masters and can originate calls to one or two "private" Masters, depending upon Staff's capacity. Staff Stations are not connected to electrical outlet.

Exclusive Features: (1) Dynasonic Design enables stations to perform "privately" (so no one can listen in) or "non privately" (for reply without use of controls). The same station can be "private" to one or more Masters and "non private" to others. (2) Monitoring signal visually indicates to a "non private" station that it is being monitored. (3) Busy signal visibly indicates when station you call is "busy". All units have facility to override "busy signal" for important calls. (4) Multi-magic station selector enables selection of up to 30 stations with only 12 push buttons. (5) Uni-trans dictation control. (6) External relay control enables Master to activate external relays for operating siren, gong, light, etc. (7) Reciprocal Power supply—Each Master operating on 120 volts AC only and should be plugged in Where no electrical outlet is available up to 30% of the "Chief" Masters in the system can operate without being plugged in (8) Noise free voice range power. The exclusive patented circuit enables performance without noise, hum or distortion, when used with talk-a-phone cable. (9) Hi power staff stations and horns. K-HP-3 provides more than twice the volume of universal Staff. K-C-20 provides about 4 times greater volume. . . more with Redi Power Master. (10) Wall switch combines with Talk-a-phone Horn or Hi Power staff to add origination of call feature. (11) Incoming call chime. All "Chief" and "Chief Redi-Power" Master Stations come complete with junction box and built in power supply attached by 6' flexible cable. Master size: 14" width, 3⅛" height, 8¾" depth. For 120 volts AC only. U.L. listed.

Model K-C-4906. Master for 6 Stations. Shpg. wt., 15 lbs.
95F425. NET PER STATION **108.00**

Model K-C-4912. Master for 12 Stations. Shpg. wt., 15 lbs.
95F426. NET PER STATION **121.00**

Model K-C-4920. Master for 20 Stations. Shpg. wt., 16 lbs.
95F427. NET PER STATION **144.00**

"CHIEF" REDI-POWER MASTER STATIONS

"Chief" Redi-Power Master Stations have built-in extra power. This added power (up to 30 watts), gives you the additional volume required when calling a number of stations at one time or calling noisy locations. Satisfies need for power boost without eliminating return speech. Volume is self-compensating whether, 2, 6 or 12 stations are called simultaneously. Each station receives its pre-determined volume with no division of output when more stations are called at one time. One or more Redi-Power Masters can be combined with regular Chief Masters and staff stations in some system. Other features include: (1) Incoming call chime. (2) Monitoring signal. (3) Dynasonic selector that permits intermixing of Master and Staff Stations and variation of performance. (4) Volume Control. (5) Noise-free voice range power. (6) Multi-magic station selector which enables selection of up to 30 stations with only 12 push buttons. (7) Uni-trans dictation control. (8) Operation on 120 V. AC. (9) External relay control for use in extremely high noise level areas. (10) In modern, custom-designed cabinets. Charcoal gray and brushed chrome. Size 14x8¾x3⅛".

Model K-CRP-5912. Master for 12 Stations. Wt., 20 lbs.
95F432. NET PER STATION **185.00**

CHIEF STAFF STATIONS ACCESSORIES

For use with any "Chief or Redi-Power Master. Staff Stations may be connected "privately" or non-privately". Connected "non-privately", Master can be answered at a distance from the Staff without operation of any controls. "Non-private" Staff may reply to all Masters in the system (whether connected directly to them or not) and can originate calls to one or two, depending upon its capacity. Connected "privately" no one can "listen-in", but any Master can call. Private Staff can originate calls and reply to 1 or 2 Masters depending on its capacity. Staff Stations do not need electrical outlets.

Model K-C-41. Staff Originates calls to 1 Master. Gray leatherette and brushed chrome. Size 7½x8¾x2⅞". 5 lbs.
95F428. NET PER STATION **28.50**

Model K-C-41-M. Same as K-C-41 but with painted finish. 5 lbs.
95F429. NET PER STATION 23.50

K-C-41R. Same as K-C-41, but for flush wall mounting. Stainless steel front panel. 4 lbs.
95F433. NET PER STATION 23.50

CABLE FOR CHIEF SERIES

36F447. Type 6206. 3-pair cable for connecting K-C-20, K-C-41, K-C-42, and K-HP-3 with call origination. **NET per foot** ..... .11

36F437. Type 6214. 7-pair cable fo interconnecting K-C4906 Masters. **NET per foot** ..... .23

36F439. Type 6226. 13-pair cable for interconnecting K-C-4912. K-C-4920 and K-CRP-5912 Masters. **NET per foot** ..... .44

36F446. Type 6902. Cable 2 cond. for connecting K-C-20, and K-HP-3 without origination of call. **NET per foot** ..... .028

Model K-C-42. Staff originates call to 2 Masters. Gray leatherette and brushed chrome. Wt. 5 lbs. Size 7½x8¾x2⅞". 5 lbs.
95F430. NET PER STATION 35.50

Model K-C-42-M. Same as K-C-42 but with painted finish. 5 lbs.
95F431. NET PER STATION 30.50

Model K-C-42R. Same as K-C-42 but for flush wall mtg.
95F445. NET PER STATION 30.50

Model K-HP-3. Hi-Power Staff Station for wall mounting. Charcoal gray metal case. Size: 12x8x12". 5 watt capacity. Shpg. wt. 10 lbs.
95F415. NET PER STATION 22.00

Model K-HP-3V. As above, but with built-in volume control, adjustable to full output.
95F444. NET PER STATION 27.00

Model K-C-20. Nine-inch Weatherproof Re-Entrant Horn. 15 watt capacity. W/mounting bracket. Charcoal grey. Shpg. wt. 6 lbs.
95F416. NET PER STATION 31.00

Model K-C-20V. As above, but with built-in weather resistant volume control, adjustable to full output.
95F446. NET PER STATION 41.00

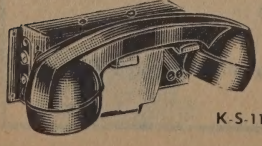
Model K-S-101. Wall Switch for originating calls to one Master through K-C-20, or K-HP-3 in Chief Systems. Gray. Wt., 1 lb.
95F434. NET 9.80

K-S-102. Same as K-S-101, but for call origination to 2 Masters.
95F 435. NET 15.95

K-S-111. Wall Mounted Cradle Phone. For use with K-HP-3(V) or K-C-20(V).
95F477. NET 46.60

Model K-W-1. Wall mounting brackets for K-C-41, K-C-41M, K-C-42, and K-C-42M.
95F436. NET per pair ..... .60

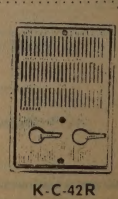
HOW TO DETERMINE CABLE REQUIREMENTS



K-S-111

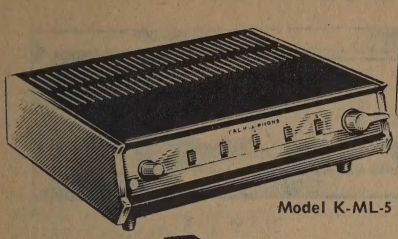
To inter-connect Master Stations, measure from first Master to second Master only, from 2nd to 3rd Master only, etc., until last unit in system is reached and total. For K-C-4920 use two lengths to 6226 Cable. To connect K-C-41, K-C-20, or K-HP-3 Staff Stations, measure from Staff Station to one Master to which Staff Station originates calls. To connect K-C-42 Staff Stations measure separate length of cable from Staff Station to each Master Station to which staff originates calls.

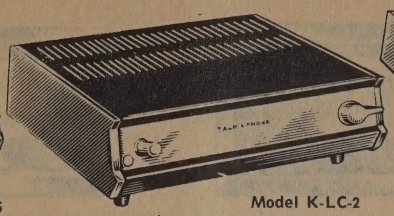
K-C-41R

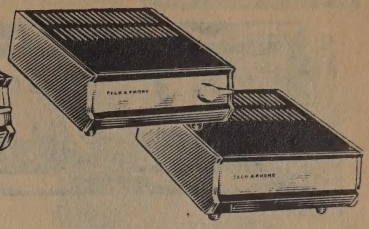


K-C-42R

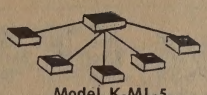
DELUXE INTERCOM SYSTEMS


Model K-ML-5


Model K-LC-2



Model K-LS-5


Model K-ML-5

Model K-CL-5

SUPER-SELECTIVE ALL MASTER SYSTEMS

Intercom system consisting entirely of Masters. Permits several separate conversations to be carried on without interfering with each other. Provides absolute privacy. Stations may be located up to 1000 feet apart. Operates on 110-120 volts, AC-DC. Complete with instructions. Transistorized. Charcoal gray and brushed chrome. Cabinet size, 10½"x8¾"x3⅛". Shpg. wt. 7 lbs.

95F406. Model K-LS-5. For 5 stations **NET** **48.40**
95F407. Model K-LS-10. For 10 stations. **NET** 59.20

HI-VOLUME MASTERS

Operate the same as the above masters with the added feature of 10 times volume output. For 120 volts, AC only. Masters K-AC 510 and K-AC-505 may not be intermixed with any other Master

95F437. Model K-AC-505. Hi-Volume, 5 station. **NET** **59.20**
95F438. Model K-AC-510. Hi-Volume, 10 stations. **NET** 71.00
36F441. 5506 (6-conductor) cable. For interconnecting K-LS-5 or K-AC-505. **NET** per foot ..... .11
36F442. 9911(11-conductor) cable. For interconnecting K-LS-10 or K-AC-510. **NET** per foot ..... .21

WIRELESS6 AND 12-STATION SELECTIVE SYSTEM

Incorporates the exclusive "Sonic Gate" together with the "Squelch" circuit to effectively suppress line noises and hum. Simple to install. Requires no wiring, no cable. Use where any 110V AC or DC electrical outlets are available. Each Master Station equipped with a Six or 12-channel Selector. Any Master can transmit on any of its channels, and receive calls on the channel it elects to use. Each Master with tubes and instructions. Size 14x8¾x3⅛". Wt. 10 lbs.
95F418. T-LCM-8906. 6 Channel Master **108.00**
95F441. T-LCM-8912. 12 Channel Master 121.00
Where some Wireless locations need not originate calls, but must reply when called. Staff Stations are available. Size 10½x8¾x3⅛". Shipping weight 12 lbs.
95F419. T-LCS-901. For Channel 1 only. **NET** **62.00**
Note: Staff stations for channels 2 to 6 available on special order.

2-STATION WIRELESS SYSTEM

A quality intercom system for Office, Factory, and Farm. No installation. Plug into 110V AC or DC electrical outlet. Uni-Trans gives you dictation and supervisory control. Provides continuous transmission when set for Uni-Trans. Cabinets are charcoal gray and brushed chrome. 10½x8¾x3⅛". Two Master stations. With tubes and instructions. 16 lbs.
95F413. Model T-LC-33. Two station system. **NET** **108.00**
95F414. Model T-LC-17. Additional single station. 8 lbs. **NET** 54.00

2-STATION INTERCOMMUNICATION SYSTEM

Provides voice communication between any two points. "Elsie" is a packaged item, complete with a Master Station, a Sub-Station and 50 ft. cable. For 110-120 volts, AC-DC. Master size: 10½x8¾x3⅛". Sub size: 7½x8¾x2⅞". Shpg. wt., 12 lbs.
Model K-LC-2. 2-Station system completely transistorized.
95F412. NET **49.00**
36F440. Type 5303. Extra 3-cond. cable. **NET per ft.** ..... .04
36F449. 6303. 3-cond. shielded cable. **NET per ft.** ..... .065

COMBINATION SYSTEMS

For the more flexible type of system requiring the operation of more than one Master, along with Sub-Stations which need not originate calls. Masters may talk to each other and to each Sub in the system selectively; or, one or more Subs can be exclusive to only one Master. Masters can switch themselves "private" so that other Masters cannot listen in to them, or "non-private" at will. Masters in charcoal gray and brushed chrome cabinets. 10½"x8¾"x3⅛". Sub-Stations; 7½"x8¾"x2⅞". With instructions. Transistorized. Masters operate on 110-120 volts AC-DC. Electric curr. not needed for Sub-Stations. Shpg. wt. 7 lbs. For 120 volts, AC only. Masters K-AC-610 and K-AC-605 may not be intermixed with any other Master.

95F408. K-CL-5. Master for 5 stations. **NET** **57.50**
95F409. K-CL-10. Master for 10 stations. **NET** 69.50
95F410. K-LR-2. Sub-Station (in same deluxe finish as Masters) for use with either of above Masters. Shpg. wt. 4½ lbs. **NET** 21.00
95F411. K-LR-2M. Sub-Station (as above, but in grained, baked enamel finish) for use with either Master. Wt. 4½ lbs. **NET** 16.60
95F442. K-LR-2R. Sub-station for flush, wall mounting 16.60
95F443. K-SM. Surface mtg. accessory for K-LR-2R. 4.65

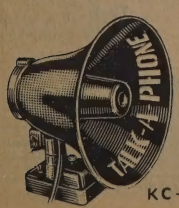
95F439. Model K-AC-605. Hi-Volume, 5 stations **NET** **69.50**
95F440. Model K-AC-610. Hi-Volume, 10 stations. **NET** 79.95
36F438. 6210. 5 pair cable for interconnecting K-CL-5 or K-AC-605. **NET per foot** ..... .20
36F439. 6226. 13 pair cable for interconnecting K-CL-10 or K-AC-610. **NET per foot** ..... .44
36F446. 6902. 2 conductor cable. **NET per foot** ..... .028
36F448. 6202. (1 pr.) cable. Overall jacket. **NET per ft.** ..... .048

MASTER SELECTIVE INTERCOMMUNICATION SYSTEMS

A system consisting of one Master Station and one to ten Sub-Stations. Only the Master Station plugs into an electrical outlet. System has optional feature whereby Sub-Stations can be connected "privately," or "non-privately" and still originate calls to the Master under either application. Cabinets are charcoal gray and brushed chrome, 10½"x8¾"x3⅛". Subs measure 7½"x8¾"x2⅞". With instructions, Transistorized. For 110-120 volts, AC-DC. HIGH VOLUME OUTPUT MASTERS K-AC-5406 and K-AC-5411 operate as above with the added feature at 10 times volume output, for large areas or noisy locations. Operate on 120 volts, AC only. Note: Only one master station can be used in each Master Selective System. Weight: Masters —7 lbs. Sub-Stations—4½ lbs.

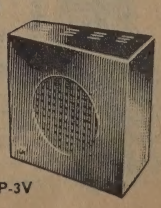
95F400. K-ML-5 Master. For up to 5 Subs. **NET** **48.40**
95F401. K-ML-10 Master. For up to 10 Subs. **NET** 59.20
95F404. K-AC-5406. High Vol. Master. 5 Sub. capacity. **NET** .. 59.20
95F405. K-AC-5411. Hi Vol. Master. 10 Sub. capacity. **NET** 71.00
95F402. K-LR-3. Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. **NET** 21.00
95F403 K-LR-3M. Sub-Station (as above, but in grained, baked enamel finish) for use above Masters. **NET** 16.60
95F448. K-LR-3R. Sub-Station for flush wall mounting. **NET** **16.60**
95F685. K-SM-L. Sufrace mfg. accessory for K-LR-3R. **NET** 5.25
36F440. 5303. Three-cond. indoor cable. **NET per Ft.** ..... .04
36F449. 6303. Three cond. shielded cable. **NET per Ft.** ..... .065

ADDITIONAL ACCESSORIES FOR COMBINATION & MASTER SELECTIVE SYSTEMS



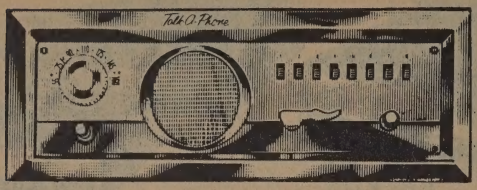
KC-20V

95F415. K-HP-3. Hi-Power Staff Station for wall mounting. Charcoal gray metal case. Wt., 9 lbs. **NET** 22.00
95F444. K-HP-3V. Same as above, but with built-in volume control, adjustable to full output. Wt., 9 lbs. **NET** 27.00
95F416. K-C-20. Nine inch weatherboard Re-entrant Horn. Charcoal gray color. Wt., 5 lbs. **NET** 31.00
95F446. KC-20V. Same as above, but with built-in weather resistant volume control, adjustable to full output. Wt., 5 lbs. **NET** 41.00
95F417. K-S-100. Wall switch for origination of call through K-C-20 or K-HP-3 with Master Selective Systems. **NET** 4.75

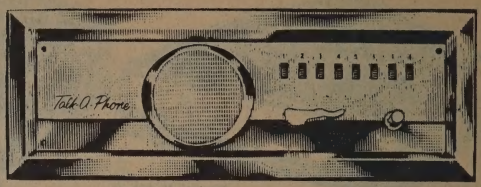

K-HP-3V

TALK-APHONE ALL TRANSISTORIZED INTERCOM-RADIO SYSTEMS

CENTRAL MASTER STATION AND POWER SUPPLY UNIT



HI-9R



HI-9 or HI-8

Only one Central Master Station (with or without radio) is used per system. Can call and talk to any other station. Listens to any sub-station or staff without adding noise to latter even during other calls. Has all transistor amplifier, and operates from any 9-volt dry battery or HI-PS Power Supply Unit. Front panel: 15¼"x5¼". Plaster Ring Approx.: 14$^{1}/_{16}$"W x 4⅜"H x 3½"D.

8 STATION MASTER

No. HI-9R. 8 Station Master. With Built-in-all transistor Radio incorporates the most advanced Super Heterodyne circuit. Has a tuned RF stage and two IF stages for sensitivity and selectivity, full A.V.C., three audio stages with push pull output. Master station has 8 station capacity. Does not plug into electrical outlet. With plaster ring and full instructions. Less battery. Shpg. wt. 6½ lbs. For flush wall mtg.

95F687. NET **95.50**

No. HI-9.8 Station Master. All transistor (3 audio stages with push-pull output). For flush wall mounting, 8-station capacity. Does not plug into electrical outlet. Witn plaster ring and complete instructions. Less battery. Without built in radio. For flush wall mounting.

95F686. NET **61.50**

SUB STATION

No. HI-1. Outdoor Sub-Station. For front and rear doors. Complete with pushbutton bell to connect to regular house chime or buzzer, and illuminated nameplate. When call rings, you may answer from any Master or Staff Station. For flush wall mounting; needs 2-inch square opening, 2 inches deep. With weather-resistant speaker, mounting gasket, and full instructions. Front panel: 3⅝"W x 5⅝"H. Shipping weight: 1 lb.

95F690. NET **18.20**

K-LR-2R. Alternate Outdoor Sub-station without push-button or name plate.

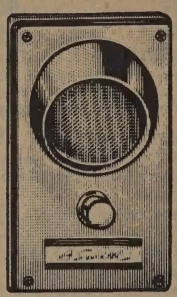
95F442. NET **16.60**

K-SM. Surface mounting accessory for K-LR-2R.

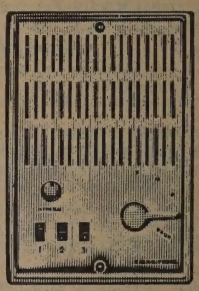
95F443. NET 4.65

O-SM. Surface mounting accessory for HI-1.

95F696. NET 3.70



Model HI-1



Model HI-4

STAFF STATION

No. HI-8. Staff Station. Any staff can call and converse with any other station, or stations in the system with HI-SM. Can be mounted on wall, cabinets, etc., or can stand on tables, shelves, etc. Does not plug into electrical outlet. Has private or non-private position as desired. For flush wall mounting. With plaster ring and full instructions. Front panel: 15¼" x 5¼". Plaster ring approx: 14$^{1}/_{16}$" W x 3⅜"H x 3½"D. Shpg. wt., 5 lbs.

95F689. NET **35.00**

No. HI-4. Four Station Staff Station. Same operation as above except can call only 3 stations. Front panel: 4$^{13}/_{16}$x7$^{3}/_{16}$". With plaster ring. Plaster ring approx.: 4⅛x6½x2". Shipping Weight, 3¾ pounds. For flush wall mounting.

95F688. NET **21.00**

K-SM-L. Surface mounting assembly for HI-4 staff station. Gray finish. With instructions. Shpg. Wt., 2 lbs.

95F685. NET 5.25

No. HI-PS. Power Supply Unit. Only one necessary per system. Plugs into ordinary home electrical outlet of 120 volts, A.C., and can be placed out-of-the-way in basement, attic, closet, etc. When power supply unit is used, entire system actually consumes less electricity than even one electric clock. (Optional—not required when battery is used) Shipping weight: 2 lbs.

95F695. NET **18.20**

ACCESSORIES

No. HI-SM. Housing Assembly. Encloses any 8-station master or staff station to enable mounting on wall cabinets, etc. Has adjustable brackets. Gray finish. Chrome mounting knobs and brackets. With instructions. Shpg. wt. 2½ lbs.

95F692. NET **12.90**

No. HI-JB8. Optional Junction Box for connecting Masters and Staffs, up to a total of 8 stations.

95F693. NET 5.50

Type 4F6H. Burgess 9 volt battery. To be used when HI-PS Power supply is not employed.

49F254. NET 6.12

No. 6226. Cable (13-pair) for connecting all Master and 8-station Staff.

36F439. NET, per ft. ..... .44

No. 6202 Cable (1-pair) for connecting outdoor Sub-Stations, Battery or Power Supply Unit.

36F448. NET, per ft. ..... .048

No. 6214. Cable (7 pair) for connecting HI-4 to master station, or nearest 8-station Staff.

36F437. NET, per ft. ..... .23

This compact home intercom-radio system brings to the homeowner the safety and convenience of complete intercommunication in all rooms, as well as the enjoyment of built in radio (optional) all through your house. Master stations, staff stations, and outdoor substations can be combined in any desired arrangement, up to a total of 8 stations. Both masters and staffs can "call" and "converse" with any other station or stations in the system. Outdoor "subs" can be called by, and answer any master or staff station. OUTDOOR "subs" are non-private. All master and staffs have their own volume control. Optional built-in radio incorporates the most advanced superheterodyne circuit. Has a tuned RF stage and two IF stages for sensitivity and selectivity, full A.V.C., three audio stages with push-pull output. 16-station models available on request.

CHART "A"—Rooms Originating Calls

Location	To Kitchen	To Bedroom	To Den	To Baby	To Laundry	To F. Door	To R. Door
Kitchen		X	X	X	X	X	X
Bedroom	X			X	X	X	X
Den	X			X		X	X
Baby							
Laundry	X			X		X	
F. Door							
R. Door							

CHART "B"—Rooms Receiving Calls

From Kitchen	From Bedroom	From Den	From Baby	From Laundry	From F. Door	From R. Door	Then Use
	X	X		X			HI-9 or HI-9R
X		X		X			HI-8
X	X			X			HI-8
X	X	X		X			HI-4
							HI-4
X	X	X		X			HI-1 or K-LR-2R
X	X	X		X			HI-1 or K-LR-2R

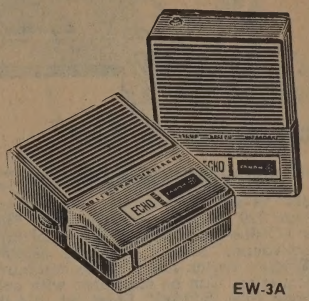
Intercoms, Megaphones & Transceivers

FANON

"ECHO" SOLID STATE 2-STATION INTERCOM SYSTEMS

"Echo" is operated by ultra sensitive, three transistor units with a high gain, push-pull amplifier circuit. Fine voice clarity through 2½" speakers. Can signal one another even when off. Has press-to-talk button and on-off volume control. Beep circuitry conserves power and prolongs life of components. 50 ft. cable with plug-in connectors included. Shpg. Wt. 1¼ lbs.
Model EC-3A has built-in AC power supply.
Model EC-2A is battery operated. Operates on standard 9 volt battery (not included).

95F605. Model EC-3A. **NET** **13.50**
95F606. Model EC-2A. **NET** **9.95**
49F188. 9 volt battery for EC-2A. ..... **.48**

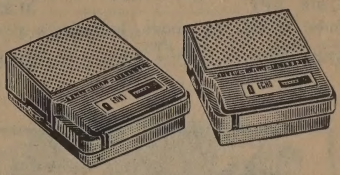


EW-3A

MODEL EW-3A WIRELESS INTERCOM

Model EW-3A. 2-Station Wireless System "Echo Wireless," sensitive three transistors, push-pull amplifier. Hum and noise are minimized with special built-in squelch circuits. Units are 3"x4"x2" and housed in attractive brown high impact styrene cabinets Each has a press-to-talk button with slide lock for continuous talking, "on-off" volume control and pilot light. Completely portable, plug in to standard AC outlets (on same power line). Shpg. wt., 1¼ lbs.

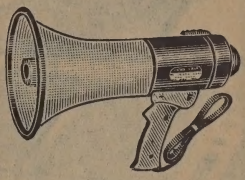
95F607. NET **24.95**



MODEL MV-3

Hi output—200 yard range—Electric Megaphone powerful enough for all indoor and outdoor applications. Features pistol grip, high/low volume control switch, and unique damping element which eliminates howl. A 5" reflex aid column and a full 8¾" bell for wide area coverage. Constructed of lightweight aluminum with a baked enamel finish. Comes with carry strap. Runs on four standard "D" cell flashlight batteries. Batteries not included. Shpg. Wt. 6 lbs. Size 13¼" long.

97F608. NET **31.95**
Powered by four "D" standard size flashlight cells.
49F380. Eveready 950 Carbon Type ..... .195 **49F378.** Eveready E95 Alkaline.... .67



MV-8S
MV-3

MV-8S TRANSISTORIZED MEGAPHONE

Model MV-8S. Fully portable megaphone. Made of light weight aluminum with a baked enamel finish. This dynamic microphone is completely waterproof, and has a carrying strap, pistol-grip trigger switch and volume control. 10 w., 600 yd. Range. Built-in siren signal. Dim. 7"x14". Shpg. Wt. 5 lbs.

95F609. NET **63.50**
Powered by six standard "C" cells. Power output (rated): 8 watts. Peak power output 10 watts.
49F381. Eveready 935 Carton ..... .195 **49F374.** Eveready E93 Alkaline..... .52

5-WATT 6-CHANNEL MODEL T-909

Tempest CB transceiver has sensitive FET front-end which works any six of the 23 CB channels. Integrated circuits and ceramic filter boost selectivity. AGC and automatic noise limiter assure clear reception. Dual pi network gives optimum RF output. Has S/RF/battery level meter, battery saver, slide volume and squelch controls. Jacks take AC adapter, earphone, external mike, antenna and speaker. With 54" telescoping antenna, earphone, carrying straps and Channel 15 crystals. Die-cast aluminum cabinet, 10-¾x2x3½". Use 10 "AA" or 12 Ni-Cad batteries (not included). Wt., 4½ lbs.

97FX450 NET **89.95**
Model T-808 Tornado. As above, less slide controls and battery saver
97FX451 NET **79.95**

2-WATT 6-CHANNEL MODEL T-707

Trailmaster CB transceiver has tuned FET front-end, integrated circuits and ceramic filter for fine sensitivity and selectivity. AGC, variable squelch and automatic noise limiter assure noise-free reception. Dual pi network gives optimum RF output. Has battery condition meter, separate speaker and mike plus jacks for earphone, external antenna and 12 VDC power supply. Also has earphone, telescoping antenna, Channel 15 crystals and adjustable handstrap. High-impact plastic cabinet has access door to ease crystal installation. Runs on 8 "AA" cells or Ni-Cad battery pack below. 9-⅜x2x3". f Wt., 2 lbs.

97FX452 NET **59.95**

1-WATT 3-CHANNEL MODEL T-606

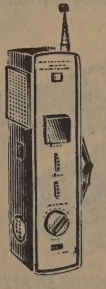
Tracker transceiver features tuned FET front-end, integrated circuits and ceramic filter for good sensitivity and selectivity. AGC, variable squelch and automatic noise limiter slash noise. Dual pi network optimizes RF output. Has separate speaker and mike, earphone, battery meter, channel 15 crystals, antenna, handstrap plus jacks for external antenna, earphone and 12 VDC power supply. High-impact plastic cabinet, 9-⅜x2x3". Uses 8 "AA" cells or Ni-Cad battery pack below. Wt., 2 lbs.

97FX453 NET **49.95**

LOW-COST 3-CHANNEL MODEL T-505

Thruster transceiver has FET front-end, integrated circuits, ceramic filter, AGC and variable squelch for dependable reception. 500 milliwatt RF input couples to dual pi network. Has bettery meter, earphone, antenna, handstrap, separate speaker and mike plus jack for 12 FDC power supply. With Channel 15 crystals. High-impact plastic cabinet, 9-3/8x2x3". Use 8 "AA" cells or Ni-Cad battery pack below. Wt., 2 lbs.

97FX454 NET **39.95**



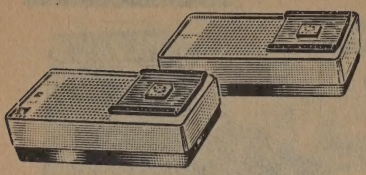
ECONOMY 3-CHANNEL MODEL T-404

Tourney CB transceiver has all the fine features of Model T-505, but RF input is 100 milliwatts. Also does not have jack for 12 VDC power supply. High-impact plastic cabinet, 9-3/8x2x3". Use 8 "AA" cells or Ni-Cad battery pack below. Wt., 2 lbs.

97FX455 NET **29.95**

ACCESSORIES FOR CB TRANSCEIVERS

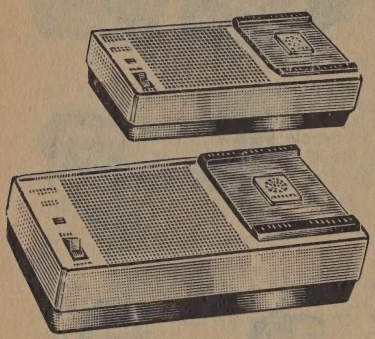
Stock No.	Description	Net
97FX456	CAT-2. Carrying Case for T-909 and T-808	4.15
97FX457	CAT-1. Carrying Case for T-707 606, 505, 404	2.25
97FX458	CHB-4A. Plug-in Charger/AC Adapter for T-909 and T-808	26.95
97FX459	CHB-3. AC Adapter for T-707 605,505,	17.25
97FX460	NCA-2. Ni-Cad Power Pack/Recharger for T-909 and T-808	34.50
97FX461	NCA-1A. Ni-Cad Power Pack/Recharger for T-707 606,505, 404	22.25



WIRELESS INTERCOM SYSTEM

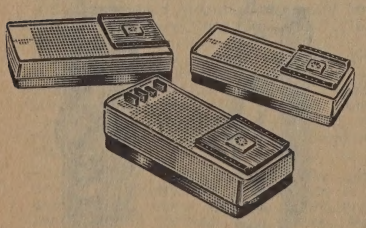
Model IN-505. Two-station; two-channel system. 120 VAC plug-in operation. Filter cuts AC line interference. Has pilot light, on-off/volume control, channel selector. Talk/listen switch has lock for continuous transmission. Can be expanded with extra stations. Size, 7x3½x2". Shpg. wt., 3¼ lbs.
95F610. NET **31.95**

Model IN-500. As above, but single station. Shpg. wt., 1¾ lbs.
95F611. NET **16.95**



TWO-STATION INTERCOM

Model IN-302. Two-station system decorator-styled with handy press-to-talk bar. Integrated circuits give fine performance and sensitivity. Master has lock position on press-to-talk bar for continuous transmission, on/off switch, volume control and pilot light. Accepts one additional indoor or outdoor remote station. Up to 250 ft. between stations. Ivory/brown with wood grain accent. With 50 ft. cable. Size, 7 x 3½ x 2". For 117 VAC. Wt., 3¼ lbs.
95F900. NET **19.95**



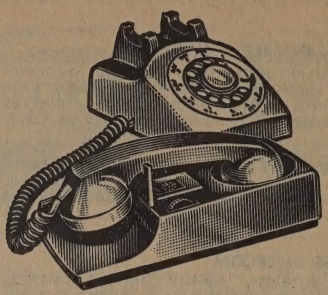
FIVE STATION INTERCOM SYSTEM

Model IN-404. Versatile "starter" system includes 5 station master and two indoor remote stations, plus two 50 ft. cables with plug-in connections. Master can signal one or all of up to four indoor or outdoor remotes. Integrated circuit assures good sensitivity. Remotes use "beep call" signal to originate calls to master. Ivory/brown with wood grain accents. Size, 7x3½x2". 117 VAC. Shpg. wt., 4¾ lbs.
95F901. NET **32.95**

95F902. IN-400 Master Station Only. **NET 18.95**

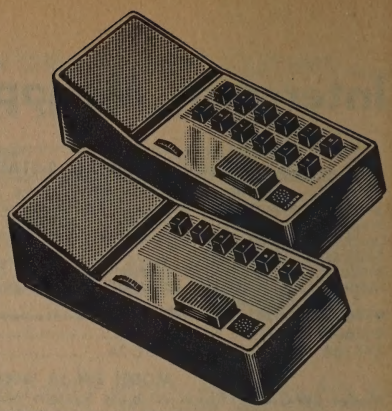
95F903. IN-1 Outdoor Remote & 50' Wire. **NET 8.50**

95F904. IN-2 Indoor Remote & 50' Wire. **NET 8.50**



TRANSISTORIZED TELEPHONE AMPLIFIER

Model FTA-4. Permits use of telephone with hands free to type, check orders, take notes, etc. or where it is necessary to walk away from phone. Four-transistor amplifier. Standard 9V battery 500 hours or more. Easy to use: when phone rings, place its handset in cradle of FTA-4; unit switches on automatically. No installation or hookup necessary. 2" speaker in 3½x3¾x2" baffle; main unit is 10½x4½x3¼". Shpg. wt., 4 lbs.
95F621. NET **14.95**



SEVEN- AND THIRTEEN-STATION TRANSISTORIZED INTERCOMS

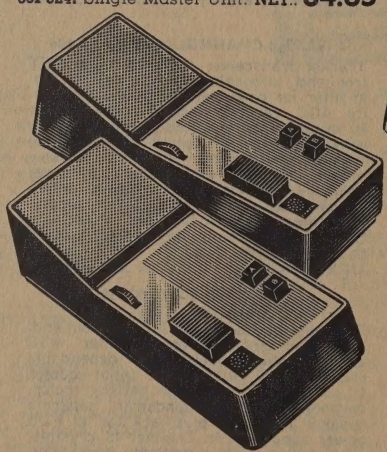
Model FI-7. Seven-station intercom master for use in 7-unit all-master system or master-to-6-remotes system. One of the six positions may be used to page a noisy area using PR-15 paging relay (at right) and a paging amplifier. For quiet areas, intercom power output will be sufficient and an ordinary remote unit (see Model FIR) may be used. Can carry three simultaneous conversations. All-master or master to remote systems requires one conductor plus one additional conductor per unit; units supplied less cable. Controls: on-off/volume, talk/listen switch with talk-lock position, station selector buttons. 9½x4x2½". Wt., 4 lbs.

95F624. Single Master Unit. **NET.. 34.65**

Model FI-13. Master unit identical to FI-7 above, except for use in system of 13 masters or master-to-12-remotes (using FIR remotes, below). Up to six simultaneous conversations on an all-master system. 2 pagina posions using PR-15. Operates from 115 VAC.
95F625. Single Master Unit. **NET 43.50**

Type FIR. Remote unit for use with FI-7, FI-13 above. Same styling. Has privacy switch to cut out other stations, talk/listen switch. Wt., 3 lbs.
95F626. Remote Unit. **NET** **10.75**

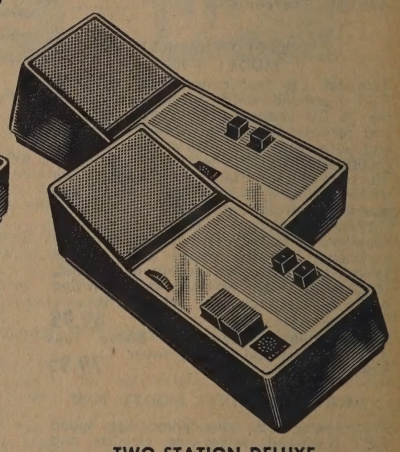
Type PR-15. Paging relay. Wt., 4 lbs.
95F627. NET **22.25**



TWO-CHANNEL WIRELESS TWO-STATION INTERCOM

Model FIW-2. Wireless intercom system may be expanded with up to two additional single-station units (Model FIW-1, below). Two communication channels are provided so system can carry two simultaneous conversations. No installation or hookup is required: simply plug stations into 115 VAC outlets on the same power line. Channel A is on 225 kc and channel B is on 160 kc (will not interfere with AM radio reception); exclusive lock-out filters prevent inter-channel crosstalk. Each unit has on-off/volume control, talk/listen switch (may be locked in "talk" position), and channel selector buttons. Desk or wall mounting; beige finish. 9½x4x2½". 7 lbs.
95F622. NET **59.95**

Model FIW-1. Additional single station to add to above system. Wt., 4 lbs.
95F623. NET **30.00**

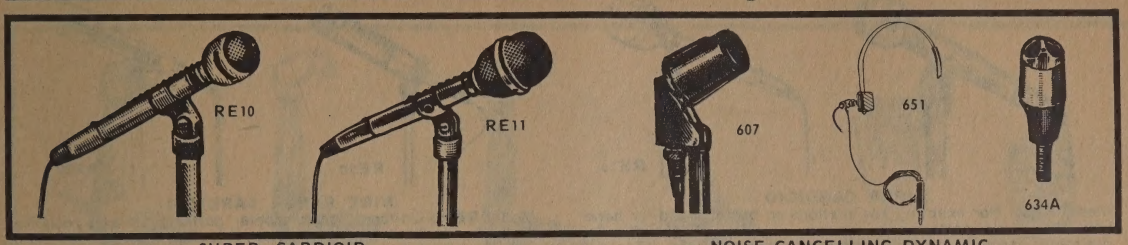


TWO-STATION DELUXE INTERCOM SYSTEM

Model FIC-3. Two-station system consists of one master and one indoor remote. One additional remote can be used if desired (Model FIC-below). Master has on-off/volume control, standby and talk/listen switches, and station selector buttons. Remote has privacy switch (cuts out other stations) and call button. Operates from 117VAC. UL approved. Durable plastic construction, gray with charcoal buttons and base. Requires 3-cond. cable. Employs 13-ohm, 3½" speaker. Size 9½x4x2½". Wt., 6 lbs.
95F628. NET **34.95**

Model FIC. Additional remote unit for above system. Wt., 3 lbs.
95F629. NET **12.25**

Type 2C-100. Additional 100' cable with plugs, used with IN-304, IN-400, IN-404, IN-1, IN-2.
95F905. NET **3.75**



SUPER CARDIOID

Model RE-10. Response: 80-13,000 Hz. Impedance: Lo-Z. Output: —56 db. 18' 2-conductor shielded broadcast cable. Switchcraft A3F connector. 6⅝" long, 1⅜" diameter (shank ¾" diameter). With metal case and 310A clamp. Net weight, 6 oz.
61FX601. NET **93.60**

Model RE-11. Similar to Model RE-10 except incorporates integral blast and pop filter around head of microphone. 7⅜" long, 1⅞" dia. (shank ¾"). Net wt. 8 oz.
61FX602. NET **99.60**

GENERAL PURPOSE EYEGLASS BOOM

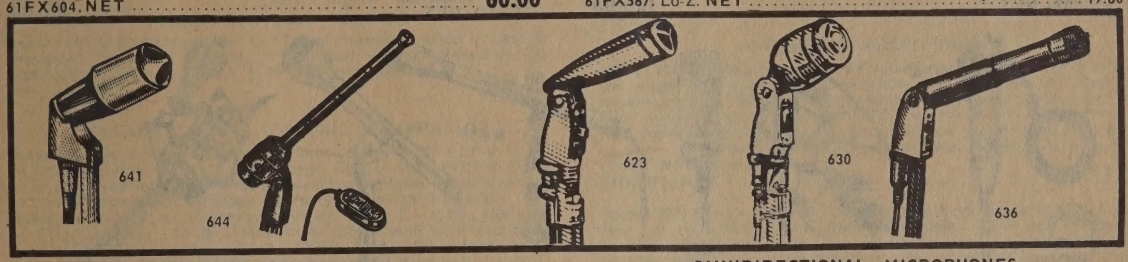
Model 651. Use with glasses or headband provided. Battery operated. 80-8,000 Hz. Hi-Z or Lo-Z. Includes 2 mic tube lengths and case.
61FX604. NET **60.00**

NOISE CANCELLING DYNAMIC

Model 607. Response: 300 to 3,800 Hz. Output at ¼": —54 db. Stud mount fits ⅝"-27 thread. 15' cable furnished. Size: 4⅛" high, 1¾" wide, 3¼" deep. Net wt., 12 oz.
61FX603. High Z. NET **34.80**
61FX609. Low Z. NET 34.80

DYNAMIC PAGING MIKE

Model 634A. Similar to Model 641 except without on-off switch. For gooseneck mounting.
61FX586. Hi-Z. NET **19.80**
61FX587. Lo-Z. NET 19.80



DYNAMIC PAGING MIKE

Model 641. Response: 70-10,000 Hz. Output —57 db. 16' cable. Chrome plated zinc and plastic case. Wt. 1 lb.
61FX584. Hi-Z NET **26.40**
61FX585. Low Z. NET 26.40

SOUND SPOT

Model 644. Combination cardioid and distributed front opening instrument. 40-10,000 Hz. Output —53 db. Hi-Z. 16" L., 2⅝" dia. With 15' cable Wt. 4 lbs.
61FX567. NET **73.80**

SLIMAIR MICROPHONE

Model 636. Response: 60-13,000 Hz. Wired Hi-Z. Lo-Z by changing 1 wire in connector. Output —58 db. Tiltable head. On-off switch. 10¼" x 1@". With 15' cable. Net wt. 2 lbs.
61FX501. NET **48.60**

OMNIDIRECTIONAL MICROPHONES

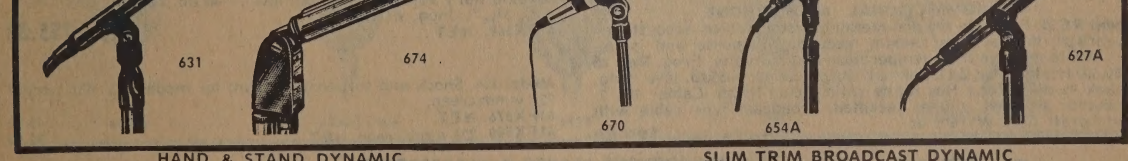
Model 623. Response: 80-12,000 Hz. Output —58 db. Wired Hi-Z. Lo-Z by changing 1 wire in connector. Tiltable head. On-off switch. Accoustally diaphragm. Built-in MC-4 connector. 7½" x 15/16". With 16' cable. Wt. 1½ lbs.
61FX544. NET **36.00**

HIGH FIDELITY HIGH OUTPUT DYNAMIC

Model 630. Response 60-11,000 Hz. Output level —55 db. Hi-Z. Built-in cable connector. Wired Hi-Z, Lo-Z by changing 1 wire in connector. On-off slide switch. 16' cable. Wt. 3 lbs.
61FX507. NET **34.80**

ELECTRO-VOICE MICROPHONE

Model 805. For guitar playing, etc. Employs Hi-Z sealed crystal element. 15' cable. Shpg. wt. 8 oz.
61FX521. NET **13.50**



HAND & STAND DYNAMIC

Model 631 Omnidirectional Mike. 4-stage filter allows close-up use without blasting or distortion. 80-13,000 Hz. Output —55 db. With cable and 310 stand clamp. Size 6" L x 1⅜" head dia. ¾" shank dia. Net wt., 6 oz.
61FX593. High Z. NET **36.00**
61FX594. Low Z. NET 36.00

CARDIOID MICROPHONES

Model 674 Variable-D Mike. 50-15,000 Hz. 3-position switch provides low frequency attenuation to overcome feedback. Accoust-alloy diaphragm. Hi-Z. Lo-Z available, by simple adjustment. Output —57 db. 15' cable. 7⅜" L. x 1¼" dia.
61FX515. NET **57.00**

•NEW SINGLE-D CORDIOID

Model 670. Use with or without stand. Built-in pro type connector with on-off switch. User replaceable head. Response: 60-14,000 Hz. Output: —58 db. Hi-Z or Lo-Z selectable. With cable and stand clamp. 7½" long, 1⅜" max dia. 1" shank dia. Wt. 6 oz.
61FX614. Net **45.90**

SLIM TRIM BROADCAST DYNAMIC

Model 654A. 50-15,000 Hz, substantially flat. Output —57 db. Matches all Low-Z. With accessory neck cord and stand mount clamp. 18' cable and Cannon XLR-3 connector. Size 7"x1⅛" dia. Shipping weight, 1½ lbs.
61FX522. NET **63.00**

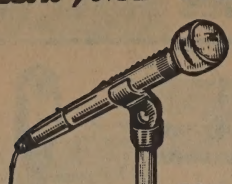
HAND-AND-STAND ENTERTAINER'S MIKE

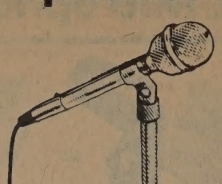
Model 627A Single-D Mike. Low Frequency when used close up. Built-in pop and dust filter. Peak free response for presence. 80-11,000 Hz. Output —58 db. Hi-Z or Lo-Z with cable and 310 stand clamp. Size: 6 7/16" L.x1⅝" head dia. ¾" shank dia. Net wt., 6 oz.
61FX516 High Z. NET **36.00**
61FX517. Low Z. NET 36.00

CARDIOID DYNAMIC VARIABLE D

Model 664. Designed for tape recording and public address applications. Blast filter and acoustalloy diaphragm is shielded from wind and dust. 60-15,000 Hz. Output: —58 db. 15' cable. High Z Size: 7¼" L., less conductor. Wt. 1 lb., 10 oz.
61FX546. High Z. NET **53.40**

Electro-Voice Microphones And Accessories





SUPER CARDIOID

Model RE15. For exacting applications on boom, stand, or hand held. Directional pattern provides max. rejection at 150° off-axis, maintains essential cardioid pattern at other positions. "Basetilt switch:" Response: 80 to 15,000 Hz. Impedance, Lo-Z. Output: —56 db. 18' —2 conductor shielded broadcast cable with Switchcraft A3F connectory. $6^{7}/_{16}$" long, $1^{3}/_{8}$ dia. $^{3}/_{4}$" shank dia. With metal case and model 310A clamp. Wt. 6 oz. (Not including cable.)

61FX596. NET **159.00**

Model RE 16. Super Cardioid Similar to model RE 15 except incorporates integral blast and pop filter around head of microphone. Designed for close-up vocal use and virtually eliminates pickup of breath noises. Strong protective metal screen prevents damage in use. Response: 80 to 15,000 Hz. Impedance, Lo-Z. Output: -56 Db. 18' 2-conductor shielded broadcast cable with connector. $7\text{-}^{3}/_{8}$" long, $1\text{-}^{7}/_{8}$" dia. ($^{3}/_{4}$" shank dia.'. Net wt. without cable 8 oz.

61FX598. NET **165.00**

WIDE RANGE CARDIOID

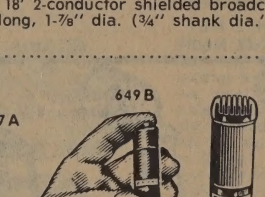
Model RE20. Uniform cardioid polar pattern; off axis response virtually identical to on-axis, mas. rejection for boom or stand use. Excellent transient response. Response: 40 to 20,000 Hz. Impedance: 50,100, 150 ohms (selectable). Output: —57 db. Length, $8^{1}/_{2}$". Max. dia. $2^{1}/_{8}$". 18' Two-conductor, shielded broadcast cable included. Switchcraft A3F connector at microphone end. Fits $^{5}/_{8}$"—27 threaded pipe. Wt. 1lb., 10oz.

61FX599. NET **255.00**

•NEW NOISELESS HAND AND STAND

Model RE50. Omnidirectional, for vocals, interviews, etc. Also used for instrumental broadcast and recording. Low susceptibility to mechanical shock, handling, cord noise, or breath pops due to double case design separated by rubber isolating mounting. Rugged steel case provides magnetic shielding. Response: 80 to 13,000 Hz. Output: -55 db. Acoustalloy diaphram. Low Impedance Switchcraft A3M connector. 18' cable w/300 clamp. $7^{3}/_{4}$" x $1^{13}/_{16}$" dia. 1" shank dia. Weight $9^{1}/_{2}$ oz.

61FX612 NET **72.00**



Model 647A. Rugged construction assures long life. Frequency response: 70-10,000 Hz. Accoustalloy diaphram. Output level —60 db. Satin chrome tinish. Tiltable head. 18' cable. Wt., 1 lb.

61FX535. Hi-Z. NET **54.00**

61FX536. LO-Z. 150 ohms. NET **54.00**

DYNAMIC LAVALIERS

Model 649B. Weighs only 31 grams without cable. Ideal for programming where concealed placement is desirable. Response: 70-10,000 Hz. Output: —61 db. $2^{1}/_{4}$" long, $^{3}/_{4}$" dia. Complete with neck cord, belt clip and stand mounting clamp. Matches all low impedance inputs. Shpg. wt. 1 lb.

61FX553. NET **69.00**

•NEW QUIET LAVALIER

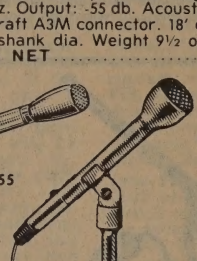
Model RE85. Features double case design to eliminate unwanted noise. Extremely flat response in chest position: 90 to 10,000 Hz. Output: -61 db. Matches all low impedance inputs. Integral 30' two-conductor shielded cable. Non-reflective finish. Size $20^{5}/_{8}$" long max. dia. $1^{5}/_{16}$" Wt. 8 oz.

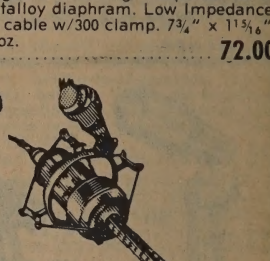
61FX613 ..... **79.80**

OMNIDIRECTIONAL MICROPHONE

Model RE55. Features the non-metallic Electro Voice Accoustalloy diaphragm that assures smooth frequency response and is impervious to damage from temperature and humidity. Freq. Res. 40 to 20,000 Hz. Imp: Lo-Z (150 ohms). Output Level: —55db. $10^{1}/_{2}$" long, (shank $^{3}/_{4}$ diameter.) Has matte satin nickel finish. Cable: 18', 2-conductor shielded, rubber jacketed, broadcast type cable with Switchcraft A3F. Wt. $8^{1}/_{2}$ oz.

61FX595. NET **132.00**





BROADCAST MIKE

Model 635A. Omnidirectional microphone, perfect for hand and stand. Light weight turned steel case is rugged and provides magnetic shielding. Effective four-stage pop and dust filter virtually eliminates need for external wind screen. Accoustalloy diaphram. Response: 80-13000 Hz. Lo-Z. Output: -55 db. With 2-conductor cable (18') and plug w/clamp. 6 x $1\text{-}^{3}/_{8}$". Net weight 6 oz.

61FX504 NET **52.80**

HIGHLY DIRECTIONAL MICROPHONE

Model 642. Unidirectional up to 500 cps. Working distance 2 to 3 times that of conventional types. Response: Flat from 40-10,000 cps. or choice of 5 or 10 db. low frequency reduction steps by screwdriver adjustment. Acoustalloy diaphram. Impedance: 50, 150, and 250 ohms externally adjustable. Output level. —48 db. Length: $17^{1}/_{8}$" max. dia., $3^{3}/_{16}$". Shpg. wt. $3^{1}/_{2}$ lbs.

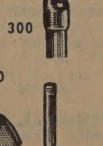
61FX568. NET **255.00**

Model 324. Shock and suspension mount for model 642. Will accept 326 windscreen.

61FX576. NET **43.80**

61FX580. 326 windscreen. NET **30.00**

E-V MICROPHONE STANDS & ACCESSORIES



Model 418. Desk Stand. For use with Models 611,623, 630, 641, 644, 664, 674, 911 and 951. Gray finish. Shpg. wt. 3 lbs.

83F016. NET **8.70**

Model 300. Detachable microphone clamp. Fits 1" to $1^{1}/_{8}$" microphones providing positive mounting to $^{5}/_{8}$"-27 stand. $^{1}/_{2}$ lb.

83F012. NET **4.80**

Model 310. As above, for $^{3}/_{4}$" diameter.

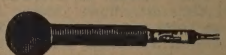
83F019NET. **3.90**

Model 420. Cast iron desk stand in TV gray For 1" dia. microphones. Models 666, 655C, 654A, 652, 652A and 676.

83F010. NET **13.20**

Model 423A. Desk Stand. Satin chrome stand on $5^{1}/_{8}$" dia. base. With rubber base buttons and 5" matching stem riser. Wt. 1 lb.

83F003. NET **4.20**



Model 335A. Windscreen. Acoustifoam windscreen for Models 630, 634, 641. Net wt. $^{1}/_{2}$ oz.

83F009. NET **8.40**

Model 355. Windscreen. Also protects against mechanical shock damage and pickup of dust and magnetic particles. For use with models 655C, 654A, 638, 628 Gray. Net wt. $^{1}/_{2}$ oz.

83F008. NET **7.50**

Model 428. Touch-to-talk stand has DPDT switch with locking latch and fast-operating release. Takes $^{5}/_{8}$"-27 thread 7" high with base. Shpg. wt. 2 lbs.

83F004. NET **19.80**

Model 337. Windscreen designed for use with Model 627.

83F020. NET **4.80**

Paging & Communication Microphones *Electro-Voice*

619

619TR

620

727SR

714/717

715

PRESS TO TALK DYNAMIC

Model 619. Press-to-talk switch at base may be moved to upper part of stand for grip-to-talk operation. Response: 70-10,000 cps. Output —57 db. Hi-Z or balanced Lo-Z must be specified 16' cable. Size: 4⅜"x9"x4¾". Wt. 2 lbs., 2 oz.
61FX512. Hi-Z. NET **31.88**
61FX513. Lo-Z. NET 31.88

PRESS TO TALK "CERAMIC"

Model 719. Diecast stand and head. Switch may be used in base or moved to upper part of stand. Hi-Z. Output: —56 db. Response: 70-7,000 cps. 16' cable. 4⅜"w x 9"h. Net weight 2 lbs. 2 oz.
61FX514. NET **18.00**

TRANSISTORIZED DYNAMIC COMPRESSOR

Model 619TR. Unique base-station microphone with built-in transistor amplifier and speech compressor. Grip-to-talk switch in stand riser, compression meter in base. Switch completes battery circuit in "on" position and provides for relay operation. Response: 150-10,000 Hz. Output (at compression threshold): Hi-Z —42 db; 3000 ohm —44 db; 150 ohm —58 db; (Maximum output with gain and compression controls at max. —40 db.) Coiled cord cable extends to 5'. Size: 4½" wide, 9¾" high, 4¾" deep. Net weight, 2 lbs.
61FX605. NET **45.00**

NOISE CANCELLING BASE STATION

Model 620. Switch shorts microphone in "off" position and provides for relay operation. Hi-Z or Lo-Z must be specified. Nonreflecting gray stand, chrome finished Cycolac head. Cable: 15' (Lo-Z), 6½' (Hi-Z). Size: 9¾" high, 4½" wide, 4¾" deep, Net weight 2¼ lbs.
61FX606. High Z. NET **42.00**
61FX610. Low Z. NET 42.00

SLIM OMNIDIRECTIONAL CERAMIC

Model 727 SR. Hi-Z. A new approach to the design of ceramic microphones for communications, PA, recording, and general use; similar in appearance to model 729. Withstands extremes of temperature and humidity. Response, 60-8,000 Hz. Output —55 db. High impedance only. 8½' cable. Metalustre gray front with medium gray back. Supplied with attractive desk stand and floor stand adapter. Size: 1½" wide, 7¾" high, 1⅜" deep. Net weight, 9 oz. less cable and stand.
61FX564. NET **14.70**

HAND-HELD MICROPHONE

Model 714. Molded, tough, gray Cycolac case, usually found only in the most expensive mobile microphones. Response tailored for maximum intelligibility. High level, high impedance output —55 db. over range of 100 to 7,000 Hz. DPDT switch shorts microphone in "off" position and closes relay circuit in "on" coiled cord extends to 5'. Size: 2½" wide, 3⅝" high, 1⅞₁₆" deep. Net weight, 8 oz. including cable. With hang-up bracket.
61FX572. NET **11.10**

Model 717. Similar to 714 except close talking cardioid pickup pattern for rejection of unwanted background noise and feedback. Specially designed ceramic element with aperatures on either side of diaphragm provides effective attenuation of sound arriving from the rear and sides. Output level —55 db. Frequency response 100-7,000 Hz.
61FX573. NET **13.20**

"CENTURY CERAMIC"

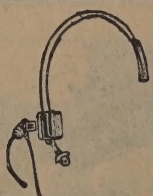
Model 715. Use in any position. 60-7,000 Hz. Output —55 db. Hi-Z. 5' cable. Omnidirectional. Non-reflecting gray finish. Rugged, lightweight. AC DC insulated. With ⅝"-27 adapter. Size: 2¼" wide, 3" high, 1" deep. Net weight, 6 oz.
61FX530. NET **9.90**

600E

205STCKK

602F

924


967ME

DYNAMIC MOBILE MIKE

Model 600E. High-impact Cycolac case and rugged construction. Hi-Z provides circuit for VOX operation. High output level —55 db. Response 100 to 7,000 Hz, specifically matched to high intelligibility requirements. Size: 2½" wide, 4" high, 1½" deep Gray. Shielded coiled cord extends to 5'. With hang-up bracket. Wt.: 10 oz.
61FX562. NET **27.00**

DIFFERENTIAL CARBON MIKE

Model 205STCKK. Noise Cancelling carbon. For aircraft and emergency uses. FAA approved. Blastproof, waterproof and shock resistant. Output at ¼": —50 db. Black. Press-to-talk switch closes microphone and relay circuit. Lo-Z. Coiled cord extends to 5'.
61FX529. NET **34.50**

NOISE CANCELLING DYNAMIC

Model 602F. Hand-held microphone. Rejects sounds originating more than ¼" away. Hi-Z or balanced Lo-Z. Cycolac case. Response: 200 to 5,000 Hz. Output —55 db. Coiled cord extends to 5 ft. Size: 2½" W x 4" H x 1¾" D. Net wt. 10 oz.
61FX537. High Z **39.00**
61FX538. Low Z 39.00

"LAVALIER CRYSTAL"

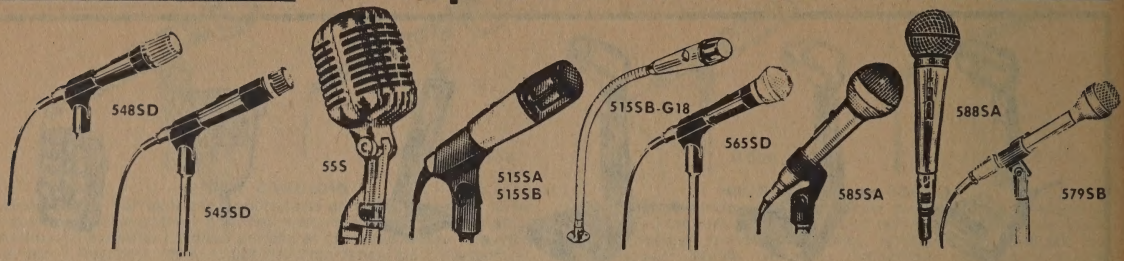
Model 924. Supplied with neck cord, support clip and 18' cable. Satin chrome. Wire mesh head acoustically treated for wind and moisture protection. Output: —60 db. Response 60-8,000 Hz. Hi-Z. 3⅝₃₂" long, 1⅞₃₂" diameter. Cable has integral strain relief. Net weight, 8 oz.
61FX542. NET **15.60**

TRANSISTORIZED DYNAMIC EYEGLASS BOOM HEADSET

Model 967ME. Light-weight assembly clips on eyeglass frame or special head band with mike tube to mouth and earphone. FAA approved. Audio superior to magnetics. Always same distance from mouth for clear voice pickup. Noise reduction equal to noise cancelling microphones. With microphone and earphone tubes of two lengths. Amp built in handle of P1-068 plug. Push-to-talk switch mounts on steering control. Output: 40 db (re: 1/volt/dyne/cm²) Max., 250 ohm load. Carrying case.
61FX607. NET **78.60**

Model 967M. Microphone-only version of 967ME. Talk-back provided by cabin speaker. Microphone assembly weight, 16 grams.
61FX608. NET **68.40**

SHURE Microphones and Accessories



UNIDYNE IV MICROPHONE

Features magnetic reed "on-off" switch in case, shock mounting; wind, pop, and blast filters; Cannon Connector and 15 ft. cable. For entertainers, public-address, and recording. Response: 40 to 15000 Hz. Dual impedance. Output: high -55 db, low -55.5 db, 6 1/8" L. x 1 9/16" dia. Shpg. wt. 2 1/4 lbs.

61FX193. **Model 548SD. NET** **72.00**

61FX183. **Model 548.** (less switch) **NET** 69.00

UNIDYNE III MICROPHONES

Unidirectional, dynamic type. Response: 50 to 15,000 Hz. Output: low imped. -57 db; high imped. -55 db. 15-ft. 3-conductor shielded cable. Features "on-off" switch in case. 5 13/16" L x 1 1/4" D.

61FX194. **Model 545SD.** (swivel adapter) **NET** **61.20**

61FX168. **Model 545S.** (swivel mount) **NET** 61.20

61FX139. **Model 545.** (less switch) **NET** 57.60

UNIDYNE II MICROPHONES

Models 55S & 55SW. Unidirectional eliminate feed-back problems. Select low, med., or high imp. Mounted on life-time swivel. Response: 50-15,000 hz. Output: L —55.5 db; M —56.5 db; H —55.5 db. Wt., 3 1/2 lbs.

61FX141. **Model 55S** (Less switch) **NET.** **57.00**

61FX169. **Model 55SW** (on-off-switch) **NET.** 58.80

UNIDYNE B MICROPHONES

Model 515SA. Includes "On-Off" switch and swivel adapter for stand or hand-held use. Ideal for low-budget sound systems. Frequency response: 80-13,000 Hz. Impedance: High —58 db. Housed in a chrome and black case. 1 1/2" diameter —6 7/16" long, complete with 15-foot one conductor non-detachable cable.

61FX112. **NET** **27.00**

Model 515SB. Same as above except low impedance, —59db and 15-foot two-conductor non-detachable cable.

61FX113. **NET** **27.00**

Model 515SB-G18. Same as 515SB except 18" gooseneck mounting; 51" cable.

61FX195. **NET** 31.80

UNISPHERE I MICROPHONES

Unidirectional dynamic microphones. Wire mesh spherical front, wind and pop filter. Solves feedback problems. Dual impedance. Response: 50 to 15,000 Hz. Output: low -57 db, high 54.5 db. 15-ft cable. Magnetic reed "on-off" switch on case. Wt. 2 1/2 lbs.

61FX196 **Model 565SD.** (Swivel adapter) **NET** **67.80**

61FX163. **Model 565S.** (Switch On Swivel mount) **NET** 67.80

61FX162. **Model 565.** (as above/no switch) **NET** 64.80

UNISPHERE "A" MICROPHONES

Models 585SA & 585SB. Wire-mesh screen with filter eliminates loudspeaker squeak and echoing. Response: 50-13,000 hz. Impedance and output: 585SA: High, —56.5 db. 585SB; Low, —56.5 db. 15 ft. cable. Wt. 2 1/4 lbs.

61FX165. **Model 585SA.** Hi-Z **NET.** **45.00**

61FX166. **Model 585SB.** Lo-Z **NET.** 45.00

Model 585SAV Unisphere A. Same as 585SA but with built-in volume control.

61FX167. **Model 585SAV NET.** **49.80**

UNISPHERE "B" MICROPHONES

Model 588SA. Lockable On-Off switch. Cannon connector with 15-foot one conductor detachable cable. Swivel stand adapter. 50 to 13,000 Hz. frequency response. High impedance. Output —58 db. Satin Chrome housing. 6 1/2x2" diameter. Shpg. wt. 1 1/2 lbs.

61FX181. **588SA.** High Impedance. **NET** **39.00**

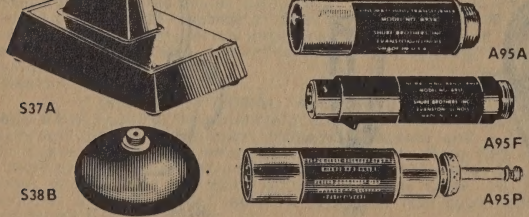
61FX182. **588SB.** Low impedance. Output —59 db. with 15-foot two-conductor cable. **NET** 39.00

OMNIDIRECTIONAL DYNAMIC MICROPHONES

Model 579SB Vocal Sphere. Provides very natural and intelligible voice reproduction and is an ideal choice for public-address, entertaining, recording. Excellent for close-up applications because of the built-in wind and breath noise filters. Lockable On-Off switch and a broadcast-type Cannon connector with 20-foot two-conductor detachable cable. Includes swivel stand adapter. 50 to 15,000 Hz. frequency response. Low impedance. Output —59 db. Satin chrome and gray housing. 6 3/8" x 1 9/16" diameter. Shipping weight: 2 lbs.

61FX184. **NET** **45.00**

AUDIO ACCESSORIES



MICROPHONE ACCESSORIES

Model S37A Stand. Modern design desk stand for both stand adapter and swivel connector microphones. Glare reducing charcoal finish. Shipping weight 2 lb.

83F077 . **NET** **5.40**

Model S38B. Stand Heavy die-cast base, includes metal screw machine stud for connecting microphone adapter to stand base. Black finish. Shpg. wt., 2 lbs.

83F066. **NET** **3.00**

Type A95A. Transformer. Matches 35-50 and 150-250 ohm mike to hi-Z input. Compact magnetically-shielded case, 2 1/2" x 3/4" dia. Furnished with Cannon XL-3-12 input and Amphenol MEIM output.

39F950. **NET** **12.60**

Model A95F Transformer. Same as Model A95A except input is XL-3-13. Shipping Weight, 9 oz.

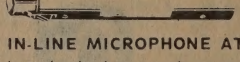
83F070 **NET** **14.40**

Type A95P. Transformer. Same as A95A above, but with phone plug output.

83F055. **NET** **13.80**

Model A95FP Transformer. Same as Model A95P above except input is XL-3-13. Shipping weight, 10 oz.

83F068. **NET** **15.60**



• NEW IN-LINE MICROPHONE ATTENUATORS

Inputs are female and outputs are male cannon XL type.

Model A15A Microphone Attenuator. Provides 15 db attenuation (150 ohms) Shpg. wt. 1 lb.

83F069. **NET** **15.00**

Model A15PR. Phase Reverser. Shpg. wt. 1 lb.

83F071. **NET** **15.00**

Model A15HP. High pass filter. Shpg. wt. 1 lb.

83F072. **NET** **15.00**

Model A15LP. Low pass filter. Shpg. wt. 1 lb.

83F073. **NET** **15.00**

Model A15PA. Presence adapter. Increases presence range of low impedance microphones. Shpg. wt. 1 lb.

83F075. **NET** **15.00**

Model A15LA Line input adapter. Converts low impedance mic. input to high Z (or 600 ohms) line input. Shpg. wt. 1 lb.

83F076. **NET** **15.00**

REPLACEMENT CARTRIDGES

Not shown: For general replacement in Shure and other make mikes. All are supplied with rubber mounting ring. Overall depth approximately 7/8". Wt. 4 oz.

Type R5 Controlled Magnetic Replacement Catridge. High impedance, high output: Uneffected by heat, hum. Shipping weight, 4 oz.

61FX116. **NET** **7.80**

Model R5B. Same as above but low impedance.

83FO67 **NET** **7.80**

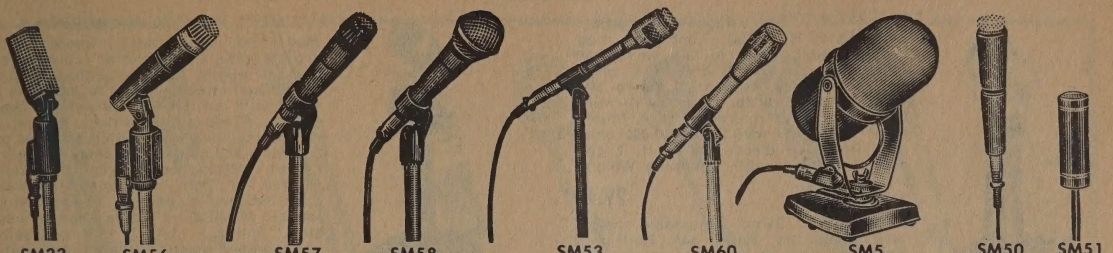
Type R7 Crystal. High output, with smooth frequency response. Replacement for 707A. 708A series. Wt., 4 oz.

61FX117. **NET** **6.00**

Type R10 Carbon. Replacement for CB, 100, and 120 mikes. Output: 5 db below 1 v. per 100 microbar speech signal. Recom. for voice only. Wt., 6 oz.

61FX118. **NET** **6.00**

Microphones & Audio Instruments SHURE



UNIDIRECTIONAL RIBBON MICROPHONE

Model SM33 "Studio sound". Wide range response. Supercardioid directional pattern to eliminate background noise. Permanent 115° swivel shock mount fits 5/8"- 27 stand thread. Freq. resp. 40-15,000 Hz. Polar Pattern: Super-Cardioid (Unidirectional). Impedance: Dual (50 and 150 ohms). Output Level: —58.5 db. Size: 1 3/8" x 2 1/16" x 7 15/16". Non-reflective studio grey finish. Includes 20 ft. two conductor cable with Cannon XIB-3-11C connector. Shpg. wt. 3¼ lbs.

61FX187. NET **150.00**

UNIDIRECTIONAL DYNAMIC MICROPHONES

Shock mounted cartridge. Freq. resp: 50 to 15,000 Hz. Polar Pattern: Unidirectional. Impedance: Dual (50 150). Output Level: —56 db. Grey finish. Includes 20 ft. two conductor, shielded cable and Cannon XLR-3-11C connector. Shpg. wt. 2¾ lbs.

Model SM56. Permanent swivel-shock mount with impedance On-Off switch. Stand thread 5/8"-27. Size 1¼x5 7/16 .

61FX188. NET **96.00**

Model SM57. For stand or hand held use. Slip in swivel adapter. Stand thread 5/8"-27. Size 1¼ diameter x 6½" long.

61FX175. NET **75.00**

Model SM58. Built-in wind and "pop" filters. For stand or hand held use. Slip in swivel adaptor for stand thread 5/8"-27. Size 2" diameter x 6 7/16 " long.

61FX180. NET **96.00**

UNIDIRECTIONAL DYNAMIC MICROPHONE

Model SM53. Wide front working angle, uniform cardioid pattern at all frequencies and from all directions. Can work "off microphone" with unchanged tonal quality. Flat Peak-free frequency response. Effective built-in "pop" and wind filter. Freq. resp.: 70 to 16,000 Hz. Polar Pattern: Unidirectional. Imp.: 150 ohms. Output Level: —58.5 db. Non-reflective "champagn" finish. Comes with 20 ft. two conductor, shielded cable and Cannon XLR-3-11C connector. Snap in swivel adapter for 5/8" -27 thread size. 1½" x 7 5/32". Shpg. wt. 1 lb.

61FX179. NET **153.00**

OMNIDIRECTIONAL DYNAMIC MICROPHONE

Model SM60. An ideal on-camera or on-stage microphone. Smooth natural sound and built-in wind and "pop" filters to minimize breath and wind noise. Includes slip swivel adapter for 5/8" - 27 std. thread. Freq. resp.: 45 to 15,000 Hz. Polar Pattern: Omnidirectional Imp. 150 ohms. Output Level: — 59 db. Size: 1¼" x 6 7/32 ". Non-reflective champagne finish. Includes 20 ft. cable and Cannon XLR-3-11C connector. Shpg. wt. 2 lbs.

61FX178. NET **49.20**

UNIDIRECTIONAL BOOM MICROPHONE

Model SM5. Excellent rejection of background noise, highly effective integral windscreen; internal mechanical isolation; lightweight. Freq. resp.: 50 to 15,000 Hz. Polar Pattern: Unidirectional. Output Level: —57 db. Size: 4½" x 9 29/32" Cannon XLR-3-42 receptacle attached. Stand. 5/16 " boom mounting, 5/8," - 27 adapter supplied.

61FX176 SM5A ohms. NET **255.00**

61FX189 SM5B 150 ohms. NET **255.00**

ONMIDIRECTIONAL DYNAMIC MICROPHONE

Model SM50. This self-windscreened mike withstands the most severe field use. Built-on acoustic filter virtually eliminates wind, noise, "blasting", and "pop". Slip-in swivel adaptor for 5/8 "- 27 threaded stand. Freq. resp.: 40 to 15,000 Hz. Polar Pattern: Omnidirectional impedance: Dual (50 ohms and 150 ohms). Output Level: —58 db. Size: 1½" x 6 9/16". Gray, non-reflective finish. Includes 20 ft. two conductor shielded cable and Cannon XLR-3-11 C connector. Shpg. wt.: 2 lbs. 5 oz.

61FX177. NET **78.00**

DYNAMIC LAVALIER MICROPHONE

Model SM51. Curved, contoured edged and recessed grille for minimum clothing noise. Has adjustable clip and belt clip for table. Freq. resp: 70 to 12,000 Hz. (optimized for lavalier use). Polar Pattern: Omnidirectional. Imp.: 150 ohms. Output level: —60.5 db. Size: 13/16" x 2 15/32". Non-reflective gray finish. Includes 30 ft. 2-conductor flexible shielded cable. Shpg. wt. 1½ lbs.

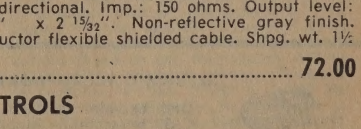
61FX190. NET **72.00**

MIXERS, REMOTE, AMP. AUDIO CONTROLS

PROFESSIONAL MICROPHONE MIXER/REMOTE AMPLIFIER

Model M67 Has individual gaincontrols for four 150 ohm balanced line microphone inputs (one switchable to line input). Master volume control. Built-in tone oscillator. Headphone monitor jack illuminated VU Meter. Model A67B Battery Power Supply (available on special order) provides automatic switch-over in case of AC failure. 600 ohm balanced line output (+18 dbm.) 150 ohms low impedance balanced line microphone level output. Freq. resp.:+2db20-20,000 Hz. Gain: 90 db Max. Noise: -126 dbv. Distortion: Under 1% 20-20,000 Hz. Size: 11 3/8 " w x 7½"d x 2 5/8 "h. Shipping Weight: 4 lbs. 3 ozs.

61FX191. NET **162.00**



M-67

MICROPHONE MIXER

Model M68. Four microphone inputs, either 150 ohm low impedance balanced line or high impedance, 1 auxiliary input for tape recorder, phono or tuner. Outputs: high or low impedance microphone level and high impedance, high level output for power amplifier requiring .5 to 2 volts. Comes with male Cannon XLR-3-14 type input connectors. Optional accessories (available on special order) include model A68B Battery Power Supply, A68P* Phono Preamp, A68R* Rack Panel Kit, A68S Stacking Kit, A68L* Locking Panel Kit.

61FX171 NET **84.00**

Model M68FC. Same as M68 but with female Cannon XL-3-14 type input connectors.

61FX774 NET **90.00**

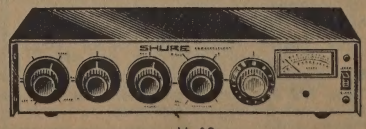
* These accessories also used with M67 Mixer shown above.

M-68

AUDIO MASTER

Model M63. Provides the means to shape frequency response to equalize sound systems for correction of room acoustics, to reduce feedback, to provide special sound effects, for recording, to reduce stand and stage noise, etc. Features are a A VU meter to monitor audio level. Five types of outputs: 600 ohms balanced line. High impedance high level. High impedance microphone level. Low impedance microphone level. Headphone jack for monitoring. Continuously variable high pass and low pass 6 db per octave filters. Bass and treble tone controls. Two 30 VDC jacks and an A.C. receptacle. Frequency response 20 to 20,000 Hz. Size: 2½" x 11 x 5¾". For 105-130 Volt. 50/60 Hz. A.C. or 30 VDC. Shipping weight: 5½ lbs.

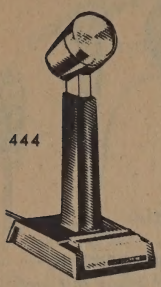
61FX192. NET **96.00**



M-63

Microphones

SHURE


444

Model 444. Telescoping height adjustment (Min Ht. 10⅜). Controlled magnetic element. Press to talk switch bar for both press to talk and VOX operation. Frequency Response: 300 to 3000 Hz. Output —53.0 db. (0 db. = 1V/millibar); 2.25 cmV/ microbar. High Impedance (Recommended load 100,000 ohms or more). Semidirectional. 7 ft. 2 conductor shielded cable. Shipping Weight: 1½ lbs.
61FX145. NET **29.40**

Model 444T. Same adjustable height case design as Model 444. Built-in 2 transistor preamp with volume control for max. modulation. Frequency response: 200 to 6000 Hz. Input Impedance: Less than 1000 ohms. Output level: Adjustable from 2-45 mV for 1 microbar input. Shpg. Wt. 2 Lbs.
61FX170. NET **33.60**

CONTROLLED MAGNETIC DISPACHER MICROPHONE

Model 450. Same adjustable height case design as Model 444 but response of 100-10,000 Hz. Dual impedance. Hi-Z —54 db. Lo-Z —53 db. Press-to-talk switch bar for both talk and VOK operation.
61FX172. NET **33.60**

SPHER-O-DYNE MICROPHONES

Model 533SA. Spherical front, built-in wind and pop filter for "pop proof" performance. 40-11,000 hz. High imp. —55 db. Swivel adaptor. 15 ft. single conductor cable. 6¹⁹⁄₃₂" x 2¹¹⁄₁₆". Wt. 1 lb. 11 oz.
61FX160. NET **34.20**

Model 533SB. Same as above execpt low impedance. —55.4 db, 15 ft. two conductor cable.
61FX161. NET **34.20**

COMMANDO MICROPHONES

Model 420. Ideal multi-purpose controlled magnetic lavalier microphone. Polar pattern; omnidirectional. Dual impedance. Output level: —52 db. Frequency response: 60-10,000 Hz. Includes 20 ft. cable and lavalier assembly. Wt., ¾ lb.
61FX128. NET **21.00**

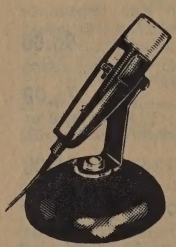
BASE STATION MICROPHONE

Model 522. Suppresses unwanted background noise. Eliminates or reduces feedback in public address paging applications. Dual impedance (25 to 200 ohms or high) with switch for convenient changeover. Press-to-talk switch; locking or nonlocking operation. Switch actuates microphone and an external relay or control circuit. Microphone circuit normally shorted in high impedance; normally open for low impedance. Frequency response: 60-10,000 Hz. Cable: Non-detachable, 7 foot (2.1 meter), four conductor, two shielded, plastic jacketed. Adjustable height (9¾" to 12¼"). Gray two-tone finish. Shpg. wt., 2¼ lbs.
61FX186. NET **42.60**

HAND HELD MICROPHONES

Model 404C. Hand-held. Ideal for outdoor use. Designed for high speech intelligibility. Has push-to-talk leaf switch. Response: 400-4000 Hz. Imp. and output: (404C) high, —54 db. (404B) 150-250 ohms, —52 db. Wt., 1 lb.
Model 404C. High Imp.
61FX104. NET **22.80**
Model 404B. Low Imp.
61FX103. NET **22.80**

VERSADYNE DYNAMIC MICROPHONES



Model 575S. Features light weight construction. Smooth wide range frequency response from 40 to 15,000 Hz. For tape recording, general public address, as well as many other applications. Built in filters reduce voice "pop". Slide-to-talk locking switch, and lavalier cord and stand adapter are included. Omnidirectional; high impedance (100,000 ohms recommended). Output level: —56 db. (0 db. = 1 volt per microbar); 1.58 millivolts per microbar. Attached, one conductor, shielded cable. Shipping weight: 1 lb. 1 oz.
61FX148. NET **16.50**
Model 575SB. Same as Model 575S but low Impedance for long cable lengths. Output Level: —57.5 db, (0 db. = 1 milliwatt per 10 microbars; .131 mV per microbar.
61FX149. NET **15.00**

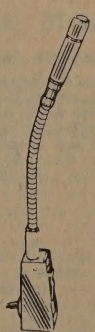
RCA

DYNAMIC MICROPHONES

HK 101

Undirectional cardioids. For amatuer radio C.B., base station mobile communications & public address systems. Can be adapted to various transmitters, VOX oper., etc. Die-cast metal is silver and satin-chrome. Model HK-101. High impedance. Freq. response: 70-9000 Hz. Output imped.: 50,000 ohms. Output: -55 db. at 1000 hz. Switches: push-to-talk, push-to-talk and lock, lift-to-talk, and remote control circuit. Cable: black, coiled, 6-ft., 1 conductor shielded, 2 conductors unshielded. Wt.: 26 oz.
61FX326.NET **44.00**

MODEL HK-109. Low impedance. Freq. response: 400-8000 hz. Output imped.: 400 ohms. Output: —21 db. at 1000 hz. Switches: push-to-talk, push-to-talk and lock, remote control circuit. Cable: black, 6-ft., 1-conductor shielded, 2 conductors unshielded. Wt. 26 oz.
61FX342. NET **49.00**



- NEW OMINDIRECTIONAL MIKE
- VERSATILE GOOSE NECK BASE
- SMALL & UNOBSTRUSIVE APPEARANCE

Model HK-113. High impedance. Especially useful in service counter, voice recording, public address and paging applications. Small flexible goose-neck base fits a standard microphone stand. Push-to-talk/lock switch can be used for remote control. Well suited for public places where sound reinforcement is needed. Frequency response: 200-8,000 hz. Output impedance: 10,000 ohms. Output: -70 db at 1000 hz. Cable is black, 6-ft., 1-conductor shielded, 2-conductor unshielded. Mounting drilled and tapped for 5/8" x 27 thread pipe stand. Weight (with cable) 8.3 oz.
61FX343 NET **29.00**

STANDS AND ADAPTERS

Type MA-01. Desk Stand 7-11" High. ⅝" —27 thread. 2½ lbs.
61FX309. NET **5.20**

Type MA-02. Banquet Stand 13-25" high ⅝" —27 thread 6 lbs.
61FX310. NET **5.85**

Type MA-03. Floor Stand 35-65" High. ⅝" —27 thread. 10 lbs.
61FX311. NET **9.00**

Type MA-04. Floor Stand 37-66" High ⅝" —27 thread. 22 lbs.
61FX312. NET **16.50**

Type MA-05. Desk Stand for use with 77DX and BK-5B microphones, ½" pipe thread. 2 lbs.
61FX313. NET **16.75**

Type MA-06. Desk stand. For use with BK-1A mic. ½" pipe thread. 6 oz.
61FX314. NET **7.75**

Type MA-28. Holder for BK-6B.
61FX315. NET **1.35**

Type MA-08. Adapter ⅝" —27 female; ½" male. 3 oz.
61FX316. NET EACH ..... **.60**

Type MA-09. Adaptor ½" female; ⅝" —27 male. 3 oz.
61FX317. NET EACH **3.75**

Type MA-24. Boom mount Special shock mounting isolates BK-5B from vibration.
61FX322. NET **36.50**

Type MA-25. Windscreen. For BK-5B.
61FX323. NET **16.50**

Type MA-27. 20-ft. cable with special "High Z/Low Z" Chrome Connector.
61FX330. NET **4.10**

Type MA-27V1. 20-ft. cable with special "High Z/Low Z" Gold Connector.
61FX331. NET **5.25**

Type MA-35. 5-Pin Female Connector.
61FX332. NET **1.50**

Type MA-39. 3-Pin Female Connector.
61FX333. NET **1.15**

Type MA-41. Impedance Matching Transformer with Two Connectors.
61FX334. NET **17.00**

Type MA-44. 5-Pin Male Connector.
61FX335. NET **1.15**

Microphones RCA

• NEW STARMAKER SERIES

UNIDIRECTIONAL

OMNIDIRECTIONAL

Model HK-96. An excellent microphone for use on stage, recording or broadcasting. Excellent frequency response (50 to 15,000 Hz) and features a 3-position bass roll-off switch to reduce rumble. The cardioid (unidirectional) pick-up pattern effectively reduces unwanted noise. 5-pin connector permits switching from low to high impedance (200 to 15,000 ohms) by rotating the connector. Microphone has black and chrome finish. Comes with wind-screen, slip-on swivel mount, 20 ft. of 2-conductor shielded balance line (less connector) and attache case. Weight 16 oz.
61FX328. NET **50.00**

Type HK-97. Excellent for use where each individual has his own microphone. Frequency response 50 to 15,000 Hz, unidirectional pick-up for less feedback. Special 5-pin connector permits switching from low to high impedance (200 to 15,000 ohms) by rotating the connector. Has black and chrome finish. Can be used on stand with ⅝'' —27 pipe thread. The HK97 comes with wind-screen, fixed slip-on mount. 20 ft. of 2-conductor shielded balance line (less connector) and a black attache case. Weight 6.06 oz.
61FX327. NET **40.00**

HK-103. Unidirectional (cardioid). Is designed for vocalists, very high-quality voice applications. Finished in gold. Frequency response from 100Hz to 1500Hz. Microphone is supplied with a special 5-pin rotatable connector which permits changing from low-to-high impendance by simply rotating the connector. Supplied is a dual-thread (⅝'' -27 thread and 5/16'' -18 thread) microphone holder, a gold-and black weighted metal desk stand, and an attache-type carrying case.
61FX336 NET **64.00**

HK-106. Dual impedance (200 ohms/500 ohms) dynamic microphone having a unidirectional (''super'' cardioid) pickup characteristil. With excellent off axis rejection at 180°. Microphone useful for high quality voice applications in high noise ambients such as outdoor broadcasting and interviewing. Features an electrical design which incorporates two cartrioges and two transformers to achieve super cardoid. Frequency response is from 150ohz to 10000 hz. Has black and satin-chrome finish.
61FX337 NET **44.00**

HK-110 Unidirectional (cardioid). Finished in satin black and gold. Frequency response of 100 Hz to 12000 Hz. Features an on-off switch and an integral wind screen supplied with a special 5-pin connector which can be used to select low-or-high-impedance output, a dual-thread (⅝''-27 thread and 5/16''-18 thread) gold-finished microphone holder, and an attache-type carrying case. Housed in a die-cast metal case.
61FX338. NET **54.00**

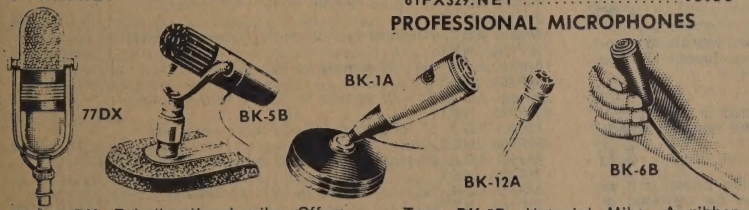
Model HK-98. Omnidirectional microphone is perfect for stage, recording, or for broadcasting. It has excellent frequency response of 40 to 17,000 Hz and has an on-off muting switch. The 5-pin connector permits switching from low to high impedance (200 to 15,000 ohms) by merely rotating the connector. Mounting with any ⅝''—27 fixture thread permits the use of low cost stands. Has black and chrome finish. The HK-98 comes complete with wind-screen, fixed slip-on mount, 20 ft. of 2-conductor shielded balance line (less connector) and attractive black attache case. Weight 6.3 oz.
61FX329. NET **40.00**

HK-111. Microphone for broadcast-studio, stage and monaural and stereophonic-recording applications. A flat frequency response throughout its reponse range of 50 Hz to 20000 Hz. Supplied with a removable wind screen and a special 5-pin connector which permits changing from low-to high-impedance by rotating the connector. A dual thread (⅝'' - 27 thread and 5/16''-18 thread) adjustable microphone holder. It has a die cast metal case with an attractive black-and satin-chrome finish.
61FX339. NET **54.00**

HK-112. For general-purpose monaural and stereophonic high-fidelity home recording of voice, music or choral arrangements. Frequency response is from 100 Hz to 1,300 Hz. A special 5-pin connector supplied from low-to-high-impedance by rotating the connector. Supplied with a dual-thread (⅜''-27 thread and 5/16''-18 thread) adjustable microphone holder. Housed in a die-cast metal case and has an attractive satin-chrome finish.
61FX340 NET. **34.00**

HK-115 Dual impedance 15,000 ohms/200 ohms dynamic microphone having omnidirectional pickup characteristic. Designed for high quality music and voice recording applications. Useful for applications in which one microphone will be used for two or more persons. Frequency response is from 70 Hz to 16,000 Hz. 5-pin portable connector to select low or high. On-off switch, a removable wind-screen holder, attache-type carrying case. Housed in die cast metal case, has black and satin chrome finish.
61FX341. NET **44.00**

PROFESSIONAL MICROPHONES



Type 77DX. Polydirectional mike. Offers a choice of unidirectional, bidirectional, or non-directional pickup pattern controlled by a selector switch. Three frequency response variations on basic pickup patterns giving a total of nine directional characteristics. A 30 to 20,000 Hz frequency response. Well-shielded against hum, three position shutter switch to select best directional pattern, shock mounted, high quality reproduction over entire audio range, very insensitive to vibration. ½'' pipe thread mounting. Output impedance 250 ohms. 11½x3¾x2½''. 3 lbs.
61FX300. Satin Chrome Finish ... **224.00**

61FX301. 77DX-G. Gray Finish.
NET **199.00**

Type BK-5B. Uniaxial Mike. A ribbon instrument with an unidirectional characteristic. Frequency response 30 to 20,000 Hz. Output impedance 250 ohms, may be changed to 30 or 150 ohms. Output level at 1000 Hz.—56 dbm. E1A rating—1.50 dbm. ½'' pipe thread mounting. Size: 7 x 1¾'' dia. Shpg. wt., 2 lbs.
61FX303. NET **172.00**

Type BK-1A. Actuated microphone response from 50-15,000 Hz. Output impedance 250 ohms (30 & 150 ohm connectors included). Output level —52 dbm. E1A ratings —146 db. Hum pickup is below —102 dbm. Ball and socket mounting, ½'' thread. Shipping weight, 18 oz.
61FX302. NET **95.00**

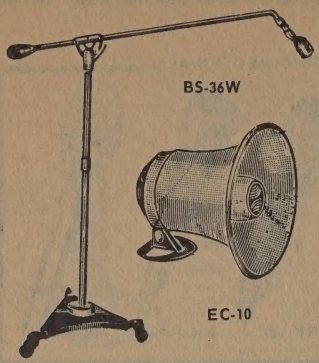
Miniature BK-12A

Model BK-12A. Frequency response of 60 to 18,000 Hz. Impedance voice coil permits use with 30 to 250 ohm unloaded inputs without changing the microphone's impedance. Accessories: Lavalier, tie clip holder, and cable clip. ¾'' dia. x 1½'' L.
61FX318. NET **99.00**

Subminiature BK-6B

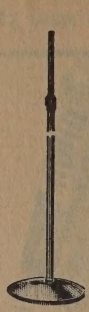
Type BK-6B. Output level is —65 dmb. E1A ratings —159 db. Frequency response of 60-15,000 Hz. 250 ohm output impedance may be changed to 30 to 150 ohms. Size: 2⁹/16x1⁵/16''. 30 ft. of two conductor cable includes less connectors. Shpg. wt. 2.3 oz.
61FX304. NET **95.00**

Atlas Sound Equipment



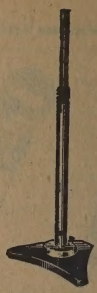
DS-7

TS-8


MS-11C

MS-20

MS-10C


MS-25

MICROPHONE BOOM STANDS

Model BS-36W. Professional Boom Stand. Features Safety Air-Lock Cushion, built into vertical section to prevent sudden slippage of upright section. Has gyromatic swivel joint to hold mike in proper position. Has adjustable counterweight, removable boom and ball bearing casters. Boom extension 62"—upright is adjustable from 48" to 72". Base diameter, 17". In chrome and gun metal. Snap-on hangers hold cable to boom. Shpg. wt. 38 lbs.
83F043. NET **63.33**

DESK AND BANQUET STANDS

Model DS-5. Non-adjustable. 4" tall, Base diameter is 6". Chrome tube, and gray base. Wt. 3 lbs.
83F039. NET **2.84**

Model DS-7. As above but adjustable from 8" to 13".
83F040. NET **4.59**

Model TS-8. Adjustable banquet stand using full grip control. Adjustable from 14½ to 26 inches. All chrome.
83F051. NET **8.51**

"VELVET ACTION" STANDS

Featuring "Full-Grip" clutch which offers an extended length body. Bases designed for stability with maximum base mass located where the concentrated weight is most useful. Include self-leveling, shock-absorbing pase pads, plus three additional "anti-tip" points located between base pads.

Model MS-11C. Adjustable from 34" to 62". Base dia., 10". Base and tube assembly chrome finished. Wt., 13 lbs.
83F032. NET **11.16**

Model MS-20. Height adjustable from 37" to 66". Base dia. 12". Gray base. Chrome finished tube. Wt., 15 lbs.
83F033. NET **14.00**

Model MS-10C. Height adjustable from 35" to 63". Base dia., 10". Gray base. Chrome finished tube. Wt., 10 lbs.
83F030. NET **8.67**

Deluxe Model MS-25. "Safety Air Lock Cushion" permits smooth and quiet collapse of stand without sudden slippage. Base dia., 17". Adjustable ht., 38-67". Chrome finish. Sh. wt., 22 lbs.
83F034. NET **22.67**

MODELEC-10 PAGING SPEAKER

Equipped with a ceramic type magnet and handling capabilities of 6 watts. Impedance 8 ohms; frequency response of 400 to 10,000 cycles per second. Sound level 113 dB. Featuring an adjustable bracket to provide swivel mounting and adjustment for correct sound pattern. Overall length 6⅜" with a bell diameter of 6¼" and a sound dispersion of 125°. Weight 2 lbs.

83F052. NET **17.40**

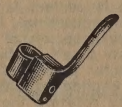
MICROPHONE ATTACHMENTS & ACCESSORIES

BB-1

GN-13

BC-1

SW-1


CH-1

AD-1

AD-3

AD-7

SO-1

Model BB-1. "Baby Boom" Attachment. Can be easily and quickly attached to any microphone floor stand. Boom arm is equipped with universal swivel that can be adjusted and locked in any position. Sliding counterweight. Has ⅝" —27 thread. 32-inch section is chrome plated. Gray castings. Shipping weight, 3½ lbs.
83F036. NET **6.92**

Model GN-13 Flexible Goose Neck. Attaches to mike stand, providing convenient adjustment for individual use. Bright chrome finish. 13" long, ⅝"-27 thread. Wt., 1 lb.
83F037. NET **2.25**

Atlas Model GN-19 Goose Neck. Can be attached to any microphone stand or fixture. 19" long. With male and female threads ⅝"-27. Shpg. wt., 1 lb.
83F048. NET **3.17**

Model BC-1 Bracket Clamp. For attaching mike boom arm or goose neck to desk or other solid object. Can be clamped or permanently screwed or bolted in position. 6" chrome stem, gray finish clamp. ⅝-27 thread. Shpg wt. 1 lb.
83F042. NET **3.17**

Model SW-1. Gyromatic Swivel. Adjusts to any angle. Locks in any position. Fits any floor or desk stand. Chrome finish. 4½" long, ⅝-27 male, female threads.
39F912. NET **4.17**

Model CH-1 Cable Hanger. Fits tubes from ⅞" to 1¼" dia. Mike can be quickly coiled, looped over it when moving. Easy 1-screw attachment. Chrome finish.
39F913. NET **2.25**

Atlas Model FS-1. Footswitch. For use with any mike having single ended inputs. Completely shielded and noise free. Can be hand operated on table top. Uses long life micro switch. Cork base prevents skidding. w½x3".
83F046. NET **10.50**

Model AD-1. Handy adapter for fitting RCA mike to std. mike stand. Has ½" male pipe thread and std. ⅝"—female thread.
39F900. NET ..... .80

Model AD-2. ⅛" pipe female to ⅝"—27 male.
39F901. NET ..... .57

Model AD-3. ⅛" pipe female to ⅝"—27 female.
39F902. NET ..... .63

Model AD-4. ¾" long ⅝"—27 male running thread.
39F903. NET ..... .47

Model AD-5. ⅝"—27 female to ⅝"—27 female.
39F904. NET ..... .63

Model AD-6. ⅞"—27 female to ⅞" female coupling.
39F905. NET 1.14

Model AD-7. 3" long tube ⅝"—27 male each end.
39F906. NET ..... .78

Model AD-8. 6" long tube ⅝"—27 male each end.
39F907. NET ..... .80

Model AD-9. ⅞"—27 female to ⅝"—27 female.
39F908. NET ..... .86

Model AD-10. ⅝"—24 female to ⅝"—27 female.
39F909. NET 1.25

Model AD-11. Flange, ⅝" ⅝-27 female. Base dia., 1¾".
39F910. NET ..... .86

Model AD-12. Flange, ⅝"—27 male. 1¼" mtg. ctrs.
39F911. NET ..... .86

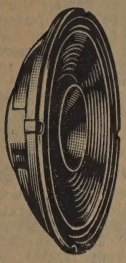
Model SB-1 Switchboard Microphone Support. Designed for use in supporting a microphone over conventional types of telephone switchboards. 12" flexible chrome plated goose neck arm mounted on spring loaded swivel. Wt. 13 lbs.
83F047. NET **13.83**

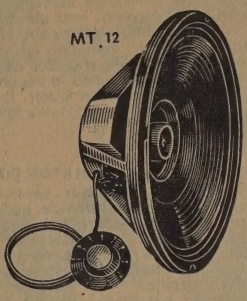
MODEL SO-1 MIKE ATTACHMENT

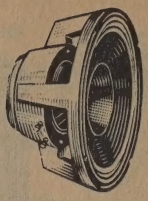
Provides a fast, safe means of attaching any microphone to any floor stand. Eliminates the need of threading the microphone on and off stand. Consists of a two-section "Snap-On" ball bearing spring sleeve. Shipping weight, 2 lbs.
39F920. NET **2.51**

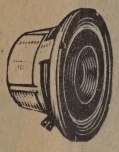
High Fidelity Loudspeakers *ElectroVoice*

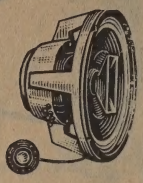
MC 8

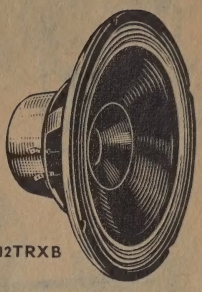

MC 12


MT 12


SP 12 B


SP8B


SP15 B


12TRXB

MICHIGAN SERIES

Model MC8. 8 Inch Loudspeaker. Radax design provides extended highs and wider dispersion. Response 50-13,000 Hz. Nom. resonance 75 Hz. Crossover 6000 Hz. 24 watts peak, 8 ohms impedance. E1A sensitivity rating, 46 decibels. $8^{1}/_{4}$" diameter. 7" baffle opening. $3^{3}/_{16}$" behind panel. Features high-efficiency long-throw voice coils on rigid fiberglass forms.
86F338. NET **17.95**

Model MC12. 12-Inch Loudspeaker. Disperses crisp clear highs and powerful bass, yet is shallow enough for wall mounting. Response 40-14,000 Hz. Nom. resonance 60 Hz. 40 watts peak. 8 ohms impedance. E1A sens. rating 46 decibels. $12^{1}/_{4}$" diameter. 11" baffle opening. $3^{1}/_{2}$" behind panel. Features heavy die cast frame. Net weight 5 lbs.
86F339. NET **20.95**

Model MT12. 12-Inch Three-way Loudspeaker. Combines superb dual-cone speaker with unique ring radiator tweeter. Brillance control to adjust highs. Response: 40-18,000 Hz. Nom. resonance 60 Hz. Crossover 4,000 Hz. 40 watts peak. 8 ohms impedance. E1A sensitivity rating 46 decibels. $12^{1}/_{8}$" diameter. 11" baffle opening. $5^{1}/_{2}$" behind panel. Shpg. wt. 8 lbs.
86F340 NET **31.50**

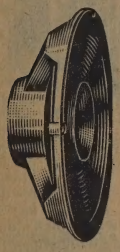
STANDARD E-V RADAX DESIGN SPEAKERS

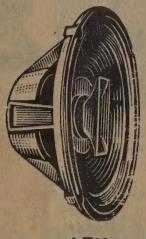
Model SP8B. Radax Super-Eight. 8" speaker. Response, 35-1500C Hz. Nom. resonance, 60 Hz. Crossover, 4500 Hz. 40 watts peak. 16 ohms impedance. E1A sens. rtg., 47 db. $8^{3}/_{8}$" diam., $7^{1}/_{8}$" baffle opening. $4^{3}/_{4}$" depth behind panel. Shpt. wt. 8 lbs.
86F025 NET **32.50**

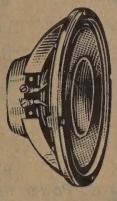
Model SP12B. Radax Twelve. 12" speaker. Response, 35-15000 Hz. Nom. resonance, 50 Hz. Crossover, 4500 Hz. 60 watts peak, 16 ohms impedance. E1A sens. rtg., 49 db. Shpg. wt. 12 lbs.
86F024. NET **37.95**

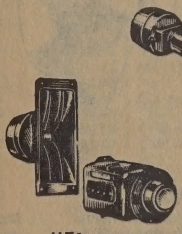
Model 12TRXB. Integrated 3-Way Speaker. Combines an SP12B T-35-type VHF driver, and integral 6 db/octave high-pass filter with level control. Response, 35-20000 Hz. Nom. resonance, 50 Hz. 60 watts peak. 16 ohms impedance. Shpg. wt. 15 lbs.
86F027 NET **74.95**

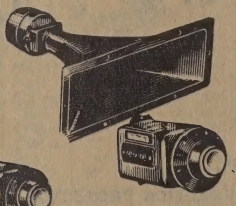
Model SP15B. Radax Fifteen. 15" speaker. Response, 30-15000 Hz. Nom. resonance, 30 Hz. Crossover, 3500 Hz. 60 watts peak. 16 ohms impedance. E1A sens. rtg., 51 db. $15^{1}/_{8}$" diam., $13^{1}/_{2}$" baffle opening. 9" depth behind panel. Shpg. wt. 13 lbs.
86F071. NET **49.50**

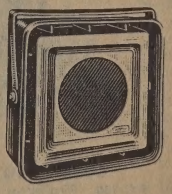

LS8


LT12


LS12A


HF1


MF1


MUSICASTER I

WOLVERINE SERIES

Model LS8. 8-Inch Loudspeaker. Response, 45-14000 Hz. Nom. resonance 75 Hz. Crossover, 4500 Hz. 40 watts peak power. 8 ohms impedance. E1A sensitivity rating, 43 decibels, $8^{3}/_{8}$" diameter, $7^{1}/_{8}$" baffle opening. $3^{1}/_{2}$" depth behind panel. Features heavy die cast frame with low silhouette for shallow mounting in tight spots. Shpg. wt. 4 lbs.
86F333. NET **19.95**

Model LT12. 12-Inch 3-Way Loudspeaker. Features "deep-dish" cone and HF1 tweeter. Response: 40-18,000 Hz. Nom. resonance, 60 Hz. Crossovers: 2000 Hz. mechanical, 4000 Hz. electrical. 40 watts peak, 8 ohms impedance. E1A sens. rtg., 45 decibels $12^{1}/_{8}$" diameter. 11" baffle opening, $5^{1}/_{4}$" depth behind panel. Shpg. wt. 9 lbs.
86F331. NET **39.95**

Model LS12A. 12-Inch Loudspeaker. Response, 40-14,000 Hz. Nom. resonance 60 Hz. Crossover, 4500 Hz. 40 watts peak. 8 ohms impedance. E1A sensitivity rating, 46 decibels, $12^{1}/_{4}$" diameter, 11" baffle opening. $3^{1}/_{2}$" depth behind panel. Coaxial design. Heavy die-cast frame. Shpg. wt., 8 lbs.
86F334. NET **25.50**

Model HF1. High-Frequency Step-Up Kit. Consists of TW35 VHF driver, CR35 crossover-level control. TW35 size: horn $5^{1}/_{4}$" x 2" pot diam. $2^{1}/_{4}$", depth $2^{3}/_{4}$". Fits $1^{11}/_{16}$" x $4^{7}/_{32}$". Shipping weight 3 lbs.
86F335. NET **28.95**

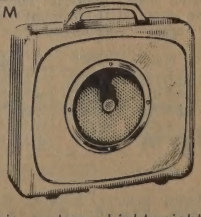
Model MF1. Mid-Range Step-Up Kit. Consists of MR10 treble driver. CR10 crossover-level control. MR10 Size: horn 4" x $10^{1}/_{2}$", pot dia. $2^{3}/_{8}$", depth $9^{3}/_{8}$" x $2^{7}/_{8}$". Wt. 4 lbs.
86F336. NET **31.50**

MUSICASTER 1A & 11A

Model 1A. One-piece compression molded, glass filled polyester housing protects weatherproofed 12" Radax speaker and provides dual horn loading. Can be mounted anywhere or used as portable speaker. Response, 80-10,000 Hz. Impedance, 8 ohms. Power handling capacity, 30 watts. Dispersion, 120°. Size $21^{1}/_{2}$"x$21^{1}/_{2}$"x$8^{1}/_{2}$". Shpg. wt. 25 lbs.
80W404. NET **67.50**

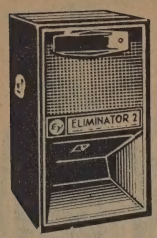
Model 11A. Same specifications as the Musicaster 1A, except has added brillance and wider coverage from very-high frequency T35A tweeter. Smooth response to 16,000 Hz. Complete with crossover. Net weight, 33 lbs.
80W403. NET **84.95**

OUTDOOR HIGH FIDELITY SPEAKER SYSTEM

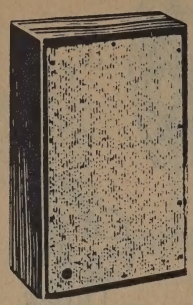


Sonocaster I. New auxiliary high fidelity loudspeaker system. For extension or portable use anywhere. Wide range response. Steel-gray molded housing cannot chip, fade, or peel. Includes convienient carrying handle molded in and accessory hang-up bracket for permanent mounting indoors or outdoors. Frequency response: 70-13,000 Hz. Impedance: 8 ohms. Power handling capacity: 30 watts peak. Special Radax 8" reproducer specifically designed for this system. Lightweight, rugged and weatherproof. $16^{3}/_{4}$" h. x 17" w. x $5^{7}/_{8}$" d. Shipping wt. 8 lbs.
86F170. NET **22.50**

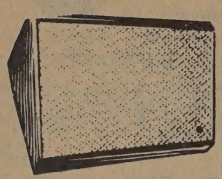
Electro-Voice Sound Projectors



ELIMINATOR I



SENTRY II



SENTRY I

LR4SA

• NEW ELIMINATOR I

Three-way, full-range loudspeaker system for high audio level, sound reinforcement and playback. 15" loudspeaker, coupled to 55 Hz exponential horn cabinet. Midrange handled by an 8HD difraction horn and special driver. Response: 55-15,000 Hz. Crossovers: 1800 hz and 3500 hz. Power cap: 100 watts RMS. Dispersion 100° maintained to beyond 15 kHz. EIA sensitivity rating: 56 db. Sound pressure level: 122 db at 4' with full power input. Impedance: 8-16 ohms. 37½" x 22½" x 23⅛". Wt. 118 lbs.

80W406. Net **465.00**

LINE RADIATOR COLUMNAR SPEAKERS

Line radiator columnar speakers feature wide angle speaker design which permits wide horizontal dispersion while virtually eliminating sound output both above and below the speaker.

Model LR4SA. Line Radiator Columnar Speaker. Electrical filter removes end speakers from circuit as frequencies increase, eliminating high-frequency lobes at ends. Dispersion: 160° horizontal; 30° vertical. Frequency response: 200-15000 Hz. Power handling capacity: 25 watts program, 50 watts peak. Normal impedance: 8 ohms. Weatherproof extruded aluminum enclosure with faun metallic finish. Size: 52" high; 7 9/16" wide; 4⅝" dia. Wt., 32 lbs.

80W405. NET **108.00**

Model LR2SA. Similar in appearance to LR4SA, except only 26" high. Performance similar to LR4SA except for greater vertical dispersion.

86F327. NET **63.00**

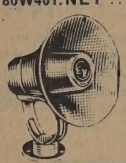
SENTRY SERIES MONITOR SPEAKER SYSTEMS

Sentry I. Wall or Ceiling Model-Precise monitoring and equalization uncolored by monitor speaker. 12" Radax loudspeaker, Diffraction Horn Hi-Freq. driver, & special crossover. Provides smooth Freq. resp. from 30 to 20,000 Hz. 16 ohms imp. Quality hardwood cabinet with walnut finish. Neutral, cane grille cloth. 21½" H., 37" W., 16⅜" D. Wt. 82 lbs.

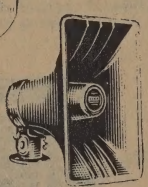
80W401. NET **180.00**

Sentry II. Floor Model—Same specifications as those for Sentry I. Finished in walnut on all four sides to permit vertical or horizontal mounting. Includes protective metal trunktype corners which may be attached for portable applications. 32" H., 20" W., 13" D. Wt. 63 lbs.

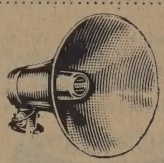
80W402. NET **180.00**



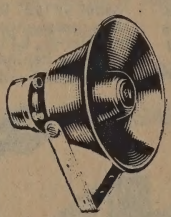
PA12



PA30A

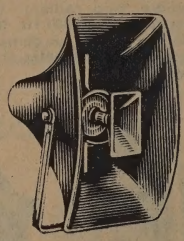


PA30R



844A

847A



FC100

848A

COMPOUND DIFFRACTION PROJECTOR

Model FC-100. Projector Horn. Provides two diffraction horns for uniform wide-angle coverage. Uses any E-V convertible driver. Mouth size 10½"x20½", depth 20". Shpg. wt. 13 lbs.

88F180. NET **35.40**

Model 848A. Combines FC100 compound diffraction horn plus 1828C compound driver for fine wide angle sound, low distortion, and highest quality of any projector. Freq. response 150-10,000 Hz.; Imp., 8 ohms; Dispersion, 90°x120°. Power Cap. 30 watts. Size, 10½"x20½"x20". Shpg. Wt. 14¼ lbs.

88F152. NET **57.00**

CONVERTIBLE DRIVERS

1828C

1828T

1829

1829T

Peak free response with max. efficiency. Easily adapted for use with all Re-entrant-type horns.

Stk. No.	Type	Dim.	Watts	Imp. Ohms	Freq. resp. Hz.	NET
88F195	1828R	4"x2¾"	30	8	150-10,000	21.90
88F184	1828C	4"x3¼"	30	8	150-10,000	21.90
88F185	1828T	5"x4"x5¼"	30	8	150-10,000	31.80
88F191	1829	5 5/16"x4 1/16"	60	16	140-11,000	39.00
88F192	1829T	5 5/16"x6⅜"	60	16	140-11,000	47.40

PAGING SPEAKERS

Model PA-12. Power handling capacity 12 watts, with voice coil impedance 8 ohms. Wide dispersion of 150°. Frequency response: 325 to 14,000 Hz. Swivel bracket easily removable from horn for convenient mounting. 7½" Dia. x 6 5/16" Deep. Shpg. wt. 5 lbs.

88F196. NET **16.20**

Model PA30AT-7. This 30 watt paging projector features easily selected line power taps at 30, 15, 8, 4, and 2 watts. Rectangular horn designed for wide dispersion. Frequency response: 250-14,000 Hz. Dispersion: 120° by 90°. EIA sensitivity: 60 db. Sound pressure level: 127 db. 11" x 6½" x 8½"¼ Wt. 7¾ lbs.

88F190. NET **32.10**

Model PA30A. Same as above, without line matching transformer.

88F173. NET **23.70**

Model PA30R. Similar to the PA30A, except that this model features a round spun-aluminum bell, instead of the rectangular horn. Shipping wt. 6½ lbs.

88F194. NET **25.20**

Model 844A. Frequency response: 250-13,000 Hz. Impedance, 8 ohms. Dispersion 90°. Sound pressure level, 123 db. Dimensions, 9⅞"½. Shpg. wt. 12½ lbs.

88F156. NET **27.00**

Model 847A. Provides higher articulation over a uniform 120°x 90° area. Low distortion results from the use of two diffraction horns. 25-watt power handling capacity. Frequency response, 250-10,000 Hz. Sound pressure level, 114 db. Impedance, 8 ohms. 11¾"x7¾x10¼". Shpg. wt. 10 lbs.

88F150. NET **39.30**

P.A. TRANSFORMERS

Model TR30-2. 30-Watt 25-Volt Line Transformer. For use with PA30 Series. Shpg. wt., 2 lbs.

88F174. NET 9.90

Model TR30-7. 70.7 Volt Transformer. For use with PA 30 Series. Shpg. wt. 2 lbs.

88F175. NET 9.90

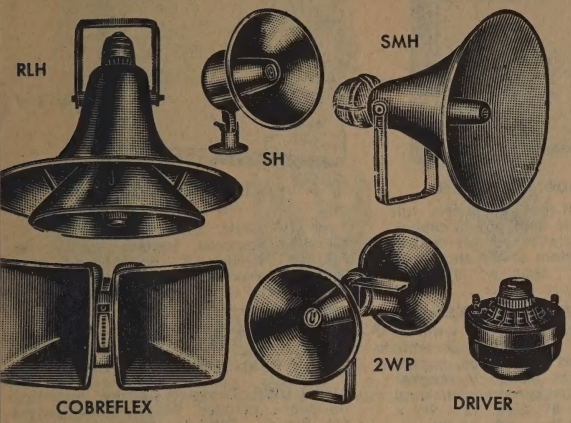
Model TR12-7. Power selectable at 12, 6, 3, 1.5, and ¾ watts for 70 Volt lines. By removing snap-off housing, transformer mounts on rear of PA12.

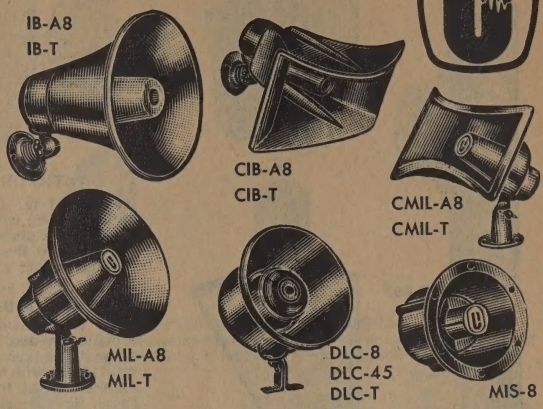
88F197. NET **4.35**

Model TR12-2. Same as TR12-7, except for 25 Volt lines.

88F198. NET **4.35**

UNIVERSITY SOUND Speakers





TRUMPETS, PROJECTORS AND DRIVERS

Reflex Trumpets, Wide-Angle Horn. Weatherproof. Model SMH is directional type. Model SH is high power, compact unit. Cobreflex features high efficiency, wide dispersion.

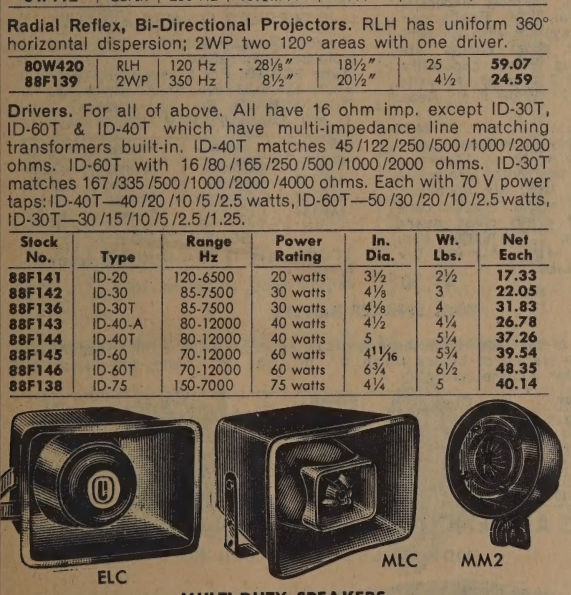
Stk. No.	Type	Cutoff	Bell Dia.	Horn Lgth.	Wt.	Net
88F103	SMH	200 Hz	16¼"	12"	8	24.77
88F075	SH	350 Hz	8¾"	7"	3¼	23.91
84F112	CBFLX	200 Hz	18½x9¼"	10¼"	10¼	31.73

Radial Reflex, Bi-Directional Projectors. RLH has uniform 360° horizontal dispersion; 2WP two 120° areas with one driver.

80W420	RLH	120 Hz	28⅛"	18½"	25	59.07
88F139	2WP	350 Hz	8½"	20½"	4½	24.59

Drivers. For all of above. All have 16 ohm imp. except ID-30T, ID-60T & ID-40T which have multi-impedance line matching transformers built-in. ID-40T matches 45/122/250/500/1000/2000 ohms. ID-60T with 16/80/165/250/500/1000/2000 ohms. ID-30T matches 167/335/500/1000/2000/4000 ohms. Each with 70 V power taps: ID-40T—40/20/10/5/2.5 watts, ID-60T—50/30/20/10/2.5 watts, ID-30T—30/15/10/5/2.5/1.25.

Stock No.	Type	Range Hz	Power Rating	In. Dia.	Wt. Lbs.	Net Each
88F141	ID-20	120-6500	20 watts	3½	2½	17.33
88F142	ID-30	85-7500	30 watts	4⅛	3	22.05
88F136	ID-30T	85-7500	30 watts	4⅛	4	31.83
88F143	ID-40-A	80-12000	40 watts	4½	4¼	26.78
88F144	ID-40T	80-12000	40 watts	5	5¼	37.26
88F145	ID-60	70-12000	60 watts	4 11/16	5¾	39.54
88F146	ID-60T	70-12000	60 watts	6¾	6½	48.35
88F138	ID-75	150-7000	75 watts	4¼	5	40.14



MULTI-DUTY SPEAKERS

Model ELC. Weatherproof hi-fi speaker suited for outdoor use. 150-12,000 Hz. 15 watts. 8 ohms. 120° dispersion. Fiberglass housing measures 12¾x9⅛x10⅝". Wt., 7 lbs.
88F224. NET.....**36.51**

Model MLC. Similar to ELC, but a 2 speaker system with higher SPL output. 150-15,000 Hz. 15 watts. 8 ohms. 120° dispersion. Size, 12¾x9⅛x10⅝". Wt., 10¾ lbs.
88F135. NET.....**45.05**

Model MM-2. Rugged speaker immune to salt spray, gases, live steam, fungus and harmful dusts. 350-10,000 Hz 25 watts. 16 ohms. 150° dispersion. 6" o.d., 5" deep. Wt., 5¼ lbs.
88F108. NET.....**39.53**

LINE-MATCHING TRANSFORMERS

Model 5433 Transformer. 30 watt capacity. Wide selection of impedances and constant voltage power taps. 1 lb.
88F128. NET.....**6.57**

Model 5434 Transformer. 15 watt capacity. ¾ lb.
88F129. NET.....**5.04**

Model CTR. Weatherproof transformer/junction housing for use with 5433 or 5434.
88F126. NET.....**7.10**

PAGING/TALKBACK SPEAKERS

Model IB-A8. 105° dispersion angle. With adjustable wall mounting bracket. Wt., 4½ lbs.
Model MIL-A8. Reflex type speaker for low-power use. High efficiency and intelligibility at speech frequencies. Dispersion angle, 120°. Wt., 3¼ lbs.
Model CIB-A8. Wide angle mid-range unit for 3-way systems, paging & intercom use. Dispersion: 120°x60°. Wt., 6 lbs.
Model CMIL-A. Rectangular re-entrant horn for use in moderately noisy areas. Dispersion: 120°x60°. Wt., 6 lbs.
Model MIS-8. Compact, weatherproof low-power reflex speaker. Dispersion: 150°. Wt., 2⅛ lbs.
Model DLC-8. Low cost reflex speaker for indoor/outdoor paging. Dispersion: 120°. **DLC-45** has 45-ohm voice coil impedance. Wt., 1¾ lbs.
Unless noted otherwise, all the above units have 8-ohm impedance voice coils. Units listed below with "T" suffix have built-in transformer.

Stk. No.	Type	Response	Mic. Sens.	Power	Size	Net
88F110	IB-A8	250-13K	—20 DBM	30W	10½x9"	25.17
88F079	IB-T	250-13K	—20 DBM	30W	10¼x11 7/16"	32.13
88F111	MIL-A8	350-13K	—23 DBM	10W	7 13/16x6⅞"	20.76
88F080	MIL-T	350-13K	—23 DBM	10W	7 13/16x9⅞"	30.21
84F135	CIB-A8	250-13K	—22 DBM	30W	7⅜x14x12"	30.99
84F136	CIB-T	250-13K	—22 DBM	30W	7⅜x14x16"	37.95
88F218	CMIL-A8	350-13K	—26 DBM	10W	9½x6¼x8½"	23.91
88F219	CMIL-T	350-13K	—26 DBM	10W	9½x6¼x10 7/16"	32.45
88F220	MIS-8	500-13K	—22 DBM	7.5W	5½x4 7/16"	23.63
88F221	DLC-8	400-10K	—30 DBM	7.5W	5⅞x4"	12.57
88F222	DLC-45	400-10K	—30 DBM	7.5W	5⅞x4"	12.57
88F223	DLC-T	400-10K	—30 DBM	7.5W	5⅞x6⅛"	19.46

10 watt background music amplifier drives 8-16 ohm, 25 and 70 V outputs

25-watt battery powered PA lets you talk or listen at the press of a button

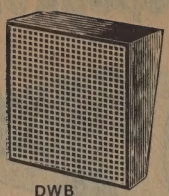
[A] 10-WATT SOLID-STATE PA AMPLIFIER

Model UPB-10T. Ideal for small stores, club rooms and offices. Solid-state with OTL output stage. Drives 8-16 ohm loads; 25 and 70.7 V outputs. Inputs: switchable Hi or Lo Z mike, Hi Z program. Response: ±1½ dB, 30-20,000 Hz. Peacock blue case, 9⅛x3x7⅞". For 117 VAC. Wt., 9 lbs.
88F225. NET.....**59.95**

[B] 25-WATT SOLID-STATE BATTERY-OPERATED PA

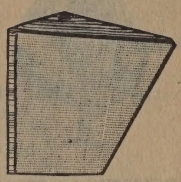
Model PP-1T. Self-contained portable PA with range of up to one mile. Runs on four lantern type batteries. A flick of the talk/listen switch converts unit to a sensitive, directional listening device. Input jack accepts record player, tape player or tuner signal. Wt., 13 lbs.
88F147. NET.....**204.27**

ARGOS PRODUCTS COMPANY



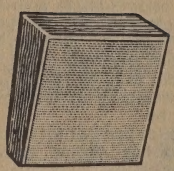
DWB

SD1100

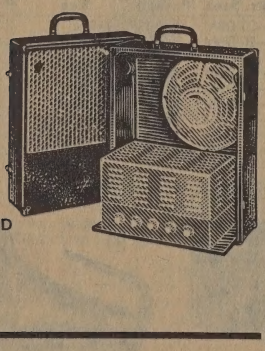


SCB-8D

SD-1064

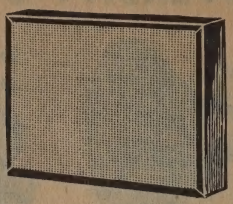


WB-8D



SC-2D

PAT-10



PATIO OUTDOOR SPEAKER

Type PAT-10. Dual-cone speakeris full range 8" size with 10 watt power capacity. Input: 8 ohms. Handy volume control is located at the bottom of the enclosure. Size: 14 x 10½ x3½". Shpg. wt. 5¼ lbs.
86F588. NET **15.95**

THINLINE BAFFLES SPEAKERS

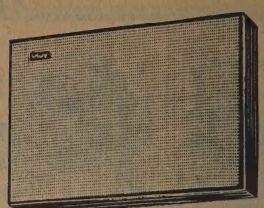
Have vinyl covering, ⅓ thinner with no sacrifice in quality! Heavy-duty ceramic magnet speaker, and P.A. types, except WB-108CS, which has Alnico V magnet speaker, ideal for background music. 8 ohms. Speaker size: 8". Size: 12 x 9½ x 4". Shpg. wt.: 108, 4 lbs.; 408, 4½ lbs.

Stk.No.	Type	Watts	Finish	Each
86F600	WB-108CS	6	Walnut	8.95
86F601	WB-108CS	6	Blonde	8.95
86F723	WB-408CS	10	Walnut	11.25

"SOUND DIRECTOR" SOUND COLUMNS

Model SD-1100. 10 speakers, for rooms up to 200' in length. Vertical dispersion angle, 15°; horizontal, 120°. Easily converted to 8 speaker system with 22° vertical dispersion for short rooms with highly sloping seating. Power capability: 10 speaker 50 watts; 8 speaker, 40 watts. Size: 49½" High x 7" Wide x 6" Deep. Shpg. wt., 26½ lbs.
80W410. NET **74.50**

Model SD-1064. Highly directional speaker system. Vertical angle of dispersion approximately 30°, horizontal projection angle in excess of 120°. Six speakers, handles 30 watts of audio. Plastic cane grille cloth, walnut grain clear guard vinyl. Freq. resp.: 200-10,000 cps; imped.: 16 ohms. Size: 30¼"Hx7"Wx 3⅛"D. Shpg. wt., 10 lbs.
86F593. NET **47.50**



HFB-8SV

SPACE SAVER SPEAKERS AND BAFFLE

Type HFB-8SV. Only 3¾" thin. Hi-Fi sounding response. Superior to regular PA wall baffles. 8" woofer and 3½" tweeter speakers with volume control. Size: 18"x12"x3¾". Shp. wt. 6½ lbs.

Stk.No.	Type	Finish	Each
86F778	HFB-8SV	Walnut	19.95

DWB SERIES BAFFLES

Model DWB. Complete speaker mounting hardware included. Walnut finish except (*) Blonde. DWB-8A internal capacity 400 cu. in., 8 in. dia. speaker, wt. 2¾ lbs. DWB-12A internal capacity 1180 cu. in., 12 in. dia. speaker, wt. 4½ lbs.

Stk. No.	Model	Size	Net
86F735	DWB-8A	9¾x10½x6½	6.40
86F736*	DWB-8A	9¾x10½x6½	6.40
86F737	DWB-12A	13⅝x14x9⅛	9.25
86F738*	DWB-12A	13⅝x14x9⅛	9.25

TAPERED CORNER BAFFLES

Avoids off-angle distortion. 22% more air volume. Bass reflex.
Type SCB-8D. For 8" speakers (max. D. 5½") 17¾"x15"x9". Shpg. wt.: 6 lbs.
Type SCB-12D. For 12" speakers (max. D. 6"). 20¾"x20"x10½". Wt. 10 lbs.

Stk. No.	Type	Finish	Each
86F731	SCB-8D	Walnut	10.50
86F732	SCB-8D	Blonde	10.50
86F733	SCB-12D	Walnut	14.25
86F734	SCB-12D	Blonde	14.25

SOUND CADDY

SC-2D. less 12" PA 18 W less speakers, amp.
86F599. Shpg. wt. 20 lbs. **NET** **29.95**

WALL SPEAKER BAFFLES

Sturdily constructed of plywood. Handsome contrasting cane grille cloth. Specially designed vinyl fabric in walnut or blonde finish. 8", 10", and 12" models have knock out plug under covering for volume control.

Stk. No.	Type	Dia.	Finish	W x H x D	NET
86F754	WB-4/5D	4-5"	Walnut	6½x6⅜x4"	3.55
86F753	WB-6 D	6"	Walnut	8⅛x8¾x5"	4.25
86F750	WB-8D	8"	Walnut	10x10¾x6½"	4.65
86F761	WB-8D	8"	Blonde	10x10¾x6½"	4.65
86F752	WB-12D	12"	Walnut	13⅞x14¼x9⅛"	6.95
86F763	WB-12D	12"	Blonde	13⅞x14¼x9⅛"	6.95

SOUNDOLIER BAFFLES AND ENCLOSURES

RECESSED TRIM RING BAFFLES

Type 51-8. Steel with a hard baked white finish. For 8" speakers. Mtg. hdw. supplied. Size: 12¾" Dia. Wt. 1 lb.
86F628. 1-4 ..... 2.38 ea.
5-up ..... 2.09 ea.
Type 61-8. Similar to above except brushed steel finish.
86F629. 1-4 ..... 2.95 ea.
5-up ..... 2.59 ea.
60 Series. Aluminum trim ring with a satin brushed finish. Simple lines blend well with the modern architecture.
Type 60-8. For 8" speaker. 12¾" dia.
86F620. 1-4 ..... 3.16 ea.
5-up ..... 2.78 ea.
Type 60-12. For 12" speaker. 17" dia.
86F621. 1-4 ..... 4.33 ea.
5-up ..... 3.80 ea.

PROTECTIVE ENCLOSURES

95 Series. Cylindrical protective enclosures designed for new or existing construction installations. Heavy gauge steel, undercoated with packed jute lining to eliminate resonance.
Type 95-8. Used with 8" baffles. 9⅞" dia., 4¼" high. Wt. 2 lbs.
86F622. 1-4 ..... 4.86 ea.
5-up ..... 4.27 ea.
Type 95-12. Used with 12" baffles. 14⅝" dia., 7" high. Wt. 2 lbs.
86F628. 1-4 ..... 7.01 ea.
5-up ..... 6.15 ea.

WIDE ANGLE SURFACE CEILING BAFFLES

Series 210. Includes acoustical horn to radiate sound energy from the rear of the loudspeaker. Horn throat provides phase inverter for extended bass resp. Outer enclosure is finished in flat polar white; inner in brushed satin aluminum. Can be mtd. to std. 4" junction box or directly to ceiling. 2 lbs.
86F625. Type 210-8. For 8" speaker. 1-4, 12.54 ea. 5-up, 11.00 ea.
86F626. Type 210-12. For 12" speaker. 1-4, 15.39 ea. 5-up, 13.50 ea.

LOUVERED RECESSED CEILING BAFFLES

Type 67-8. Similar in style to air diffuser. Designed from heavy gauge steel and completely welded. Aluminum painted finish. Accomodates an 8" speaker. 12" dia. Wt. 1 lb.
86F627. 1-4 ..... 4.53 ea.
5-up ..... 3.98 ea.

LOW CEILING RECESSED BAFFLES

Type 68-8. For use with 8" speakers. Satin brushed aluminum finish. Difractor eliminates beaming when used in low ceiling applications. 12¾" dia. x 1⁵⁄₁₆" Less speaker. Shpg. wt., 1 lb.
86F624. 1-4 ..... 6.92 ea.
5-up ..... 6.08 ea.

QUAM SPEAKERS

A

C

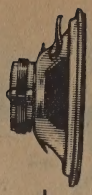
B

E

F

D

G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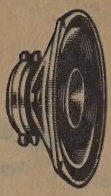
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QUAM REPLACEMENT SPEAKERS

Ideal replacements for speakers in radios, phonos, TV, etc. All have Alnico V magnets, except (#) which have new Q/8 high-energy magnets, with weight specified in oz. All voice coils below are 3.2 ohms. Std. EIA mfts. *Multi-ohm 10-20 & 40. **Outdoor speaker.

Stk. No.	Type	Fig.	Size	Magnet	Watts	Wt.	NET
56F136	25A07	A	2½"	.65	1.5	¼	2.43
56F171	26A07	H	2x6"	.65	2.0	½	2.88
56F169	30A05	F	3"	.55	2.0	½	2.13
56F144	3A05	F	3½"	.55	2.0	½	2.13
56F115	3A07	F	3½"	.65	2.5	½	2.61
56F182	3A070T**	F	3½"	.65	2.5	½	2.88
56F167	35A05	H	3x5"	.55	2.0	½	2.58
56F145	4A05	F	4"	.55	2.5	¼	1.86
56F183	4A050T**	F	4"	.55	2.5	¼	2.70
56F185	4A1#	F	4"	.65	3.0	½	2.85
56F119	4A15	A	4"	1.47	3.0	¾	3.18
56F142	46A07	I	4x6"	.65	3.5	¾	3.21
56F146	48A2#	G	4x8"	1.2	4.5	1	4.80
56F112	410A2#	B	4x10"	1.2	6.0	1¼	5.52
56F172	410A2MT*#	B	4x10"	1.2	6.0	1¼	6.39
56F137	5A1#	D	5"	.65	3.5	1	3.09
56F123	5A15	D	5"	1.47	3.5	1	3.39
56F125	52A1#	D	5¼"	.65	4.0	1	3.27
56F138	57A1#	C	5x7"	.65	5.0	1	3.42
56F173	57A2MT*#	C	5x7"	1.2	5.0	1	4.38
56F126	6A1	D	6½"	1.00	5.0	1	3.60
56F128	6A31	D	6½"	3.16	6.0	1¾	5.10
56F129	69A2#	C	6x9"	1.2	8.0	1½	4.59
56F174	69A2MT*#	C	6x9"	1.2	8.0	1¼	5.67
56F131	69A3	C	6x9"	3.2	10.0	2	5.97
56F143	8A21	D	8"	2.15	7.0	1½	4.98
56F130	8A31	D	8"	3.16	9.0	2	5.88

NEWARK SPECIALS

Fig. A

Fig. B

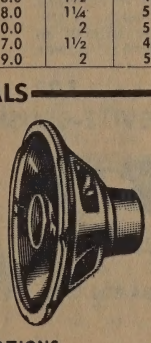


Fig. A—COAXIAL COMBINATIONS (Order As Shown)

8" coax speaker listed below with walnut Argos baffle, WB8D. Wt. 6 lbs.
83F950.
86F750. NET 11.95

8" coax speaker with blonde baffle. Wt. 6 lbs.
83F950.
86F761. NET 11.95

12" coax speaker listed below with walnut Argos baffle, WB12D.
83F951.
86F752. NET 17.95

12" coax speaker with blonde baffle.
83F951.
86F763. NET 17.95

FIG. B—COAXIAL SPEAKER

Blue cone woofer and tweeter with high-efficiency Alnico V magnets. Built-in crossover networks housed in dust covers of speakers. 6-8 ohm impedance; can be used with most amplifiers. Response: 50-15,000 hz. 8" woofer and 3" tweeter.
83F950. NET 7.73

12". Response 40-15,000 hz. 12" woofer and 3" tweeter.
83F951. NET 11.33

MINIATURE PM SPEAKERS

Designed for replacement use in transistor radios and other equipment where there is limited space. Magnet wt., 45 oz.

Stock No.	Model No.	Size	Power Hndlg. Watts	Shpg. Wt. Lbs.	NET
56F164	22A06Z8	2¼"	.25	¼	3.21
56F165	22A06Z100	2¼"	.25	¼	3.54
56F166	27A06Z12	2¾"	.25	¼	3.18

Impedance of speakers, in ohms, indicated by digits following "Z" in model number.

QUAM INTERCOM SPEAKERS—45 OHMS

*Mylar plastic cone speaker for outdoor use. # With Q/8 magnet.

Stock No.	Model No.	Fig.	Size	Magnet	Watts	Shpg. Wt. Lbs.	NET
56F116	3A07Z45	F	3½"	.65	2.5	½	2.88
56F184	3A07Z450T*	F	3½"	.65	2.5	½	3.21
56F140	4A1Z45#	F	4"	.65	3.0	¾	3.27
56F141	5A1Z45#	D	5"	.65	3.5	1	3.42

QUAM PUBLIC ADDRESS SPEAKERS

Sturdy PM units for voice reinforcement and music. Built to take plenty of abuse! Will handle rated power continuously. All have 8 ohm voice coils. *Ceramic magnet. ** Alnico V magnet. Fig. K: Extended Range, 50-20,000 hz.

Stk. No.	Type	Fig.	Size	Magnet	Watts	Wt.	NET
56F175	8A31PA **	E	8"	3.16	10	2¼	6.75
56F186	8C6PAX*	K	8"	6.0	12	2½	7.35
56F170	8C10PAX*	K	8"	10.	15	3	7.98
56F114	8C10PA*	J	8"	10.	12	3	8.73
56F179	12A6PA**	E	12"	6.8	15	4	10.92

QUAM EXTENDED RANGE SPEAKERS

quam speakers meet the requirements of the most critical listener. Freq. response flat to 12,000 hz. All 12 oz., Ceramic magnets. Voice coil impedance, 8 ohms. Voice coil dia. 1¼". 4 lbs.
Model 8C12X. 8". 15 watt. Depth 3⅛".
84F200. NET 11.46
Model 12C12X. 12". 18 watt Depth 4½".
84F201. NET 15.42

NEWARK PM REPLACEMENT SPEAKERS

Ideal for auto, radio, phono, TV, or PA use. Standard mounting dimension allow quick, easy installation in your new or existing equipment. Engineered to achieve clean, sharp tonal reproduction. All 3.2 ohm voice coil except (*) 8 ohms. (†) 12 ohm voice coil for transistor radios. Built to EIA standards. Rugged construction, trouble-free operation, and excellent frequency response.

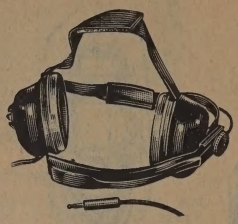
Stock No.	Size In.	Shape	Magnet Oz.	Rating Watts	Shpg. Wt.	1-5	6-up
56F250†	2¾	Round	.65	.75	½	2.49	2.24
56F251	3½	Square	.68	3.0	½	2.10	1.89
56F252	4	Square	.68	3.0	½	2.06	1.85
56F254	4x6	Oval	1.47	5.0	¾	2.93	2.64
56F255	5	Round	.68	4.0	¾	2.21	1.99
56F257	5x7	Oval	1.47	5.0	1	3.30	2.97
56F258	6	Pin Cushion	.68	5.0	1	2.52	2.27
56F259	6	Pin Cushion	3.16	8.0	1	3.86	3.47
56F261	6x9	Oval	2.15	8.0	1½	4.25	3.82
56F262	8	Pin Cushion	1.47	5.0	1½	3.78	3.40
56F263	8	Pin Cushion	2.15	6.0	1½	4.20	3.78
56F264*	8	Pin Cushion	6.8	8.0	2.0	6.66	5.99
56F267*	10	Round	6.8	10.0	2½	7.88	7.09
56F270*	12	Round	6.8	10.0	3	8.54	7.69

Headphones, Headsets, Accessories

DAVID CLARK CO.

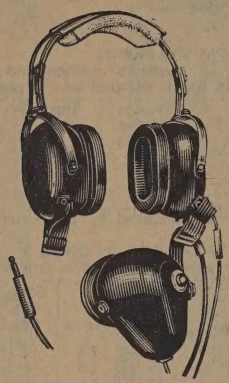
720SB-A

710SB-A



800SB-A

10SB-A



15SM-A

MODEL 800SM-A

Noise shielded microphone designed to provide reliable communications in noise areas up to 130 dB. Push to talk switch on noise shield. Can be worn with all styles and types of safety headgear. Adjustable over-the-head soft strap gives an added degree of headset positioning and comfort. Cords: Two conductor, 30" long. Plug: PJ-055.

35F2403. NET **120.00**

MODEL 710SB-A

Lightweight single-ear sound power headset. Acoustical boom with infinite adjustments. Cord: two conductor type, 30" long. Plug: PJ-055.

35F2415. NET **41.00**

MODEL 800SB-A

For those who must wear safety hats. Uses a lightweight acoustical boom, eliminating need for a heavy microphone element. The boom adjusts in all planes, and symetrical design permits boom rotation so that it can be worn on left or right side. Rcommended for areas of medium high noise up to 115 dB. Cord: two conductor, 30" long. Plug: PJ-055.

35F2401. NET **115.00**

MODEL 10SB-A

Lightweight, durable acoustical boom eliminates the need for heavy microphone element. Recommended for noise areas up to 115 dB. Cord: two conductor, 30" long. Plug: PJ-055.

35F2400. NET **115.00**

JACK PLATE

Model J-2. Facilitates easy, multiple station hook-up of sound power headsets. Two headsets mounted on standard electrical outlet box-plate. Up to 15 stations can be joined together without an amplifier or other external power source.

35F2405. NET **7.25**

800SM-A

MODEL 720SB-A

Lightweight sound power headset. Designed for extended listening comfort. Acoustical boom eliminates need for a heavy microphone element. Cord is two conductor type, 30" long. Plug: PJ-055.

35F2414. NET **66.25**

MODEL 15SM-A

With noise shielded microphone is designed to provide reliable communications in noise areas up to 130 dB. A push-to-talk switch is located on the noise shield. Cord: two conductor, 30" long. Plug: PJ-055.

35F2402. NET **120.00**

MURDOCK CORP. (CLEVITE-BRUSH)

BA-200

CRYSTAL HEADPHONES

Model BA-200-1. High impedance crystal headphones. Extremely lightweight (6 oz.) and very sensitive. For schools, laboratories, etc. Response: 100-5,000 Hz. Cone-type diaphragm. Molded plastic case. Require small DC blocking condenser for DC circuits. With 4-ft. cord and headband. 2 lbs. With attached plug.

27F365. NET **22.00**

27F570. Type BA-200-2. As above, but with eyelet terminals. NET **22.00**

REPLACEMENT CORD

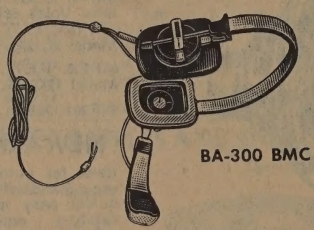
Type 362214. Used with model BA-200-1 listed above.

27F366. NET **5.85**

SINGLE PHONE SET

Model BA-201. As above, but consists of a single phone complete with 4-ft. cord and spring steel headband with end-cushion. Shpg. wt., 1 lb.

27F571. NET **17.50**



BA-300 BMC

HEADPHONE-MICROPHONE

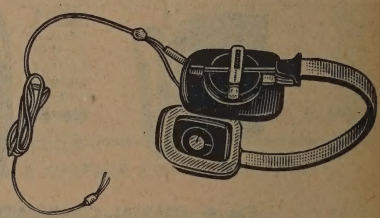
Model BA-300 BMC. High performance microphone with the ED-300 headphone listed right. 180° boom allows full audio and visual response. Roller pin earphone adjustment. Stainless steel headband with washable polyvinyl chloride cover. Supplied with custom ear cushions. microphone tr; Lightweight with high sensitivity and frequency response that meets all educational standards. Headphones are suntan color. Microphone is white.

27F364. NET **40.00**

STEREO MODEL

Model BA-200-S. Stereo version of BA-200 series of high impedance phones listed at left. Fine channel separation.

27F363. NET **22.00**



DS-2500

EDUCATIONAL HEADPHONES

BA-300. Frequency response 50-10,000 Hz± 3db from 50-18,000 CPS. Impedance 50K ohms at 1Kc. Headband is stainless steel covered with washable pholyvinylchloride. Custom Ear Cushions (260649) supplied. Phones can be easily removed by pressing out roll pin. The acoustic bronze filter facilitates perfect dependability. Suntan color. Wt. 9 oz. 8" x 8½" x 3¼".

27F358. NET **28.00**

Type 260649. Custom Ear Cushions supplied as standard equipment with BA-300.

27F367. NET per pair **1.50**

TELEX HEADSETS

SERIES 600 MAGNETIC HEADSETS

Fig. A. With removable ear cushions. Rugged magnetic elements—high impact plastic construction with standard ¼" molded phone plugs. Shpg. wt., 12 oz.

Type 600-1. Dual phones, 600 ohms, with 300 ohm noise-cancelling dynamic mike.
27F1062. NET **19.95**

Type 610-1. Dual phones, 600 ohm, no mike.
27F426. NET **6.95**

Type 610-2. Dual phones, 2,000 ohm, no mike.
27F427. NET **6.95**

TELEX TWINSET

Fig. B. Suitable for many communications uses. Either ear tip may be removed for monitoring. Tough grey tenite with nickel plated metal parts. Cord supplied with standard phone plug. Shpg. wt., 12 oz.

Type HTW-2. 500 ohms.
27F404. NET **15.65**

Type HTX-2. 1000 ohms.
27F406. NET **15.65**

COMMUNICATIONS SERIES

Fig. C. Rugged construction for use in professional and general communications. Adjustable plastic covered stainless steel headbands. Washable vinyl earmuffs. 5 foot cord with standard phone plugs. Freq. range 20-20,000 Hz. Specially designed magnetic drivers. Shpg. wt., 3 lbs.

TypeCS-7. Dual 600 ohm phones. No mike.
27F388. NET **29.95**

Type CS-78. With 50 ohm carbon mike and single 600 ohm receiver. 2 plugs.
27F389. NET **35.60**

Type CS-75. As above, but with 150 ohm noise-cancelling dynamic mike.
27F1063. NET **35.60**

Type CS-11. As above, but with no mike. Single 2-circuit plug.
27F1064. NET **21.95**

TELEX TELE-FI

Fig. D. Unique 3-D design to give 30% better understanding. Replaceable foam plastic ear cushions. Freq. response 60-6000 Hz. Listening level, 1 mw; max level, 25 mw. With 5 foot cord and phone plug. Shpg. wt., 5 oz.

Stk. No.	Type	Ohms	NET
27F390	HFR-91	15	5.95
27F437	HFV-91	125	
27F375	HFW-91	500	
27F376	HFX-91	1000	
27F391	HFY-91	2000	

DYNAMIC PILLOW SPEAKERS

Fig. E. Flat construction makes these speakers less bulky under a pillow. With cord and standard ¼" plug.

Stk. No.	Type	Ohms	Each
27F420	SDN-2A	3.2	8.85
27F411	SDM-7A	10,000 w/vol. cont.	13.80

TELEX MONOSET

Fig. G. Featherweight under-the-chin headset. Complete with 5' cord with ¼" phone plug. Features adjustable tonearms and removable eartips. 5 oz.

Stk. No.	Type	Ohms	NET
27F373	HMV-2	125	9.75
27F374	HMY-2	2000	

CUSHIONS AND CORDS

Type ACT-2. Cushions for Teleset.
27F385. NET, per pair **1.28**

Type CCT-2. Coiled cord for HM, HF, EM series.
27F386. NET **3.25**

Type CCM-2. Coiled cord for twinsets.
27F387. NET **3.40**

Type CMT-2. Standard cord for HM, HF, EM series.
27F400. NET **2.25**

Type CMM-2. Standard cord for twinsets.
27F410. NET **2.25**

ENCORE STEREO HEADSET

Fig. F. Model EN-5. Low cost lightweight with new superflex 8' cord. Frequency response 50 to 18,000 Hz. Cushions in phone are removable. Brown with Avocado Green trim. Has molded 3 circuit plug.
27F439. NET **9.95**

COMBO STEREO HEADPHONES

Fig. H. CBO-1. Sensitivity 1000 db. SPL/mw. Frequency response 10 to 12,000 Hz. Designed for 3 to 16 ohm impedance. Distortion at normal listening is less than 1%. 8 ft. cord. Shpg. wt., 12 oz.
27F438. NET **19.95**

STEREO TWIN HEADSETS

Fig. I. Sensitivity 95db SPL at 1 mw. Frequency response 16 to 15,000 Hz. Dynamic element with 3 to 16 ohms impedance. Tan color complete with 8' cord and plug. Wt., 12 oz.
27F372. Type ST-10. Net **24.95**

Type ST-20. As above with individual controls on each ear-muff.
27F407. NET **34.95**

TELEX "TV LISTENER"

Type LCP-90. Light, comfortable individual listening to radio or TV. Earset plugs into jacks on control. Volume control for ear sets. With 15 ft. of cord, 12 oz.
27F424. NET **9.95**

Extra Earset. Exactly like the one supplied with "TV Listener" above. 6 oz.
27F435. Type ELV-98. NET **2.95**

EDUCATIONAL HEADSETS

Fig. J. Dynamic microphone cancels noise. Boom rotates 360°. Response: 20-20,000 Hz. Sens: 107db SPL. 14 oz.

Type 1210-02. No mike, 600 ohm headset.
27F412. NET **24.95**

Type 2400-22. 300 ohm mike, 600 ohm head set.
27F442. NET **36.95**

REPLACEMENT CORDS AND CUSHIONS

Type DSC-1. Cord with 1 plug for 1210-02.
27F414. NET **3.35**

Type DSC-2. Cord with 2 plugs for 2400-22.
27F415. NET **6.25**

Type ACV-4. Cushions for above series.
27F416. NET per pair **1.50**

MODEL 820 MONAURAL HEADPHONES

Fig. K. Lightweight and attractive. Removable circumaural earcushions for quality listening. Made of high impact plastic with vinyl protected steel headband. High-flex cord, 6'-2 circuit molded plug. Wt., 12 oz.

Model 820-2. Delta ohm impedance.
27F443. NET **9.95**

Model 820-4. 600 ohm impedance.
27F444. NET **13.25**

TELESET

Fig. L. General purpose headset. High effective sensitivity due to close ear coupling. Response 50-10,000 Hz with 115 db SPL for 1 mw input. 180° cup rotation. Stainless steel and high impact plastic. Wt., 8 oz.

Type HM-100. 2,000 ohm impedance.
27F402. NET **18.50**

Type HM-500. 500 ohm imped.
27F403. NET **18.50**

EARSETS

Complete with metal earloop, 5 ft. cord and std. phone plug. 4 oz.

Stk. No.	Type	Ohms	NET
27F379	EMR-2	15	6.70
27F380	EMV-2	125	
27F381	EMW-2	500	
27F382	EMX-2	1000	
27F383	EMY-2	2000	

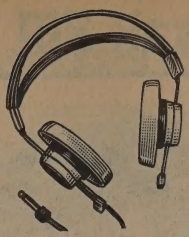


Fig. A

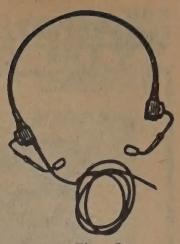


Fig. B

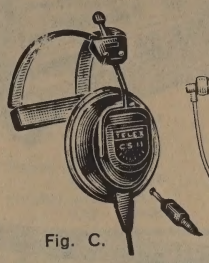


Fig. C.

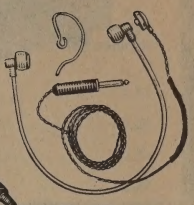


Fig. D

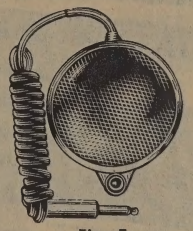


Fig. E

Fig. F

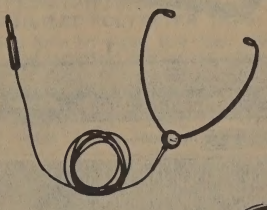


Fig. G

Fig. H

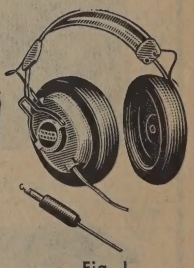


Fig. I

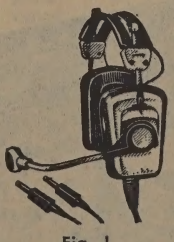


Fig. J

Fig. K

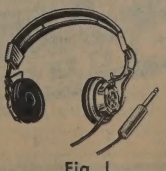
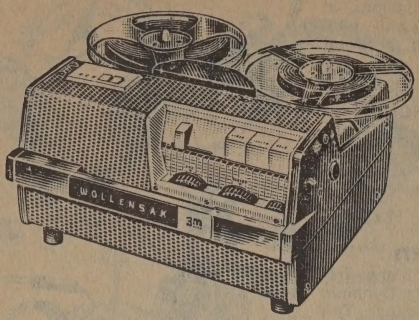
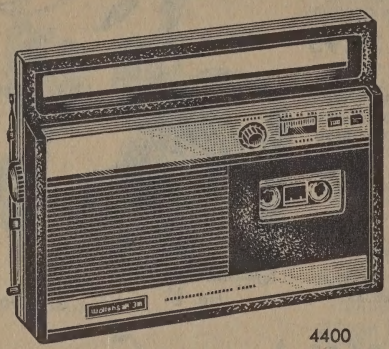


Fig. L

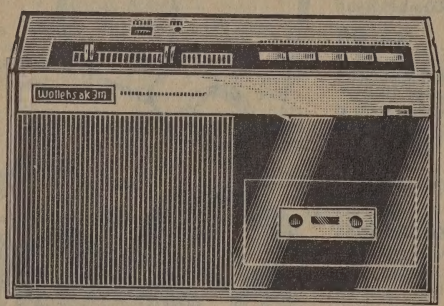
Wollensak 3M COMPANY Tape Recorders



1500 SS



4400



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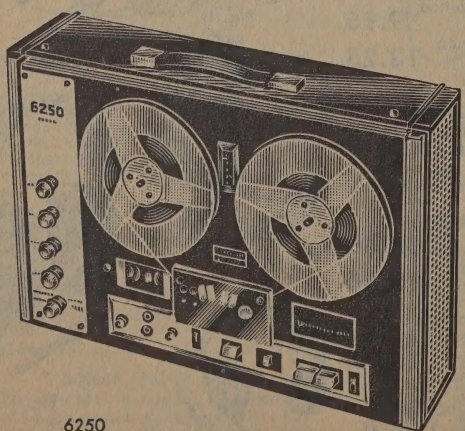


6250

MODEL 1500 SS SOLID-STATE MONO RECORDER

- **DUAL SPEED—7½ AND 3¾ IPS**
- **FREQUENCY RESPONSE: 40-15,000 HZ AT 7½ IPS**
- **JACKS FOR MONITORING AND PA USE**

The 1500 SS is a compact, top-quality 2-track monophonic recorder. Powerful, solid-state amplifier, and high efficiency speaker provide big, rich tone. Lightweight, and with push button operational ease, the 1500 SS is built for a wide range of uses. The 1500 SS features a solid-state push-pull output amplifier, simple keyboard operation, dual speed, provision for monitoring and P.A. use, and all-metal construction. All inputs and outputs for recording or playing back through any source are conveniently grouped on one rear panel. Complete with dynamic microphone, power cord, 7" tape and take-up reel. Response: 40-15000 cps ±3 db at 7½ ips, 40-8000 cps ± 3 db at 3¾ ips. Size: 6½x10¼x11¾". Shpg. wt., 18½ lbs.
96F976. NET **184.95**

ACCESSORIES FOR MODEL 1500 SS TAPE RECORDER

Stock No.	Type	Description	NET
96F981	A-0459	Carrying Case	9.95
96F983	TF-404	Foot Control	17.50

4400 MONO PORTABLE CASSETTE RECORDER

- **SOLID-STATE CIRCUITRY FOR BATTERY OR AC**
- **AUTOMATIC RECORD LEVEL**
- **REMOTE CONTROL MICROPHONE**

Perfect for home, office or school. Records and plays monophonic cassettes, plays stereo cassettes monophonically. Solid-state circuitry for battery or AC operation. 4-position function switch controls all modes. Also, automatic record level, remote-control mike. Response: 80 to 10,000 Hz at 1⅞ ips. Uses 4—1½ volt C cells or 117 VAC. Size, 10x8¼x3". Wt., 5 lbs.
99FX1050. NET **49.95**

Model 4410. Recorder as above, but with FM-AM radio.
99FX1051. NET **79.95**

ACCESSORIES FOR MODELS 4400 AND 4410

Stock No.	Type	Description	NET
96F850	A-0526	Carrying Case	8.95
96F851	A-0496	Telephone Pickup	4.95
96F852	A-0536	Audio Cable	2.50
96F853	A-0539	AC Power Cord	2.65
96F854	A-0534	Microphone	9.95

MODEL 4500 MONO PORTABLE CASSETTE RECORDER

- **SOLID-STATE CIRCUITRY THROUGHOUT**
- **PUSH-BUTTON FUNCTION CONTROLS**
- **REMOTE CONTROL MICROPHONE**

Take this handy, portable cassette recorder wherever you go. Records and plays monophonic cassettes, plays stereo cassettes monophonically. Boasts solid-state circuitry throughout for excellent battery or AC operation. Has automatic record control; remote control microphone; push-button function controls. Response: 80 to 10,000 Hz at 1⅞ ips. Uses 4—1½ C cells or 117 VAC operation. Size, 11½x7x3". Shpg. wt., 3½ lbs.
99FX1052. NET **79.95**

Model 4510. Recorder as above, but with FM-AM Radio.
99FX1053. NET **99.95**

ACCESSORIES FOR MODELS 4500 AND 4510

Stock No.	Type	Description	NET
96F855	A-0504	Audio Cable	2.50
96F856	A-0527	Carrying Case	8.95
96F857	A-0535	Microphone	10.95
96F853	A-0539	AC Power Cord	2.65

MODEL 6250 3-SPEED 4-TRACK STEREO RECORDER

- **3 NON-MAGNETIZING HEADS, 3 SPEEDS, 2 MOTORS**
- **WIDE-RESPONSE ACCOUSTIC SUSPENSION SPEAKERS**
- **POWER OUTPUT 36 WATTS RMS, BOTH CHANNELS**

Full-featured 3-speed 4-track stereo and mono recorder offers a wide variety of features for outstanding record and playback. All solid state construction for powerful distortion-free, cool operation. Wide range of inputs and outputs, including tape monitoring facilities, for maximum versatility. Lets you record sound on sound, sound with sound, reverberation. Has separate bass and treble controls, separate record level controls, 4-digit tape counter, electro-dynamic braking, automatic tape shut off, pause control. Response: 35 to 20,000 Hz ±2 db at 7½ ips; 35 to 14,000 Hz ±2 db at 3¾ ips; 35 to 10,000 Hz ±3 db at 1⅞ ips. Wow and flutter: 0.12% RMS at 7½ ips; Signal to noise: 54 db at 7½ ips. Wide response, self-contained acoustic-suspension speakers. Size, incl. cover: 20½x13½x7½". 25 lbs.
96F977. NET **349.95**

Recording Tape, Accessories

3M COMPANY

Exclusive! All tapes feature built-in lifetime Silicone lubrication to protect recorder heads against wear and extend tape life. Free in each box: "End-of-reel" TAPE CLIP to prevent spilling.

• NEW NO. 206 AND 207 MAGNETIC TAPES

Choose 3 db more headroom as protection against overload or 3 db greater signal to noise ratio. Pick a combination of the two. Reduced cinching, increased resistance and electrical conductivity are features of these versatile tapes because of control wind backside treatment.

Stk. No.	Type	Size	Reel	1-9	10 - UP
76F250	206-¼-2500 RO	¼ x 2500′	10½″	9.36	8.42
76F251	207-¼-3600 RO	¼ x 3600′	10½″	13.15	11.83

DYNARANGE® SERIES TAPE

Tapes offer wider frequency response and improved signal.
Type 201 — 1½ mil plastic base.
Type 202—Extra strength 1½ Mil polyester base.
Type 203—Extra length, extra strength 1Mil polyester base.

Stock No.	Type	Size	Reel	1-11	12-up
76F674	201-¼-600	¼″ x 600′	5″	2.05	1.84
76F735	201-¼-1200	¼″ x 1200′	7″	3.08	2.77
76F736	201-¼-2500RO	¼″ x 2500′	10½″	8.38	7.54
76F678	202-¼-600	¼″ x 600′	5″	2.09	1.88
76F679	202-¼-1200	¼″ x 1200′	7″	3.50	3.15
76F680	202-¼-2500RO	¼″ x 2500′	10½″	8.38	7.54
76F675	203-¼-900	¼″ x 900′	5″	2.97	2.68
76F737	203-¼-1800	¼″ x 1800′	7″	5.05	4.54
76F738	203-¼-3600RO	¼″ x 3600′	10½″	11.77	10.60

TYPE 175 HEAVY DUTY TENZAR—1.5 MIL

For applications requiring frequent repeat, fast starts and stop. New heavy duty coating. Lasts 15 times longer than ordinary tapes. Improved conductivity drains off static. Non-drying.

Stk. No.	Type	Len.	Reel	1-11	12-up
76F708	175-6	600′	5″ Plastic	1.68	1.51
76F709	175-12	1,200′	7″ Plastic	2.58	2.32
76F741	175-25RPS	2,500′	10½″ Plastic-EIA	7.55	6.80

SUPER RUGGED TYPE 282 "SANDWICH"—1.5 MIL

Ideal for use in the language labs and audio-visual centers. Features protective, micro-thin plastic shield over oxide coating which eliminates rub-off, wears up to 30 times longer. Polyester backing insures strength and resistance to temperature and humidity changes. On clear plastic reels.

Stk. No.	Type	Len.	Reel	1-11	12-up
76F711	282-6	600′	5″ Plastic	1.68	1.51
76F712	282-12	1200′	7″ Plastic	2.58	2.32

TYPE 156 1 MIL POLYESTER TAPE

Single coated, with external lubrication on backing side only. High potency oxide coating on 1 mil polyester backing. Available in size ¼″x1800′ on 7″ plastic reels. Designed for continuous loop cartridges. Shpg. wt. 11½ lbs.

76F728 ..... 4.14 12-Up 3.76

TYPE 111 1.5 MIL PLASTIC

The acknowledged standard in the recording field. Famous for flawless sound reproduction at lowest possible cost.

Stock No.	Type No.	Size	Reel	1-11 Ea.	12-up Ea.
76F628	111-1.5	150 ft.	3″ Plastic	.55	.49
76F625	111-3	300 ft.	4″ Plastic	1.42	1.27
76F627	111-6	600 ft.	5″ Plastic	1.77	1.60
76F626	111-12	1200 ft.	7″ Plastic	2.67	2.40

Stock No.	Type	Size	Reel	1-11 Ea.	12-up Ea.
76F629	111-25H	2500′	NAB Hub	5.39	4.85
76F633	111-25RO	2500′	10½″ Alum.-NAB	7.42	6.67
76F639	111-25RPS	2500′	10½″ Plastic-EIA	7.42	6.67

TYPE 150 EXTRA LENGTH 1 MIL POLYESTER TAPE

Made with tough durable polyester backing, this tape is "weather balanced." It offers 50% more recording time.

76F686	150-9	900′	5″ Plastic	2.40	2.16
76F687	150-18	1800′	7″ Plastic	4.11	3.70
76F688	150-36H	3600′	NAB Hub	7.82	7.05
76F689	150-36RO	3600′	10½″ Alum.-NAB	9.86	8.87

TYPE 200 DOUBLE LENGTH .5 MIL TENSILIZED POLYESTER

Plays twice as long as standard tape. Invisible polyester "muscles," conditioned by exclusive tensilized process

Stock No.	Type	Size	Reel	1-11 Ea.	12-up Ea.
76F707	200-12	1200′	5″	3.87	3.49
76F701	200-24	2400′	7″	6.68	6.02

TYPE 131 LOW PRINT THROUGH 1.5 MIL PLASTIC

First tape to reduce print-through to a point below noise level on even the most critical professional machines.

Stk. No.	Type	Len.	Reel	1-11	12-up
76F703	131-12	1200′	7″ Plastic	3.02	2.72
76F705	131-25RO	2500′	10½″ Alm.—NAB	8.38	7.54

HIGHLANDER CASSETTE

SCOTCH TAPE CASSETTE

SCOTCH MAGNETIC TAPE CASSETTES

Tape cartridges use "Dynarange" Low-Noise tape so important for slow speed recording. Will not bind or cause other transport problems. Compatible with all Cassette systems.

Type SC-30A 15 minutes each side.
76F745 1-11 ..... 1.70 12-Up 1.53

Type SC-60A 30 minutes each side.
76F649. 1-11 ..... 2.01 12-Up 1.81

Type SC-90A 45 minutes each side.
76F743. 1-11 ..... 3.04 12-UP 2.73

Type SC-120A 60 minutes each side.
76F744. 1-11 ..... 4.07 12-Up 3.67

• NEW HIGHLANDER CASSETTES

Prices listed below are for individual cassettes.

Stk. No.	Type	Length	1-11	12-up
76F252	H-C-30	15 min. ea. side	.99	.89
76F253	H-C-60	30 min. ea. side	1.29	1.16
76F254	H-C-90	45 min. ea. side	1.79	1.61

• NEW 8-TRACK CARTRIDGES

3M Scotch Brand 8-track blank features premium high output externally lubricated tape for outstanding dependability.

Stk. No.	Type	Length	1-11	12-Up
76F255	S-8TR-40	40 minutes	2.17	1.97
76F256	S-8TR-80	80 minutes	2.53	2.27

TYPE 290 TRIPLE LENGTH— .5 MIL TENSILIZED POLYESTER TAPE

For maximum recording time on given size reel. Ideal for use with portable transistorized recorders and for recording meetings, conventions, etc.

Stk. No.	Type	Len.	Reel	1-11	12-up
76F731	290-18	1800′	5″ Plastic	4.92	4.43
76F729	290-36	3600′	7″ Plastic	7.99	7.19

LIVING LETTERS IN PLASTIC MAILING BOXES

Just write in address, apply postage and mail.

Stock No.	Type	Description	Size	1-11	12-up
76F732	111-¼-150LL	1.5 Mil Plastic	¼″x150′	.72	.65
76F733	200-¼-300LL	.5 Mil Polyester	¼″x300′	1.46	1.31
76F734	290-¼-600LL	.5 Mil Polyester	¼″x600′	1.99	1.79

ADDRESS LABELS FOR "LIVING LETTERS"

Extra address labels for use with above mailing—boxed tape.
76F742. Per pkg. of 10 ..... .33
Lots of 12 pkgs. (per Pkg.) ..... .29

TYPE 24 LEADER AND TIMING TAPE

Stk. No.	Type	Color	Size	1-11	12-up
76F713	24-1W	White	¼″ x 100′	.60	.54
76F717	24-1Y	Yellow	¼″ x 100′	.60	.54

TYPE 41 SPLICING TAPE

Coated one side with non-run pressure sensitive adhesive. ½x150″ *in metal dispenser.

Stk. No.	Type	Size	1-11	12-up
76F650	41-½-S*	½x50″	.39	.35
76F652	41-½-66	½x66′	.76	.68
76F653	41-¾-66	¾x66′	1.01	.91
76F656	41-7/32-66	7/32″x 66′	.57	.51

TYPE 51 ALUMINIZED SENSING TAPE

For recorders with automatic "stop" and "reverse" controls. Has pressure sensitive, non-run adhesive on one side—foil on other.

Stk. No.	Type	Size	1-11	12-up
76F718	51-7/32S	7/32″x150″	1.89	1.32

EMPTY SELF-THREADING REEL WITH COLLAR AND LABELS

Permits instant threading. Holds tape firmly. Threads all tape thickness. Snap-tight plastic collar. Solid slides.

Stk. No.	Type	1-11	12-up
76F730	PRST-7	1.00	.90

Tape and Accessories

AUDIO TAPE

- FIVE COATING FORMULATIONS
- UNIFORM FREQUENCY RESPONSE
- HEAD ALIGNMENT TAPE
- SELF TIMING LEADER TAPE

A COMPLETE LINE OF PROFESSIONAL QUALITY SOUND RECORDING TAPES AND TAPING ACCESSORIES.

FORMULA 10—ALL PURPOSE

Formula 10—in the Orange Box. Type 1841 in Blue Box.

LONGER RECORDING on 1-mil MYLAR.* 50% more recording time per reel. Durable polyester film base assures trouble-free operation even under severe conditions. (**) 1-mil Acetate.

Stk.No.	Type	Length	Reel	1-11	12-Up
76F537	261	225'	3" Plastic Self-Mailer	.75	.70
76F574	1861	1800'	7" Plastic C-Slot	4.11	3.70
76F544	1841**	1800'	7" Plastic C-Slot	3.99	3.59
76F576	3661R	3600'	10½" Aluminum	9.86	8.87

Formula 10—in the Red Box

STANDARD RECORDING on 1½-mil plastic base, meets the most exacting requirements of the professional, educational, and home recordist at minimum cost.

76F615	151MB	150'	3" Plastic	.52	.47
76F606	651	600'	5" Plastic C-Slot	1.69	1.52
76F597	1251	1200'	7" Plastic C-Slot	2.59	2.33

Formula 10—in the tan box

DOUBLE RECORDING on ½ mil MYLAR.* Twice as much recording time per reel as standard plastic base tape. Suitable for extended-play applications where tape tension not extensive.

76F569	1231	1200'	5" Plastic C-Slot	2.44	2.25
76F570	2431	2400'	7" Plastic C-Slot	4.52	4.17

Formula 10—in the maroon box

DOUBLE RECORDING on "Tempered" MYLAR.* Twice as much recording time per reel as standard plastic-base tape. Twice as strong as other double-length tapes. Will not stretch or break on any tape recorder. Will not dry out with age.

76F538	331T	300'	3" Plastic Self-Mailer	1.12	1.04
76F539	1231T	1200'	5" Plastic C-Slot	3.87	3.49
76F540	2431T	2400'	7" Plastic C-Slot	6.68	6.02

Formula 11—in the olive box

Uses especially thin oxide coating on ½-mil "Tempered" Mylar* to provide three times the recording time per reel as standard plastic-base tape; plus extra strength.

76F545	633T	600'	3¼" Self-Mailer	1.99	1.79
76F546	1833T	1800'	5" Plastic C-Slot	4.69	4.22
76F547	3633T	3600'	7" Plastic C-Slot	7.99	7.19

FORMULA 14—LOW PRINT MASTER RECORDING

Formula 14—in the green and gold box

One 1½-mil Mylar. * Finest professional-quality recording tape. Maximum fidelity, uniformity, and frequency response. Withstands extreme temperatures; plus low print-through.

Stk.No.	Type	Length	Reel	1-11	12-Up
76F557	671-M	600'	5" Plastic C-Slot	2.49	2.29
76F558	1271-M	1200'	7" Plastic C-Slot	3.40	3.06

Formula 17—in the orange box

One 1-mil Mylar, for continuous loop cartridge where superior high frequency response is so important. Will not chip; edges resist nicking; unaffected by humidity & temp. change.

76F550 1861-Lube 1700' 7" Plastic C-Slot 4.14 3.76

AUDIO HEAD DEMAGNETIZER

Removes all permanent magnetism from recording and reproducing heads in seconds. Type 400

76F592. NET **6.00**

AUDIO HEAD CLEANER

Type 2HC. Specially formulated for cleaning magnetic recording heads. Contains 2 oz. bottle of silicone with brush.

76F534. .....67 10-up 60

AUDIO HEAD ALIGNING TAPE

Type 200. Pre-recorded at 2,000; 10,000; 15,000; Hz (15"/sec) with precisely correct head alignment. 300' on 4" reel.

76F591. Type 200. NET **6.00**

SELF TIMING LEADER TAPE

Durable tape of white Mylar with spaced markings. ¼"x100'.

76F593. Type 3L. 1-9 .....60 10-up ..... .54

EMPTY AUDIOTAPE REELS IN INDIVIDUAL BOXES

5" and 7" reels feature C-Slot for fast, easy threading.

Stk. No.	Type	Size	1-11	12-Up
76F536	3.25PMB	3¼" in Mailing Box	.27	.24
76F551	5PB	5" Clear Plastic	.43	.39
76F577	7PB	7" Clear Plastic	.50	.45
76F586	7PBR	7" Red Plastic	.50	.45
76F587	7PBB	7" Blue Plastic	.50	.45
76F588	7PBG	7" Green Plastic	.50	.45
76F589	7PBY	7" Yellow Plastic	.50	.45

Stk. No.	Type	Size	1-11	12-Up
76F590	10FS	10½" Fiberglass	3.00	2.70

EMPTY AUDIOTAPE BOXES

Standard, durably-constructed boxes for filing and storing tapes.

Stk.No.	Type	Description	1-11	12-Up
76F571	5B	For 5" Reel	.13	.12
76F572	7B	For 7" Reel	.13	.12

MAILING BOXES

Strong, re-usable corrugated containers for reels & boxes.

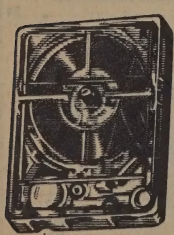
76F595 Type 5M for 5" reels 1-11 .....10 12-up 09
76F596 Type 7M for 7" reels 1-11 .....13 12-up 12

ADHESIVE REEL LABELS

Positive identification of tapes. Pkg. of 30. ½" x 2".

76F594. Type 30 AL 1-11 .....13 12-up ..... .12

FIDELIPAC NAB TAPE CARTRIDGES BY TELEPRO



Professional type cartridges manufactured for broadcast use. Made to NAB Specifications: Continuous self-contained single-reel tape magazine which operates on an endless loop principle. The tape is pulled from the center and after passing the playing or recording head is automatically rewound on the outside of the reel contained in the tape magazine. Extremely versatile; variable speeds. Lightweight styrene case. Transparent clear top. 3 tape head openings in models 1200 (65-150 series) and 600 (65-149 series) and two openings in model 300 (65-140 series). Shpg. wt. 1.5 lbs.

Stk.No.	Type	Time@ 7½ips	Length	1-99	100-499	500-999	1000-Up
76F200	65-140-25	40 sec.	25'	2.33	2.06	1.81	1.64
76F201	65-140-44	70 sec.	44"	2.46	2.18	1.92	1.72
76F202	65-140-63	100 sec.	63'	2.59	2.29	2.01	1.79
76F203	65-140-132	3½ min.	132'	2.96	2.61	2.31	2.07
76F204	65-140-207	5½ min.	207'	3.39	3.00	2.64	2.35
76F205	65-140-394	10½ min.	394'	4.45	3.93	3.46	3.09
76F206	65-149-600	16 min.	600'	7.30	6.44	5.68	5.08
76F207	65-150-1163	31 min.	1163'	12.85	11.56	9.67	9.02
76F208	65-140	empty		1.84	1.62	1.45	1.27
76F209	65-149	empty		3.05	2.70	2.38	2.14
76F210	65-150	empty		4.58	4.04	3.57	3.20

76F728	156-¼-1800	¼"x1800'	Lubricated tape for continuous loop cartridges	1-11 4.14	12-up 3.76

EDITALL TAPE EDITING BLOCKS

EDITING BLOCK

Type S-3. Block only for splicing ¼" tape. Has two mounting holes for operation on tape recorder "deck" or top panel as instant use aid. Has two deep-cut slits, one for straight splices and one for diagonal cuts. Made of machine duraluminum. Size: 5¾x1x⅜". Shpg. wt., 3 oz.

76F103 NET 9.00

Type S-2. For compact machines. Adhesive back. Without mtg. holes. Size: 4"x3¾"x¼". Shpg. wt., 6 oz.

76F104. NET 7.50

Type S-3.5. Block only for ½" tape. Has countersunk holes. Block Size: 5¾"x1¼"x⅜".

76F108. NET 25.00

Type KS-4. Editing Kit with Block for 1" Tape. Block Size: 5¾"x1¾"x⅜". Has additional 68° cutting slot.

76F109 NET 35.00

PLASTIC BLOCK-EDITING KIT

Type KP-2. Editing kit for ¼" tape. A comprehensive instruction booklet comes with each kit to guide you in this simple operation of splicing tape Editabs join spliced tape easily, quickly. The EDITab block is simply mounted by means of its adhesive backing or screws on or near your tape recorder. Kit includes the patented EDITall block, 30 EDITab splicing tapes, a demagnetized razor blade, instruction booklet, tape guide and grease pencil. 6 oz.

76F106. NET 3.50

76F107. Package of 50 EDITabs. 5 oz. 1.50

RCA

QUALITY CASSETTE—CARTRIDGES

PREMIUM QUALITY LINE

Stock No.	Type	TIME	1-11	12-Up
76F765	10R030	30 min.	1.20	1.08
76F766	10R060	60 min.	1.55	1.39
76F767	10R090	90 min.	2.13	1.92
76F768	10R120	120 min.	2.50	2.25
76F769	10R121	Head Cleaner	1.55	1.39

VIBRANT ECONOMY LINE

79F050	CV-30	30 min.	.94	.85
79F051	CV-60	60 min.	1.16	1.05
79F052	CV-90	90 min.	1.78	1.62

CASSETTE FEATURES

- Compact Housing
- Fits All Cassette Recorder
- High Sensitivity
- Special Coating Reduces Wear
- Durable
- Reuseable Plastic Package

8 TRACK CARTRIDGES

Stock No.	Type	Description	1-22	12-Up
76F259	8TR32	150'-32 min.	1.75	1.59
76F260	8TR64	300'-64 min.	2.11	1.92

RCA RED SEAL RECORDING TAPE

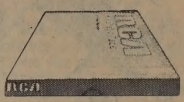
General Purpose formulation designed to provide recordist with dependable results whether used with mono, stereo, 2-track or 4-track recording equipment.

1.5 Mil acetate base standard play tape.

Stock No.	Type	Reel	Length	1-11	12-Up
79F053	15A1	3"	150'	.52	.47
79F054	15A6	5"	600'	1.69	1.52
79F055	15A12	7"	1200'	2.59	2.33
.5 Mil tensilized polyester base double play tape.					
79F056	5TM12	5"	1200'	3.69	3.32
79F057	5TM24	7"	2400'	6.49	5.84
1.0 Mil extra strength polyester base long play.					
79F058*	10M2	3"	225'	.70	.63
79F059	10M9	5"	900'	2.29	2.06
79F060	10M18	7"	1800'	3.99	2.59
1.5 Mil super strength polyester base standard play.					
79F061	15M6	5"	600'	1.77	1.59
79F062	15M12	7"	1200'	2.83	2.55

(*) IN CARDBOARD MAILER

Premium Quality—Lubricant gives smoother tracking over guides and head surfaces resulting in a minimum of friction and wear. Exceptional signal to noise ratio and frequency response characteristics. Each reel supplied with colored leaders and sensing markers are attached.



1.5 Mil acetate base standard play tape.

Stock No.	Type	Reel	Length	1-11	12-Up
79F063	15A6LT	5"	600'	1.82	1.64
79F064	15A12LT	7"	1200'	3.02	2.72
.5 Mil tensilized polyester base double play tape.					
79F065	5TM12LT	5"	1200'	4.25	3.83
79F066	5TM24LT	7"	2400'	7.36	6.63
1.5 Mil extra strength polyester base long play tape.					
79F067	10M9LT	5"	900'	2.64	2.38
79F068	10M18LT	7"	1800'	4.57	4.12
.5 Mil tensilized polyester base triple play tape.					
79F069	5TM18TP	5"	1800'	4.87	4.43
78F250	5TM36TP	7"	3600'	7.91	7.19

3M COMPANY SCOTCH® BRAND VIDEO TAPE

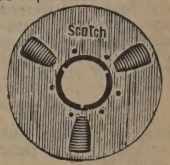
Stock No.	Type	Tape Wind	Reel Size	Reel Type	Reels Per Ctn.	Ctn. Wt.	1-9	10-24	25-49	50-Up
76F300	361-½-1250-R86B	A	½"x7"	Plastic Self threading	5	5	21.95	20.85	20.19	19.76
76F301	361-½-2400-R86B	A				8	39.95	37.95	36.75	35.96
76F305	360-1-1500-R97B	A	1"x9¾"	Phenolic hub with flanges	5	5	44.95	42.70	41.35	40.46
76F306	360-1-3000-R97B	A			5	8	59.95	56.95	55.15	53.96

Types 361 & 360. Improved signal-to-noise ratio over previous longitudinally orientated tapes. Improved in wear char. "A" wind (oxide surface in). Has controlled wind, backside treatment. Type 361 ½ inch tapes are for Sony, Panasonic, Concord, Shibaden. *VB-1-10 box is to be used when purchasing boxes (empty) for 1"x9" reel. Type 360 for use on the Ampex VR-7000 and VR-6000 video tape recorders.

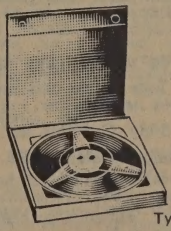
VIDEO TAPE ACCESSORIES

Stock No.	Type	Description	Size	Per Carton	1-5	6-up	1-9	10-Up
76F320	R86B-½-7	Empty Reels	½"x7"	5	....	....	3.00	2.85
76F327	R97B-1-9¾	In Boxes	1"x9¾"	2	8.95	8.05	....	....
76F323	VB-½-7	Empty	½"x7"	5	....	....	2.50	2.40
76F325	*VB-1-10½	Boxes	1"x10½"	2	1.53	1.38	....	....
76F326	VIC-1-10½	Empty Plastic Case	1"x10½"	5	....	....	4.73	4.50

*Empty box for use with 1"x9" reels. (R73, R97 and 10½" reel.)



Type 360



Type 361

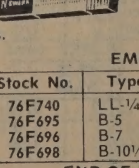
Stock No.	Type	Description	Size	Per Carton			1-11	12-Up
76F330	390-¼-66	Aluminized Splicing	¼"x66'	12	.....	.....	3.25	2.93
76F331	390-½-66	Tape—.5 Mil	½"x66'	12	.....	.....	4.87	4.38
76F332	391-¼-66	Aluminized Splicing	¼"x66'	12	.....	.....	3.25	2.93
76F333	391-½-66	Tape—.25 Mil	½"x66'	12	.....	.....	4.87	4.38
76F334	620-7/32-66	Splicing	7/32"x66'	12	.....	.....	3.25	2.93
76F335	620-½-66	Tape	½"x66'	12	.....	.....	4.87	4.38

NEWARK TAPE

Stk. No.	Mil.	Size	Reel	1-9	10-24	25-Up
76F751	1.5 Mil†	1200'	7"	1.22	1.14	1.06
76F753	1.0 Mil†	1800'	7"	1.68	1.58	1.47
76F755	1.0*	1800'	7"	1.92	1.80	1.68
76F759	0.5*	2400'	7"	2.40	2.25	2.10
76F750	1.5 Mil†	600'	5"	1.09	.99	.92
76F752	1.0 Mil†	900'	5"	1.39	1.25	1.16
76F754	1.0*	900'	5"	1.75	1.58	1.47

*Mylar †Acetate.

Tape is splice-free. One continuous reel ¼" wide and thickness of .5 Mil., 1.0 Mil., 1.5 Mil. With Acetate or Mylar bases for uniform output and lower noise level. 1.0 Mil. thick tape offers 50% more recording time. 5 Mil. offers 100% more than 1.5 Mil. types.



EMPTY REELS IN BOXES

Supplied with index box. *In plastic mailing box.

Stock No.	Type	Reel Dia.	Reel	1-11 Ea.	12-Up
76F700	RB-14M	14"	Aluminum NAB	8.67	7.80
76F667	RB-10½M	10½"	Aluminum NAB	5.42	4.88
76F669	RB-10½RPS	10½"	Plastic-opaque	3.00	2.70
76F660	RB-7	7"	Plastic	.57	.51
76F661	RB-5	5"	Plastic	.44	.39
76F663	RB-4	4"	Plastic	.60	.54
76F739	RLL-¼-3*	3"	Plastic	.40	.36
76F662	RB-3	3"	Plastic	.23	.21

AMERLINE PLASTIC REELS

CERTRON CORP.

(Minimum order—10 per item)

Stk.No.	Description	10-99	100-Up
76F216	3¼"-1¾" Hub	.13	.117
76F217	4"-1¾" Hub	.14	.126
76F218	5"-1¾" Hub	.24	.216
76F219	7"-2¼" Hub	.27	.243
76F220	7"-4" Hub	.34	.306
76F221	5"-3" Hub	.33	.297

EMPTY BOXES FOR TAPE REELS

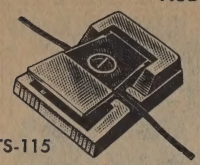
Stock No.	Type	Description	1-11 Ea.	12-Up
76F740	LL-¼-3	3" Plastic Mailing Box	.30	.27
76F695	B-5	5" Hinged Box	.28	.25
76F696	B-7	7" Hinged Box	.34	.31
76F698	B-10½	10½" Hinged Box	.98	.88

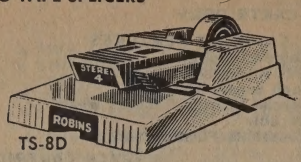
END-OF-REEL TAPE CLIPS FOR ¼" WIDE TAPE

Clip securely to tape. Prevents spilling or tangling in handling, storage and mailing.

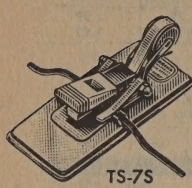
76F710. Per pkg. of 10 ..... .33
Lots of 12 pkgs. (per pkg.) ..... .29

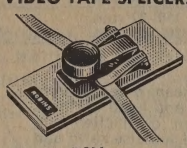
AUDIO TAPE SPLICERS

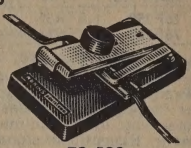


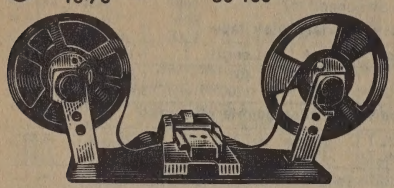


VIDEO TAPE SPLICERS









Type TS-115 Cassette Splicer. Cuts tape at 45° angle. Includes 25 self-stick splicing patches stored in built-in tray. Uses type TT-15 splicing patches.
76F019. NET **2.99**

TS-8D. Gibson Girl "Stereo 4" Deluxe Tape Splicers. "See-thru" windows indicate "Cut" and "Trim" positions. Tape guide and fingers secure tape. Easy threading integral tape dispenser has roll of ½x100" splicing tape. Made of super-strong "Implex". Trims "Gibson Girl" waists at edges of splices to prevent adhesive from contacting critical parts of recorder. With instructions. Shipping weight: 1 lb.
76F113. NET **8.40**

Type TZ-8. Replacement cutter and replacement pads for TS-8D Deluxe Tape Splicer.
76F079. NET **1.11**

TS-7S Standard Stereo Splicer. Precision tape splicer cuts tape diagonally and trims minute Gibson Girl waists at sides of each splice. Plated steel parts, tan plastic base and knob. With ⅜" x 100" Tape. Shipping weight: 12 ozs.
76F112. NET **6.29**

DELUXE VTR VIDEO TAPE SPLICERS

Precision diagonal cut. Tape guide and arms secure tape. Use self-stick, pre-cut patches listed below.

76F067. TSV-50. ½" for Sony, Concord, etc. **NET** **13.62**

76F068. TSV-100. 1" for Ampex systems. **NET** **13.62**

76F069. TT-247. ½" pre-cut self-stick patches for TSV-50 above. Shpg. wt.: 3 oz. **NET** Pkg. of 60 ..... **1.05**

76F070. TT-248. 1" pre-cut, self-stick patches for TSV-100 above. Shpg. wt.: 3 oz. **NET.** Pkg. of 48 ..... **1.05**

TK-9 Tape Editing Workshop. For editing, splicing, repairing tapes on reels. Includes: 2 Tape Winders and "Stereo" 4" Deluxe Tape Splicer. Handles reels up to 7". Splicer with integral threading tape dispenser and ½" x 100" tape. Size 7 x 14 x 5½". Shipping wt.: 2 lbs.
76F086. NET **15.70**

PROFESSIONAL AUDIO-VIDEO SPLICERS

Operating lever has control knob for precise "Cut" and "Trim" positions. Produces "Gibson Girl" waists at sides of splices during trim—prevents adhesive from splicing tape from contacting critical parts of recorder. Blades and cutter pad are replaceable. Precision blade centering adjustment.

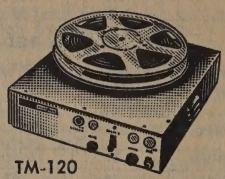
Stk. No.	Type	Description	NET
76F090	TS-500	½"—For Sony. Concord etc.	57.66
76F091	TS-1000	1"—For Ampex	57.66
76F092	TZ-1	Replacement Blades — Pkg. of 12	2.10

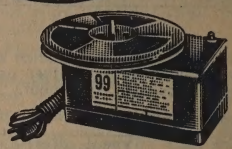
76F093. TZ-500. Replacement cutter pad for TS-500 ..... **1.26**
76F094. TZ-1000. Replacement cutter pad for TS-1000 ..... **1.26**

CASSETTE HEAD-KLEEN TAPE

MODEL THC-4. Removes accumulated oxides from tape players and recorder heads. Non-abrasive.
76F098. NET **1.79**

CASSETTE AND REEL BULK TAPE ERASERS





TYPE TMC-1 BULK CASSETTE ERASER. Erases tape in seconds, restores to like-new condition. 110V 60 Hz AC.
76F021. NET **12.59**

Reduces noise levels of tape 50-90 db below saturation minimum. Operation: 115 volt 50-60 hertz A.C. Safety features include: Overheat indicator, individually fused circuits, heavy duty switches and power cord.

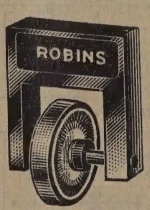
Model TM-120. Has blower system for reels of tape up to 17" diameter. Duty cycle: 10 minutes On/10 minutes Off. Size: 3¾" x 12" x 14".
76F095. NET **132.30**

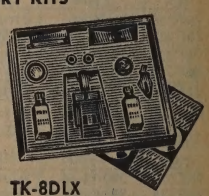
Model TM100. (Not illustrated.) For audio or video reels up to 10½" diameter. Duty cycle 5 minutes On/15 minutes Off. Size: 3¾" x 6" x 8".
76F096. NET **66.15**

TM-99. Bulk Tape Eraser. Reduces background noise from 3 to 6 db below normal erase head level. For reels up to 10½" D. x ½" W. Size: 5¼" x 3¾" x 6¾". Operation: 100-120V; 6 amps; 50-60Hz. A.C. U.L. listed. Wt. 8½ lbs.
76F075. NET **31.47**

TM-88. Hand-Held Eraser. Erases tapes by moving unit over each side of reel. Momentary contact switch located in the handle for easy operation. For ¼" tape, any diameter reel. Size: 4" x 2½" x 4¼". Operation: 4 amps @ 110-120V. 50-60 Hz. A.C. Shpg. wt. 2 lbs., 4 oz.
76F077. NET **11.49**

DELUXE TAPE ACCESSORY KITS





Type TK-8DLX Deluxe Accessory Kit. Includes: TS-8D Splicer; ½" Splicing Tape; Tape Threader; Head Cleaner; Head and Guide Lubricant; Tape Jockey Cloth; Tape Clips; Reel Labels, Holders; Tape Instruction Book.
76F088. NET **13.14**

Type TK-12 Complete maintenance and Operation Kit. Includes: Splicer; 6 rolls of ½" Splicing Tape; TM-99, U.L. Listed Tape Eraser; TD-6, U.L. Listed Tape Head Demagnetizer; Tape Threader; Tape Jockey Cloth; 24 Tape Clips; 150 Title Labels; Tape Strobe and Light Kit to check recorder; Tape Head Cleaner and Lubricant.
76F087. NET **55.15**

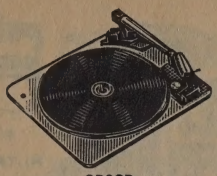
TD-6 Tape Head Demagnetizer. Removes residual magnetism from tape recorder heads. Magnetized heads raise the recorder's noise level; demagnetizes heads for optimum signal to noise ratio. Size 4⅝" x 1½". Operation: 110V. 50-60 Hz. A.C. U.L. approved. Shpg. wt.: 1 lb.
76F085 NET **7.65**

Type TK-6 Head Cleaner and Lube Kit. Includes: 2 oz. bottle of Head Cleaner and 2 oz. bottle of Tape Head and Guide Lubricant. Bottles have easy-to-use applicator caps. Tape moves freely across heads and guides.
76F123. NET **1.35**

TW-1 Precision Tape Strobe. Precise, all-metal, chrome-plated strobe. For 7½ and 3¾ ips recorders. Checks for speed accuracy, wow and flutter. Features needle bearings for accuracy and long life. Instructions included.
76F097. NET **7.35**

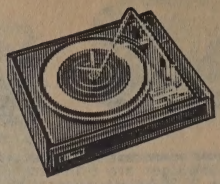
Garrard®

SL-72-B, 75B, 95B
Shown on B2 Base

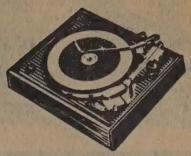


SP20B

X-10



SLX-2 SLX-3



SL55B
Shown on B1 Base

"SYNCHRO-LAB" SERIES TURNTABLES

Synchronous and induction types in one motor with advantages of both. Induction section of rotor provides high torque and fast acceleration to correct speed. Synchronous section "locks in" to the 60 hz line current: voltage vary from 25 to 250V. NO EFFECT on speed! Also offers a high degree of torsional damping, running smoothness, and freedom from rumble.

ZERO 100 — BEST GARRARD AUTOMATIC

Synchro-Lab motor and many features of automatics below for fine performance. Auxiliary articulating arm assures 0° tracking error. 15° vertical stylus adjustment, record cleaning brush, frictionless magnetic antiskate and ±3% variable speed adjustments with neon strobe. 33-1/3 and 45 rpm. 16-1/16x14-9/16". For 117 VAC. (Less base and cartridge.) Wt., 14 lbs.
73F950 NET **189.50**

AUTOMATIC TURNTABLES

Synchro-Lab motor for unwavering musical pitch. Low mass tonearm floats within a gimballed friction-free mounting. Record platform for safe, two-point support. Damped set down of tonearm in automatic play. Accurate sliding weight anti-skating control. Calibrated stylus pressure gauge with visible scale. Two interchangeable spindles; long automatic spindle handles up to 6 records; short manual spindle rotates with record to protect center hole. 3 speeds: 33-1/3, 45 and 78 rpm; operates from 100-130 VAC 60 Hz. (Less base and cartridge.) Shpg. wt. 13 lbs.
73F747. Model SL72B. **NET** **89.50**
73F742. Model SL75B. **NET** **109.50**
73F740. Model SL95B. **NET** **129.50**

SP20B MANUAL PLAYER

4-speed manual turntable for single record. Semi-counterbalanced arm with adjustable stylus pressure. Full size weighted turntable. Trip of Dupont Delrin. Track as light as 2 grams. Automatic return of arm to rest, and shutoff after play. Slide-in cartridge clip for positive alignment. With line cord, 2 audio cables (less base and cartridge). Shpg. wt., 10 lbs.
73F730. NET **37.50**

40B AUTOMATIC TURNTABLE

Features oversized turntable & counterweighted tone arm (tubular aluminum). Slide-in cartridge clip. Viscous damped single lever cueing control. Easy-to-adjust stylus pressure guage. Garrard 4-pole shaded "Induction Surge" motor. Two interchangeable spindles for automatic and manual play. Portable and lightweight. Less base and cartridge. Shpg. wt., 10½ lbs.
73F725. NET **44.50**

X-10 MODULE

A fine, automatic turntable, diamond ceramic cartrdige installed; wtih base and dust cover, the entire record playing source for any home entertainment system, ready to plug-in and play through TV sets, FM stereo radios, table radios, budget component systems, tape recorders and cassette machines. Features include: Low mass, tubular aluminum tonearm of advanced design, meticulously balanced. Stereo ceramic cartridge with flip-over diamond stylus, pre-installed and pre-set for correct stylus pressure. Single lever control for convenient cueing/pausing. Large turntable with decorative mat. 2 interchangeable spindles . . . one long spindle for automatic play, one short spindle for manual play. "Swing-away" overarm for unimpeded single record manual play. Pre-mounted on coordinated slimline base and with 3-way dust cover.
73F748. NET **52.50**

X-11 MODULE

Automatic record player that's truly portable. Its compact design is perfect for all bookshelf home entertainment centers. It comes complete on its own special base, with tinted dust cover and pre-installed diamond stereo ceramic cartridge. Features include: "Swing-away" overarm steadies records in automatic play for safe, gentle dropping; moves out of the way during single record play. Professionally inspired tubular aluminum tonearm of advanced design, precisely balanced for correct tracking. High quality, stereo ceramic cartridge pre-installed with flip-over diamond stylus. Pressure pre-set for correct tracking. Automatic shut off after last record has played. Fool-proof changer mechanism. Plays up to 8 records automatically. Two interchangeable spindles. Pre-mounted on specially matched Garrard base, with tinted styrene dust cover. Completely assembled, ready-to-plug-in.
73F749. NET **39.95**

MODULE AUTOMATIC TURNTABLE

SLX-2. A completely assembled 3-speed Synchro-Lab automatic turntable with magnetic cartridge, diamond needle and mounted on base with removable dust cover. Also included are: synchronous motor, manual cueing, lightweight counterbalanced tubular tonearm, adjustable stylus force control; line cord, 2 audio cables, and both standard and manual spindles.
73F746. NET **69.50**

MODULE SLX-3

3-speed automatic turntable with magnetic cartridge. Record platform for safe 2-point record support in automatic play. Stylus pressure gauge with window scale. Patented, sliding weight, anti-skating control, spring-free. Ultra-low mass tubular aluminum tone arm balanced for correct tracking. Damped set-down of tone arm in automatic play. Damped, single lever cueing/pause control. 2 interchangeable spindles. Premounted base with hinged accessory compartments. Versatile, three-position dust cover. Shpg. wt. 22 lbs.
73F756. NET **99.50**

SL55B 4-SPEED AUTOMATIC TURNTABLE

Synchro-Lab motor guarantees uniform record speed. Manual cueing and pause control. Two interchangeable spindles. In automatic mode, records of any size may be intermixed. Lightweight tubular tone arm has built-in stylus pressure adjustment. Slide-in cartridge clip. Viscous damped cueing with single lever. Four speeds: 16⅔, 33⅓, 45 & 78 rpm. Operates from 100-130 VAC, 60Hz only. Requires 4¾ above and 2⅞ below motor board. Less base and cartridge. Shpg. wt. 10½ lbs.
73F739. NET **59.50**

SL65B 4-SPEED AUTOMATIC TURNTABLE

Superseded the 60 Mk II. Synchro-Lab motor guarantees "locked-in" turntable speed. Comes with two interchangeable spindles, for manual single-record or automatic operation. Has automatic anti-skating control and built-in stylus pressure gauge; slide-in cartridge clip accepts a variety of cartridges. Manual cueing and pause control permits placing the tone arm on the record in any position. Requires 4¾" above and 2⅞" below mounting board. Less base and cartridge. Shpg. wt. 12 lbs.
73F741. NET. **79.50**

MODEL 30 4-SPEED AUTOMATIC TURNTABLE

Comes with ceramic diamond-stylus cartridge. Interchangeable spindles for automatic or manual play. Versatile automatic operation: records may be intermixed in size. Super-sensitive trip with DuPont Delrin to offset friction. Easy stylus pressure adjustment. Dimensions: 14⅞" W x 12½" D, 4⅝" above and 2⅞" below motor board. Less base. Shpg. wt. 10 lbs.
73F745. NET **39.50**

ACCESSORIES

(*) Also for older 60 and 50 series.

Stk. No.	Type	Description	NET
73F750	B1*	Coordinated base for SL65, SL55, 40, 30, 20 series	5.50
73F751	B1P*	Power-Matic Base for same series as B1 base	14.95
73F752	B2	Coordinated base for SL72, SL75, SL95, zero 100	6.50
73F753	B2P	Power-Matic base for same series as B2 base	15.95
73F754	D1*	Dust Cover for use with B1 bases	5.50
73F755	D2	Dust cover for use with B2 bases	6.50
73F768	MB10*	Mounting board for SL65, SL55, 40, 30, 20 series	2.25
73F744	MB11	Mounting board for SL72, SL75, SL95, zero 100	2.25
73F736	FLRS35	45 RPM Spindle for SL65, SL55, 40, 30, SLX2, 10X	1.95
73F782	LRS25	45 RPM Spindle for SL75, SL95, SL72, SLX3	3.80
73F758	F40	45 RPM Spindle for X-11	1.95
73F790	C1	Extra Cartridge Clip Holder for SL75	1.75
73F791	C2	Extra Cartridge Clip Holder for SL95, SL72, SL65, SL55, 40, SP20	1.75

Except Where Noted, All GARRARD Turntables Come Less Cartridge.
See SHURE Cartridge Page in Index for Cartridge Assemblies

SPECIAL OFFER*—GET A CARTRIDGE FOR A PENNY!

For Models 40 and SL55; choose between a Shure M7/N21D (50FA524), or G.E. VR-1000-7 (50FA200). For Models SL65, SL72, SL75, SL95 and zero 100; choose any of above or Shure M44E elliptical (50-FA539) and pay only one cent more than the price of the Garrard unit selected. **How to order:** show stock numbers of the Garrard unit and cartridge selected on separate lines, bracket the two items and show a combined price of one cent more than the price of the Garrard unit selected. ***Only models shown above are eligible for this special offer.**

Phonograph Cartridges

SHURE

V15

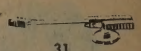
75E

M7

M55

3D

91


31

M64

Unless otherwise noted, cartridges are Elliptical with .0002" x .0007" Diamond stylus. Frequency response: 20-20,000 Hz. Separation 25db@ 1 KHz. Wt. 6 oz.

"SUPER TRACK" MODEL V-15 TYPE II

Max. trackability, 35cm/sec. @ 1000 Hz., at min. tracking force, 1 gms. 20-25,000 Hz Separation: over 25 db @ 1 KHz Trk. Range: ¾ to 1 gms.
50FA533. NET **67.50**

"HI-TRACK" MODEL M75E

Includes snap-down stylus guard, for manual or light tracking automatics. Tracking force: ¾ to 1½gms.
50FA535. NET **39.95**

Model M75-6. Same as model M75E with a .0006" conical diamond stylus. Tracking force 1½ to 3 grams.
50FA535. NET **24.50**

MODEL M7/N21D

.0007" conical diamond stylus. 20-20,000 Hz. Sep. @ 1KHz. 20 db. Trk. force 1½ to 2½ grams. Wt.: 3 oz.
50FA534 NET **17.95**

SERIES M55/M44

MODEL M55E. Tracking force ¾ to 2 grams.
50FA521. NET **29.95**

MODEL M44E. .0004" x .0007" diamond stylus. Tracking force: 1¾ to 4 grams.
50FA539. NET **24.95**

MODEL M44-5. Conical .0005" diamond stylus. Tracking force: ¾ to 1½ grams.
50FA522. NET **21.95**

MODEL M44-7. Conical .0007" diamond stylus. Tracking force: 1½ to 3 grams.
50FA523. NET **19.95**

MODEL M44C. Conical .0007" diamond stylus. Tracking force: 3 to 5 grams.
50FA503. NET **17.95**

ECONOMY MODEL M3D

.0007" conical diamond stylus. 20-15,000 Hz. Separation @ 1 KHz. 20 db. Trk. force 3 to 6 grams. 3 oz.
50FA510. NET **15.75**

SHURE REPLACEMENT STYLI

Stock No.	Stylus No.	For Dynetic Cartridge No.	Net
50FA536	VN15E	V15 Type II	27.00
50FA541	N91E	M91E	24.50
50FA542	N92E	M92E	22.50
50FA543	N93E	M93E	19.50
50FA538	N75E	M75E	20.00
50FA537	N75-6	M75-6*	11.35
50FA544	N75-3	V15 Type II, M91E, M92E, M93E, M75 Series, (78 RPM)†	10.00
50FA530	N55E	M44, M55, M80 Series	14.95
50FA540	N44E	M44E	12.50
50FA528	N44-5	M44-5**	11.00
50FA529	N44-7	M44-7, M98/A‡	9.75
50FA545	N44C	M44C‡	9.70
50FA527	N44-3	M44, M55, M80, V-15 (78 RPM)†	10.10
50FA546	N31E	M31E	14.95
50FA547	N32E	M32E	14.50
50FA548	N32-3	M31E, M32E† (78 RPM)	10.00
50FA525	N21D	M21, M7-N21D M3-N21D; Upgrades M3D, M7D‡	11.00
50FA511	N3D	M3D; Upgrades M7D, M8D‡	7.95
50FA518	N99	M99 Series‡	15.00

Elliptical tip size except (*) .0006 (†) .0025 (**) .0005 (‡) .0007.

"HI-TRACK" MODEL M91E

Trk. force ¾ to 1½ grams. Trackability Spec. @ 1 gram: 28cm/sec @ 1000 Hz.
50FA500. NET **49.95**

MODEL M92E. Same as model M91E Trackability spec. @ 1 gm: 26 cm/sec @ 1000 Hz.
50FA501. NET **44.95**

MODEL M93E. Same as model M91E but .0004" x .0007" diamond stylus. Tracking force: 1½ to 3 grams.
50FA502. NET **39.95**

SERIES M31E/M32E

MODEL M31E. Features .0002" x .0007" elliptical diamond stylus. 20-18,500 Hz. Separation: 20 db @ 1 KHz. Tracking force: 1 to 2 grams. Wt., 3 oz.
50FA504. NET **29.95**

MODEL M32E. Features .0004"x.0007" elliptical diamond stylus. 20-17,500 Hz. Separation: 20 db @ 1 KHz. Tracking force: 2½ to 5 grams. 3 oz.
50FA505. NET **29.50**

TONE ARMS

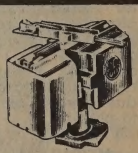
MODEL M232. For 12" records. Accepts Stero, Mono., cartridges. Trk force 2 to 8 gms. Includes arm rest, template, 4 ft. cable assem. Arm length, 12 11/16". Wt., 1 lb.
50FA514. NET **32.75**

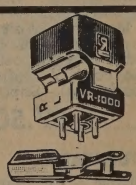
MODEL M236. For 16" records. Arm length, 14½". Wt. 1⅛ lbs.
50FA515. NET **35.00**

STEREO PREAMPLIFIER

Model M64. Fully Transistorized. Inputs for tape heads and magnetic phonograph cartridges. Outputs for high level auxiliary or low (600 ohm) level. Freq. response: ± 2 db from 20 Hz to 20 KHz. Under 1% total harmonic distortion for 2 bolts output @ 1 KHz. Operating voltage: 120 v ± 10% 50/60 Hz or 30 VDC. Size: 2 13/16" x 5⅜" x 4½". Shpg. wt. 2½ lbs.
61FX173. NET **34.00**

GE


VR II CARTRIDGE



VRII

VR 1000-3
VR 1000-7
VR 1000-5
RPJ

VRII VARIABLE RELUCTANCE MONOPHONIC CARTRIDGES

Frequency Response: 20 to 20,000 hz. Tracking Pressure: Professional type tone arm 4 grams. Record Changers—6.8 grams. Equalization: 6.2K for RIAA. Out-put: 22 MV Nominal at 10 cm/sec. Compliance: 1.7x10.6 CM/ dyne. Mounting: Either ½" standard or 7/16". Terminals: Plug-in-design.

SINGLE NEEDLE

Model VR II S. Accomodates Stylus of your choice. Replaces formerly listed 4GO40, 041, 061, 063 when appropriate stylus is purchased with cartridge.
50FA235. NET **4.88**

Model 4GS. Broadcast type. (Low impedance). Replaces formerly listed 4GS-01S, 02S, 01D, 02D, when appropriate stylus is purchased with cartridge.
50FA237. NET **4.88**

DOUBLE NEEDLE

Model VRII D. Accomodates dual styli of your choice. Replaces formerly listed 4G050, 052, 053, when appropriate styli are purchased with cartridge.
50FA236. NET **5.98**

Model 4GD. Broadcast type (Low impedance). Replaces formerly listed 4GD-01S-02S, 01D-02D, 01D-02S when appropriate styli are purchased with cartridge.
50FA238. NET **5.98**

VRII CLIP-IN-TIP STYLI

Stock No.	Type	Description	Net
50FA337	4G-07S	.7 Mil	
50FA338	4G-02S	2.5 Mil Sapphire*	1.28
50FA339	4G-03S	3 Mil	
50FA340	4G-07D	.7 Mil	
50FA341	4G-02D	2.5 Mil Diamond	
50FA342	4G-03D	3 Mil	2.98

RPJ STYLI

Stk. No.	Type	Stylus	Net
50FA180	RPJ07D	.7 Mil Diamond	2.98
50FA221	RPJ004	.001 Diamond	2.98

VR-1000 STEREO CARTRIDGES

VR-1000-7. .7 Mil diamond stereo cartridge. Recommended tracking force:3-7 grams. Frequency response—20-20,000 hz. Load resistance—47 K ohms. Output: 1 millivolt per cm/sec. Resistance: 1100 ohms. ½" mounting ctrs.
50FA200. ..... **11.33**

VR-1000-5. Same as 1000-7, except .5 Mil Recommended tracking force is 1-3 grams.
50FA201. NET **13.59**

VR1000-3 ELLIPTICAL CARTRIDGE

Stereo cartridge prevents loss of higher harmonics. Features revolutionary suspension and damping systems. 15° tracking angle eliminates distortion. Tracking force: 3-7 grams. Frequency response: 20-20,000+hz per sec. +2 db. 1100 ohms per channel resistance. Output: 1 milivolt per cm/sec. minimum ½" mtg. centers. With DR-3D stylus.
50FA343. NET **18.75**

VR-1000 REPLACEMENT STYLI

50FA202. DR-7D. .7mil. diamond. NET **6.30**
50FA203. DR-5D. .5 mil. diamond. NET **7.50**
Model DR-3D Stylus. Bi-radial and elliptical combined with VR1000-3 cartridge provides purest reproduction. Eliminates "bottoming."
50FA344. NET **12.00**

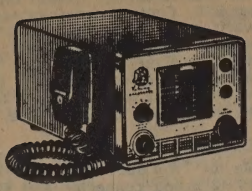
VR-22 REPLACEMENT STYLI

Replacement styli for former G.E. model VR-227. Minimizes tracking distortion and improves frequency response and channel separation.
50FA336. VR-222. .0007 diamond. NET **3.75**

E. F. JOHNSON

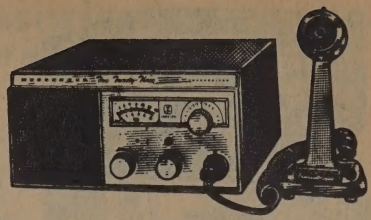
242-320

(SHOWN WITH POWER SUPPLY)

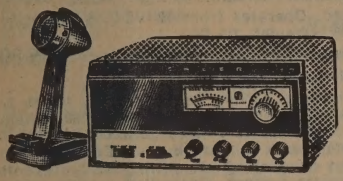


242-128

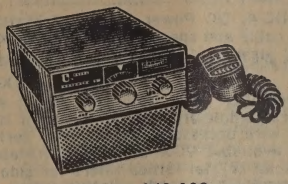
242-102



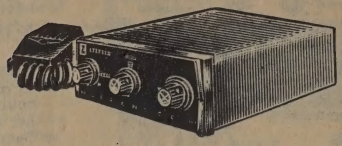
MESSENGER 223
242-223-2



242-124



242-123



MESSENGER III

242-109

MESSENGER 320

Model 242-320. Deluxe solid state 23-channel transceiver. Built-in speech compression provides more audio for greater range without distortion or splatter. Combination "S" meter/power meter and built-in PA system. Double conversion super-heterodyne receiver with selectivity of 6 kHz bandwidth at −6 db. Transmitter R.F. power input: 5 watts at 13.8 v DC. R.F. power output: 3.5 watts at 13.8 v DC. Furnished with low impedance ceramic element microphone with push-to-talk switch and hang-up stud. Unit dimensions: 2½"h, 8"w, 9½"d. Shpg. wt. 8 lbs.
97F509. NET **199.95**
Model 239-122-2. AC power supply for Model 320. 6 lbs. **97F510. NET** 32.95

MESSENGER I TRANSCEIVER
110V AC—12V DC

Model 242-128. Ideally suited for daily business use as well as pleasure. A complete 10 tube (including rectifier), crystal-controlled transmitter and receiver enclosed in a steel cabinet. Its compact size and light weight make it easy to install anywhere, even under the dashboard of your car. Built-in automatic noise limiter. Automatic volume control effectively prevents distortion at close ranges. Microphone equipped with a push to talk switch. Controls include manual squelch control. Has an effective range up to 20 miles in a car and longer over water. Complete with microphone and cord, crystals for channel 11 and necessary power cords. Size: 5⅝"H.x7"W.x11⅜"D. 14 lbs.
97F515. 242-128-11. NET **124.95**

1½ WATT PERSONAL MESSENGER

Model 242-102. Superhet receiver, RF amp. gives twice the sensitivity, 40% greater range. Fully effective noise elimination with the use of 11 transistors and 4 diodes. AVC combined with push-pull audio circuit. Squelch control, razor sharp reception. Complete with rechargeable battery in plug-in compartment and crystals for channel 11. Meets all FCC requirements, 23 channel coverage. High-impact plastic case, telescoping antenna, push to talk. sw. 8"x3½"x2". 3 lbs.
97FX536. 242-102-111. NET **99.95**

MESSENGER 242-123

Accurate and reliable 23-channel frequency synthesizer. Solid state throughout with features like speech compression, temperature compensation, illuminated "S" meter/relative output meter. Ideal for either base or mobile use. Built-in noise limiter. Shipping weight approximately 7 pounds.
97F511. NET **179.95**

POWER SUPPLY

Model 239-125. 117 V AC Power Supply for the Messenger 123.
97F531. NET 32.95

MESSENGER 242-124

Solid-state, full function, 23-channel base station for 27 Mhz citizen band radio service. Specially engineered for optimum performance in personal communications; business, industrial applications; emergency communication nets; and public service utility systems. To the business user, far greater talk power that means priceless extra range and operating efficiency are delivered. Desk microphone available as optional accessory. FCC type accepted. Shpg. wt. 14 lbs.
97F512. NET **299.50**
97F513. Desk Mike with plug 15.95

MESSENGER 223

Model 223. 23-channel base station for unmatched communications. Combines tubes with a solid-state frequency synthesizer. Frequency Range: 26.965- 27.255 MHz. Antenna Impedance: 50 ohms. Sensitivity: 11 db (S+N)/N ratio with 0.5 microvolts (30% modulated 1000 Hz). Selectivity: 7 kHz bandwidth at −6 db, 21 kHz bandwidth at −60 db. Output Power is 3 watts at 10% distortion. Squelch Range: 0.3 to 500 microvolts. Squelch Sensitivity: 6 db or less signal change for 40 db of quieting at 1 microvolt. Wt. 17 lbs.
97F508. 242-223-2. (with Desk Mike)
NET **224.95**

PERSONAL MESSENGER ACCESSORIES

Model 250-804. Replacement rechargeable nickel cadmium battery mounted in sealed plug-in compartment for recharging at 115V AC, 50-60 Hz.
97FX538. NET 19.95
Model 251-806. Transceiver carryling case.
97FX540. NET 8.50

MESSENGER III

Model 242-143-11. Double conversion, superheterodyne receiver. Crystal filter virtually eliminates adjacent channel interference. Has set-and-forget volume and squelch controls; multi-stage noise limiting circuit; instant selection from any of twelve transmit receive channels. Accessory socket on rear panel accommodates Tone Alert plug. Built in P.A. system. Can be used as a 5-watt portable unit with Johnson Power Pack. Complete with microphone and crystals for channel 11. 2¾₆" x 6¾₆" x 8¾".
97F530 ..... **159.95**
Model 239-125. AC Power Supply for Messenger III. **97F531** 32.95

PERSONAL MESSENGER 109

Model 242-109. Gives you three watts of TALK POWER and enables you to select one of two channels. (Chan. 11 crystals supplied.) Rechargeable nickel-cadmium battery pack gives 8 hrs. of service on a single charge. Sensitivity: 10 db (S+N)/N ratio with 0.5 microvolts (30% modulation at 1000 Hz). Selectivity: 6 kHz bandwidth at −6 db. Antenna Impedance: 50 ohms. Output Power is .5 watts at 10% distortion for 0.5 microvolts input. Squelch Range: 0.3 to 20 microvolts. Squelch Sensitivity: 6 db signal change for 40 db of quieting at 1 microvolts. Wt. 3 lbs.
97FX546. 242-109-11. NET **149.95**
Model 239-128. Replacement rechargeable battery. **97FX547. NET** 35.00
Model 251-834. Leather case for 109.
97FX548. NET 8.50

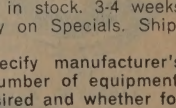
CTS KNIGHTS, INC.

CITIZENS BAND CRYSTALS

Crystals are available for channels 1-23 at ±.003%. These crystals are standard replacements for all C.B. equipment. Many crystals are carried in stock. 3-4 weeks required for delivery on Specials. Shipping weight, 4 oz.
How to order: Specify manufacturer's name and model number of equipment, channel number desired and whether for transmit or receive. This information must accompany all orders.
1-4, EA. **2.50**
5-Up, Ea. 1.95

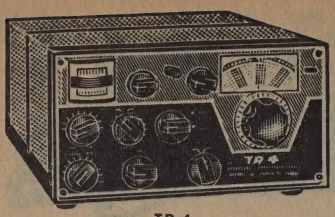
BENDIX CITIZENS BAND SWR METER

Model 290. Micro Match Citizens Band Power & SWR Meter. Measures actual RF power output in watts on an accurately calibrated 0 to 4 watt scale. Indicates when transmitter and antenna are tuned for maximum output. No external power required. Compact size (4½" x 2" x 2¼") makes this unit ideal for dashboard mounting. Continuous reading.
97F298. NET **26.50**



290

DRAKE AMATEUR EQUIPMENT



TR-4

MODEL—TR-4 SIDEBAND—TRANSCEIVER

Features: Full frequency coverage—all amateur bands 10 through 80 meters. Upper and Lower Sideband on all bands; VOX or PTT on AM and SSB; Automatic transmt, receive switching on CW. Diode detector for AM reception; Solid state VFO with linear permeability tuning for max. stability; Output impedance adjustable with Pi-network; 300 watts PEP input SSB; Controlled carrier screen modulator for AM built-in; Shifted carrier CW, 260 watts input; 2 special 9 mc crystal filters for sideband selection. Full AGC with Drake dual time constant system; 2.1 kc passband; 100 kc crystal calibrator built-in; Separate receiver S-meter and transmitter plate ammeter; 20 tubes, including VR, 2 transistors, 8 diodes; Receiver IF selectivity, 2.1 kc at 6 kb, 7.5 kc at 60 db; Receiver sensitivity, less than ½ uV for 10 db S/N; Power Supply, Model AC-4 or Model DC-4 listed below may be used. Size, 5½x10¾14⅜". Weight, approximately 16 lbs.

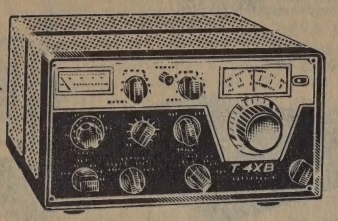
97F050. NET **699.95**

Model AC-4. Power Supply for TR-4 above or the T-4X below. 120VAC 50/60 cycle. 5' interconnecting cable with 12 prong connector and speaker connector. 5x5x10¼". 4 lbs.

97F051. NET 99.95

Model DC-4. DC Power Supply. Transistorized. Operates from 12 VDC. 5' interconnecting cable and speaker connector. 3⅜x4⅜x8". Weight, 7½ lbs.

97F031. NET **125.00**

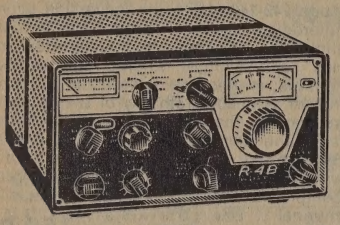


T-4XB

MODEL T-4XB TRANSMITTER

T-4XB features: Solid state VFO with 1 Kc divisions. Covers ham bands 80, 40, 20, & 15 meters completely and 28.5-29 Mc of 10 meters with crystals furnished; 160 meters covered with accessory crystal. Also certain other 500 Kc ranges between 1.8 and 30 Mc are availab.e VOX or PTT; adjustable pi-network output; Built-in CS Sidetones; Two special crystal lattice filters for side band selection; Transmitting AGC prevents flat topping, Meter reads relative output and plate current; Controlled carrier modulation for AM; Automatic transmit receives switching on CW; High impedance input; Power requirements—Model AC-4 Power Supply listed above. Size 5½"x10¾"x11 ". Wt. 14 lbs.

97F046. (less supply) **NET** **495.00**



R4-B

MODEL R4-B RECEIVER

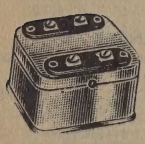
R4-B features: VFO with 1 Kc dial divisions; Covers ham bands 80, 40, 20 & 15 meters completely and 28.5 to 29.0 with crystals furnished; 4 bandwidths of selectivity (equivalent to 4 filters) are furnished; .4, 1.2, 2.4, and 4.8 Kc; Passband tuning; Noise blanker; Notch filter and 100 Kc crystals calibration are built in; Crystal lattice filter first IF prevents cross modulation; Receives SSB, AM, CW, and RTTY with full RF gain, Complete AVC action and accurate S-meter indication Premixed injection-crystal oscillator and low frequency VFO outputs premixed; Product detector for SSB/CW-diode detector for AM; Excellent overload and cross modulation characteristics—insensitive to operation of nearby transmitters. Power: consumption, 60 watts, 120/240 VAC, 50/60 Hz. Size 5½"x10¾"x11⅝". Shpg. Wt. 16 lbs.

97F045 NET **475.00**

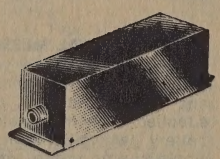
Model MS-4. Matching Speaker for use with R-4 Receiver (has space to house AC-4 Power Supply), or with TR-4 Transceiver. 5⅜x10¾x11⅛". 6 lbs.

97F047. NET **22.00**

CRYSTALS. For T4X-B xmtr or R4-B rcvr. **SPECIAL ORDER ONLY. EACH** **5.00**



TV 300 HP



100LP 1000LP

R.L. DRAKE FILTERS

Model TV-100-LP. With up to 100 watts max. input. 20 watts max. on 6 meters.

47F915. NET 6.50

Model TV-1000-LP. With up to 1000 watts max. input. 200 watts max. on 6 meters.

47F916. NET 18.75

Model TV-300HP. HI-PASS FILTER. Eliminates IF interference from ham bands 6-100 meters. Over 40 db attenuation. 52 Mc and lower. Imped. 300 ohms. Shpg. wt., 2 oz.

47F913. NET 4.95

BENDIX

261

711N

Model 261. Coupler. Operating range: 500 kc—225mc. For 52 ohm coax line. May be left in transmission line as a monitor at up to 1 KW RF power. Complete instructions included. Used with 262 Indicator below or a home made type. UHF type connectors. Size 3x4¾". Shpg. wt., 1 lb.

97F295. NET **22.50**

Model 262. Indicator. Used with 261 coupler above. 4¼x4¼x4", Shpg. wt., 2 lbs.

97F296. NET 14.50

Model 263.2. Both coupler and indicator similar to 261 and 262 except calibrated to read RF power in actual watts on 10, 100, and 1000 scales. UHF type connectors.

97F297. NET 85.00

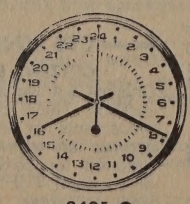
Model 263.3. As above with "N" connectors.

97F292. NET 85.00

Model 711N. Single unit with both coupler and indicator. 25-1000 mc on 50 ohm coax line. Ranges: 0-30, 30-75, 75-300 watts. Type N connectors, includes UHF adapters. Size: 3 1/16x5 5/32x3". Shpg. wt., 3 lbs.

97F293. NET **149.50**

191



2405 G

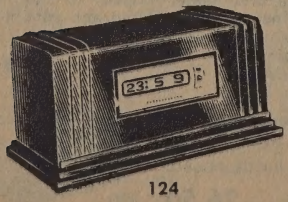
MASTERCRAFTERS

Model 191. 8" dia. 24 hour chrome plated metal wall clock. Inner dial has south polar projection map of the world indicating world time zones. Dial can be adjusted for various time zones. Self starting. UL approved. 110 VAC, 60 Hz. Shpg. wt.: 1½ lbs.

97F911. NET **9.40**

Model 2405C. An efficient, accurate, 24-hour clock. Many telephone exchanges, factories, airports, police departments or anyone working around the clock have a need for this clock. 12" white dial; black hands and numerals; red sweep second hand UL approved. Grey case 13½" Wt. 5 lbs.

97F906 NET **18.20**



124

PENNWOOD

Model 124. 24-hour, direct reading clock with 10 minute repeating timer. Timer can be turned on when beginning QSO. ¼" high numerals. 110V, 60 Hz. Helps you meet FCC Regulation 12.82. Plastic walnut case. Shpg. Wt. 4 lbs.

97F909 NET Model 124 ..... **23.50**

97F908. NET Model 100-24H-¼. As above less timer. **16.00**

Ham Equipment Accessories

E. F. JOHNSON AMATEUR EQUIPMENT

KEYS AND PRACTICE SETS

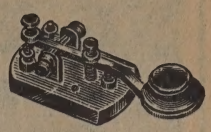
Type 114-320. Heavy Duty Keys. Heavy die cast base, chrome plated key arm. Well insulated for heavy duty service. Large ¼" coin silver contacts. Navy type knob. Adjustable steel bearings and spring designed to give a light keying touch. Black wrinkle enamel base.
27F531. NET **7.50**

Type No. 114-301. Phenolic Base Keys. High quality key with adjustable bearings. Improved spring-pigtail connection. Nickel plated parts. ⅛" coin silver contacts. Molded phenolic base.
27F518. NET **3.60**

VIKING PHONE PATCH

Model 250-46. Fully automatic Hybrid transformer type unit provides for P.T.T., VOX, or manual operation on SSB or AM. Line null control offers excellent isolation. Separate gain controls for transmitter and receiver inputs. RF filtering and by-passing prevents RF feedback from telephone line. Heavy gauge steel enclosure with modern styling. Maroon finish. Removable etched aluminum panel. Size: 2x6x2½". Wt., 3 lbs.
97F518. NET **25.00**

250-46


114-320

BARKER & WILLIAMSON

MODEL 590-G SWITCH

Model 590-G. Single pole 5-position switch. Designed for panel mounting—equipped with 6 standard UHF fittings type SO239. It automatically grounds all unused positions. Freq. range: audio to 500 MHZ. R.F. power rating 1 k.w. Impedance 50-75 ohms, VSWR 1.05:1 at 150 MHZ. Isolation 75 db @ 30 MHZ. Dimensions 3½" overall dia. x 1¾" depth behind panel, ½" shaft, ¼" diameter with flat.
40F992. NET **15.75**

AUDIO PHASE SHIFT NETWORK

Model 350-2Q4. Highly compact, shielded, octal based audio phase shift network for SSB rcvg. and xmtg. Unit splits any audio signal within the range of 300-3000 Hz into two equal-amplitude components 90° (±1.5°) out of phase with respect to one another. Shpg. wt., 1 lb.
40F997. NET **9.75**

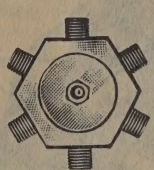
COAX SWITCHES

Model 550A-2. Single pole, two position switch for use by Radio Amateurs, Citizen's banders, and Commercial users. Switches transmitter from one antenna to the other. Designed for panel mounting through a ⅜" hole. Common terminal identified by a large letter "C" stamped on the case of the switch. Equipped with three standard type UHF fittings SO-239. Freq. Range: Audio to 100 MHz. Cross Talk: minus 60 db. between terminals at 30 MHz. Dimensions: 4" overall dia., 2¼" depth behind panel, shaft 1" long ¼" dia. with flat. Shpg. wt., 1½ lbs.
40F995. NET **7.43**

Model 550A. Permits easy selection of antennas, transmitters, exciters, receivers and other RF devices using 52 or 75 ohm coax. Housed in 2¾" dia. aluminum case, equipped with six SO239 type connectors for selecting any one of five lines. Single hole mounting. Will handle 1 kw of modulated power with maximum crosstalk of −45 db at 30 MHz. Wt., 4 lbs.
40F996. NET **11.25**

590G

350-2Q4


550A

EICO HAM GEAR

CODE PRACTICE OSCILLATOR

Model 706K. Battery operated transistor audio oscillator. Headset may be plugged in which automatically cuts out loudspeaker. External key terminals are provided on front panel. Tone freq. range: approx. 500 to 2000 hz continuously variable, Bakelite, satin finish, deep etched aluminum. Size: 6⅛x3¾x2¾". Supplied with 2 "C" cells. Shpg. wt., 2 lbs.
62F862. 706K Kit. **NET** **9.95**
63F863. 706. Factory wired. **NET** **14.95**
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760K

710K

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HC-6/U Holder. .486" spacing—.050" pins

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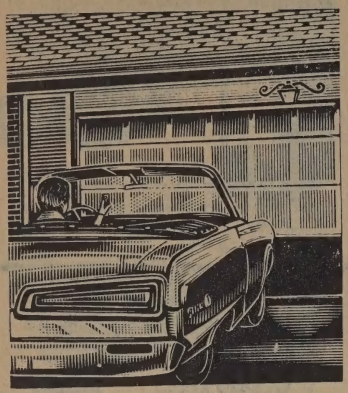

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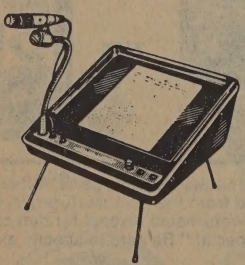

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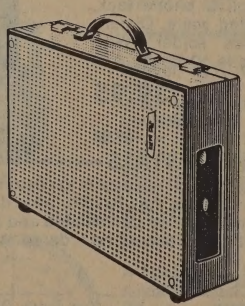

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52F610 ..... **.50**

RADIO AMATEUR'S VHF MANUAL. Contains authentic VHF history. Covers receiving and transmitting principles, techniques, and construction. 300 pages. 6½x9½". Shpg. wt. 1 lb., 3 oz.
52F603 ..... **2.50**

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52F619 ..... **2.50**

HINTS AND KINKS. Hundreds of ideas developed by Amateurs to solve problems of modern radio construction and experimenting. 125 pp. 9½x6½". Shpg. wt. 7 oz.
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TYPE A. L/C/F CALCULATOR. Solves problems of frequency, inductance, coil winding and many other factors. Shpg. wt. 2 oz.
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RADIO AMATEUR CALLBOOK. Lists names and addresses of licensed radio amateurs in the U.S. and Possessions, plus servicemen in foreign countries. Published quarterly, current edition shipped, 9"x12", over 640 pages.
53F015 ..... **8.95**

FOREIGN RADIO AMATEUR CALLBOOK. Similar to above, but lists amateurs outside of U.S. and possessions. 9"x12", over 375 pages.
53F061 ..... **6.95**

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53F060 ..... **2.50**

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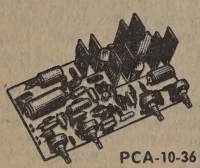
53F037 ..... **1.25**

THE RADIO AMATEUR'S WORLD ATLAS. Shows country prefixes. Printed in 4 colors on durable paper, 8¾"x12", latest edition, 20 pages.
53F058 ..... **2.00**

RADIO AMATEURS REFERENCE LIBRARY. Complete library of maps, printed in four colors. Each map contains valuable information for every radio amateur. Contains prefix map of world, radio amateurs great circle chart, map of North America and world atlas.
53F057 ..... **3.50**

AMPEREX AMPLIFIERS

15 WATT GUITAR AMPLIFIER WITH TREMOLO

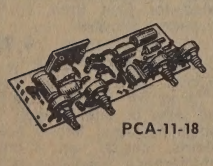


PCA-10-36

Model PCA-10-36. Terminals for 2 normal inputs and 1 solo output, 4 controls, volume, tone, tremolo intensity, tremolo speed. Terminals on board for tremolo foot switch connection. Supply voltage: 36 V.D.C. (regulated for measurement). Load inpedance: 8 ohms. Input impedance: 12K ohms. Input sensitivity: 40 mv @ 1kHz for 15 W. Tremelo controls: speed 3 to 9 Hz. Intens. 0-60%. Size: 2½x8½x4½.

Stk. No.	Type	1-9	10-99	100-499
59F1468	PCA-10-36	29.80	22.85	19.30

4 WATT GUITAR AMPLIFIER WITH TREMLO



PCA-11-18

Model PCA-11-18. 2 input circuits for normal or solo guitar, 4 controls, volume, tone, tremolo intensity, tremolo speed. Terminals on board for foot switch connection. Supply voltage: 18 V.D.C. (regulated for measurement). Load impedance: 8 ohms 2 oz. magnet). Input impedance: 3k ohms. Input sensitivity: 25 mV at 1 kHz. Tremolo controls: Speed 3 to 9 Hz., Intensity 0 — 50%. Complete except for power transformer. Size: 1½"x8¼x2⅝".

Stk. No.	Type	1-9	10-99	100-499
59F1469	PCA-11-18	19.70	15.10	12.75

2 TRANSISTOR A.M. TUNER

Model PCR-1-9. Designed to match any audio amplifier with 50 mv sensitivity. High Q litz wire loop-stock is carefully matched to autodyne converter in first stage, followed by I.F. stage with A.G.C. control. Tuning range: 530-1620 KHz. Sensitivity: a) for 10db signal to noise ratio=225UV b) for 50 mv output=500UV. Image rejection: 30 db. I.F. rejection: 30 db. Power requirements: 9 volts @ 6 ma or 11 volts @ 6 ma. Size: 2¼x4½x3½.

Stk. No.	Type	1-9	10-99	100-499
59F1471	PCR-1-9	11.42	8.60	7.43

TRANSFORMERS FOR AMPLIFIERS LISTED ABOVE

Stk. No.	Model	Type	1-9	10-24	25-49	50-99
5F2140	PCA-1-9, PCA-2-9 PCA-4-9, PCA-4-9A	21F121	2.91	2.62	2.47	2.33
5F2049	PCA-1-14 PCA-2-14 PCA-4-14 PCA-4-14A	23V116	6.14	5.53	5.22	4.91
5F2158	PCA-4-18A	26F67	4.75	4.28	4.04	3.80
5F2050	PCA-5A-14	24V117	7.66	6.89	6.51	6.13
5F2167	PCA-3B-18-1 PCA-9-18	21F82	6.55	5.90	5.57	5.24
5F2051	PCA-6A-25 PCA-6A-25SCS	23V118	13.50	12.51	11.48	10.80
2F822	PCA8-36	FT-15	13.29	11.55	10.50	9.62

STEREO PREAMPS

Model PCA-7B-18. Designed for use with 8 track stereo tape playback unit. Input sensitivity of 700 uv and adjustable output up to 1.5 v. An ideal link between tape head and low cost phono amplifiers listed on this page. Properly equalized for 3¾" speed. Supply voltage: 14-18 VDC. Input impedance: >20K ohms. Output impedance: <10K Ohms. Size: 4⅞" long x 2⁹⁄₁₆" wide.

Model PCA-7C-18. Same as PCA-7B-18 but without the adjustable output stage. Has an output of 40 mv.

Stock No.	Type	1-9	10-99	100-499
59F1463	PCA-7B-18	13.50	10.38	8.79
59F1464	PCA-7C-18	9.80	7.55	6.40

Amperex Amplifiers

PHONO PRE-AMP

Designed to provide a proper equalization and signal strength to drive the standard phono amplifiers, from a magnetic cartridge. A standard input impedence of 47 k ohms. Power may be tapped from the supply of main amplifier, or from a separate source. Can also be operated from a battery supply. Supply voltage: —25V.D.C. Current drain: approx. 2.5 mA; Output imped. less than 10 k ohms; input pair overload: 22 db; noise level: —70 db from 3V out (shorted input); Equalization: standard R.I.A.A. 30 hz—15Khz.

Stk. No.	Type	1-9	10-99	100-499
59F1470	PCA-12-25	10.40	8.02	6.79

4 WATT COMPLEMENTARY AMPLIFIER

Model PCA-3B-18-1. Provides 4 watts output per channel when driven by a crystal cartridge. Unit has dual volume, bass and treble controls, plus balance control. Circuit is highly stabilized DC coupled 3 stage, complementary amplifier with neg. feedback. Temperature stabilized by thermistor and uses special low noise silicon input transistor. Circuit built on 7½x3½" printed circuit board; contains all power supply components except power supply transformer. Supply voltage: 18 VDC. Load impedance: 8 ohms. Input impedance: 1 megohm avg.; 300K ohms min. Frequency response: 45 Hz — 20 KHz @ —3 db. 1½x7½x3½".

Stock No.	Type	1-9	10-99	100-499
59F1454	PCA-3B-18-1	23.32	17.88	15.08

1-WATT COMPLEMENTARY AMPLIFIER

Model PCA-1-9. Provides 1 watt output when connected to a crystal cartridge. Use 3 stage direct coupled circuit with a complementary output. Highly stable for interchangeability and uses negative feedback. Very low idle current allows long battery life. Supply voltage, 9 VDC Load impedance: 8-16 ohms. Input impedance: 600K ohms avg.; 220K ohms min. Frequency response: 100 Hz—50KHz @ —3db. Size: 1 9/16 x 3 3/16 x 2".

Stock No.	Type	1-9	10-99	100-499
59F1450	PCA-1-9	7.65	5.90	5.00

20 WATT COMPLEMENTARY AMPLIFIER

Model PCA-8-36. Provides full output with ½ volt input at high input impedance to make it compatible with a transistor type preamp. DC coupled circuit. Complete 20 watt amplifier except for power transformer. 5" x 4½" printed circuit board. Supply voltage: 36 V. Input impedance: 1 megohm avg. Frequency response: 20 Hz to 40KHz @ —3db. 2 3/8x5 3/8x4½".

Stock No.	Type	1-9	10-99	100-499
59F1465	PCA-8-36	19.15	14.58	12.42

LOW COST 1 WATT AMPLIFIER

Model PCA-2-14. Incorporates direct coupled circuit to provide exceptional frequency response: 80 Hz — 25 KHz @ —3 db. Temperature stabilized with thermistor. Low idle current and low temperature rise operation. Connections may be made to printed circuit board with solderless connectors. Supply voltage: 14 VDC. Load impedance: 12-16 ohms. Input impedance: 200K ohms min. Size: 1 9/16 x 2 x 2 7/8".

Stock No.	Type	1-9	10-99	100-499
59F1453	PCA-2-14	6.03	4.75	4.03

1 WATT HIGH GAIN AMPLIFIER

Model PCA-4-9. Three stage, 4 transistor unit—a high sensitivity version of **PCA-1-9** at left. Can be used with simple AM tuner or ceramic cartridge. Supply voltage: 10 VDC. Load impedance: 8 ohms. Input impedance: 25K ohms avg. 20K ohms min. Frequency response: 50 Hz—20KHz @ —3db. 1½ x 4½ x 2".

Model PCA-4-9A. With tone control.

Stock No.	Type	1-9	10-99	100-499
59F1455	PCA-4-9	9.11	7.02	5.95
59F1456	PCA-4-9A	9.80	7.55	6.40

2 WATT HIGH GAIN AMPLIFIER

Model PCA-4-14. Three stage, 4 transistor amplifier—a high sensitivity version of the PCA-14. Can be used with a simple AM tuner or ceramic cartridge. Supply voltage: 14 VDC. Loan imp. 8-16 ohms. Input imp. 25K ohms avg. 20K ohms min. Freg. response: 40 Hz —18 KHz @ —3db. Size 1½x4½x2".

Stock No.	Type	1-9	10-99	100-499
59F1457	PCA-4-14	9.11	7.02	5.95
59F1458	PCA-4-14A	9.80	7.55	6.40

2 WATT STEREO AMPLIFIER

Model PCA-5A-14. A stereo version of the PCA-1-14 at left. 2 watt output per channel when connected to a crystal cartridge. Volume, balance, tone controls. Supply voltage: 14 VDC. Load impedance: 8 ohms. Input impedance: 600K ohms avg. 300K ohms min. Freq. res.: 100 Hz —40 KHz @ —3 db. Size: 1⅝ x 7¼ x 2".

Stock No.	Type	1-9	10-99	100-499
59F1459	PCA-5A-14	16.00	12.30	10.40

10 WATT STEREO AMPLIFIER

Model PCA-6A-25. 8 watts output per channel when driven by ceramic cartridge. Also used with a tuner input since sensitivity is 0.5 volt. Volume, balance, bass and trebie controls. Separate preamp stage for each channel. Supply voltage: 25 VDC. Load impedance: 8 ohms. Input impedance: 500K ohms avg. Freq. res.: 30 Hz—40KHz @ —3db. 1⅝ x 7⅝ x 4¾".

Model PCA-6A-25SCS. Same as above, but with separate preamp strip to allow mounting in compact phonographs.

Stock No.	Type	1-9	10-99	100-499
59F1460	PCA-6A-25	33.55	25.70	21.72
59F1461	PCA-6A-25SCS	31.80	24.80	21.80

TAPE PLAY BACK AMPLIFIER

Model PCA-9-18. 10 transistor amplifier provides 3.0 watts output per channel when driven by a tape playback head. Pre-amp is properly equalized for 3¾ ips tape speed. 3 controls are volume, balance, and tone. Low noise transistors assure wide band frequency response.

Stk. No.	Type	1-9	10-99	100-499
59F1467	PCA-9-18	25.80	19.77	16.70

2-WATT COMPLEMENTARY AMPLIFIER

Model PCA-1-14. Provides 2 watts output when driven by crystal cartridge. Uses 3 stage direct coupled circuit with a complementary output. Low idle current allows low temperature operation and low heat output. Supply voltage: 14 VDC. Load impedance: 8-16 ohms. Input impedance 600K ohms avg.; 220K ohms min. Frequency response: 100 Hz — 40 KHz @ —3db. Size 1 9/16 x 3 3/16 x 2".

Stock No.	Type	1-9	10-99	100-499
59F1451	PCA-1-14	7.65	5.90	5.00

½ WATT COMPLEMENTARY AMPLIFI

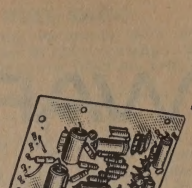
Model PCA-2-9. Similar to PCA-2-14 except for the minor changes necessary for 9 volt voltage supply.

Stock No.	Type	1-99	10-99	100-499
59F1452	PCA-2-9	6.03	4.75	4.03

4-TRANSISTOR UTILITY AMP

Model PCA-4-18A. Three stage four transistor amplifier provides a 3-watt output. High sensitivity permits use with a simple AM tuner, magnetic guitar pick-up or high impedance dynamic mike. Circuit is temperature compensated and contains power supply components for AC operation. 1% distortion at normal level (less power supply transformer.)

Stock No	Type	1-9	10-99	100-499
59F1466	PCA-4-18A	10.00	7.72	6.54

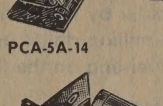


PCA-3B-18-1

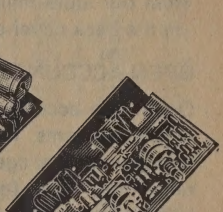
PCA-12-25

PCA-6A-25

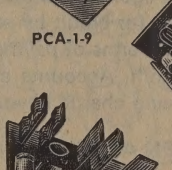
PCA-5A-14



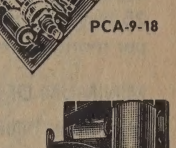
PCA-1-9



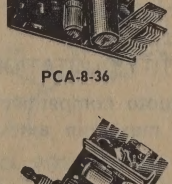
PCA-9-18



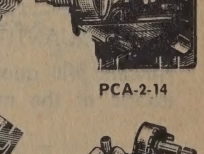
PCA-8-36



PCA-2-14



PCA-4-9



PCA-4-18A

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YOU ARE
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NEWARK ELECTRONICS

can provide fast efficient service for your electronic component requirements.

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TRUCK AND RAIL FREIGHT. For heavy shipments, freight is most economical. Shipping charges are collected on delivery.

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APO and FPO shipments are made by Parcel Post. Maximum weight, 70 lbs. Maximum size, 100 inches (length plus girth). Surface and Air postage is at the Zone rate applicable between the mailing office and the post office shown in the address (New York, Zone 5; San Francisco, Zone 8).

IF YOU WRITE TO US ABOUT YOUR ORDER

Include all papers and correspondence that we returned to you. For a damaged shipment, send a full report from your Postmaster or Express Agent.

C.O.D. SHIPMENTS

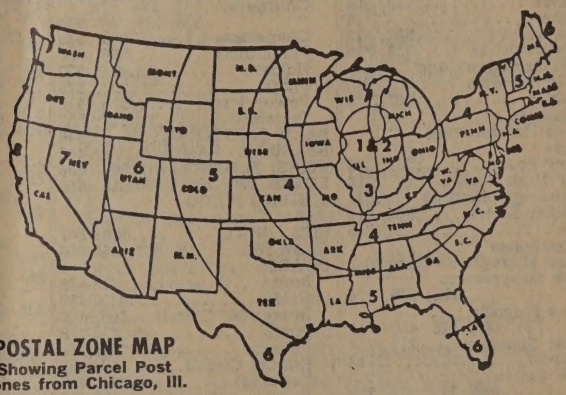
On parcel post C.O.D. shipments, the Post Office charges an additional collection fee and a money order fee for forwarding the amount collected to us. You can save money by sending full remittance with order. The following are the charges on C.O.D. orders.

Amt. C.O.D.	C.O.D. Fee
$ 0.01 to $ 10.00	$0.70
10.01 to 25.00	.80
25.01 to 50.00	.90
50.01 to 100.00	1.00
100.01 to 200.00	1.10

PARCEL POST RATES

See the table and zone map below for parcel post rates. Save C.O.D. charges by sending enough money to cover postage. On parcels under 16 ounces, allow 6¢ for first 2 ounces or fraction, and 2¢ for each additional ounce.

Weight in Pounds	ZONES							
	Local	1-2 Up to 150 Miles	3 150 to 300 Miles	4 300 to 600 Miles	5 600 to 1000 Miles	6 1000 to 1400 Miles	7 1400 to 1800 Miles	8 Over 1800 Miles
2	$0.60	$0.65	$0.70	$0.75	$0.80	$0.90	$1.00	$1.05
3	.60	.75	.80	.85	.95	1.10	1.20	1.35
4	.65	.80	.85	.95	1.10	1.30	1.40	1.60
5	.70	.85	.90	1.05	1.20	1.45	1.65	1.90
6	.70	.95	1.00	1.15	1.35	1.60	1.85	2.10
7	.75	1.05	1.10	1.25	1.50	1.75	2.10	2.35
8	.75	1.10	1.15	1.35	1.60	1.90	2.30	2.60
9	.80	1.15	1.20	1.45	1.75	2.05	2.45	2.85
10	.80	1.20	1.30	1.55	1.90	2.20	2.65	3.10
11	.80	1.25	1.35	1.60	2.00	2.30	2.85	3.35
12	.85	1.30	1.45	1.70	2.10	2.45	3.05	3.55
13	.85	1.35	1.55	1.80	2.20	2.60	3.25	3.80
14	.90	1.40	1.60	1.90	2.35	2.75	3.45	4.00
15	.90	1.45	1.65	2.00	2.45	2.85	3.60	4.20
16	.95	1.55	1.75	2.05	2.55	2.95	3.80	4.40
17	1.00	1.60	1.80	2.15	2.65	3.10	3.95	4.60
18	1.00	1.65	1.90	2.20	2.75	3.20	4.15	4.80
19	1.05	1.70	2.00	2.30	2.85	3.35	4.30	5.00
20	1.05	1.75	2.05	2.40	2.95	3.50	4.50	5.20
21	1.10	1.85	2.10	2.45	3.05	3.65	4.65	5.40
22	1.15	1.90	2.15	2.55	3.15	3.75	4.85	5.60
23	1.15	1.95	2.20	2.60	3.25	3.90	5.00	5.80
24	1.20	2.00	2.25	2.65	3.35	4.05	5.15	6.00
25	1.20	2.05	2.30	2.75	3.45	4.15	5.35	6.20



POSTAL ZONE MAP
Showing Parcel Post Zones from Chicago, Ill.

AIR PARCEL POST RATES

ZONES	1 & 2	3	4	5	6	7	8	
1 Lb.	$0.80	$0.80	$0.80	$0.80	$0.80	$0.80	$0.80	U.S. Territories & Possessions 8th Zone Rate
For Each Extra Lb.	Add 48c	Add 48c	Add 50c	Add 56c	Add 64c	Add 72c	Add 80c	

PARCEL POST INSURANCE

For your protection, all parcel post shipments are insured by the Hartford Insurance Company against loss or damage. Allow for insurance at the following rates:

Amt. Insurance	Ins. Fee
$ 0.01 to $15.00	20 Cents
15.01 to 50.00	30 Cents
$ 50.01 to $100.00	40 Cents
100.01 to 150.00	50 Cents
150.01 to 200.00	60 Cents

REA EXPRESS-TRUCK AVERAGE SHIPPING CHARGES FROM CHICAGO

(Rates are about 10% higher to eastern states.)

Do Not Send Money for Express Charges If Your Station Has An Agent

Weight in Pounds	Mileage							
	100	200	300	500	750	1000	1500	2000
1-150	$6.80	$6.80	$6.85	$7.70	$8.90	$9.80	$11.50	$16.65
151-200	6.80	6.80	7.45	8.85	10.25	11.45	13.20	19.20
201-250	7.75	8.50	9.40	11.15	12.95	14.45	16.70	21.50
251-300	9.30	9.85	11.30	13.50	15.65	17.50	20.25	26.60

EXPRESS INSURANCE RATES

Do Not Send Money for Express Charges if your Station has an agent.

Amt. Insurance	Ins. Fee
$ 0.01 to $ 50.00	No Fee
50.01 to 150.00	30¢

Each Additional $100.00 of value or fraction 30¢.

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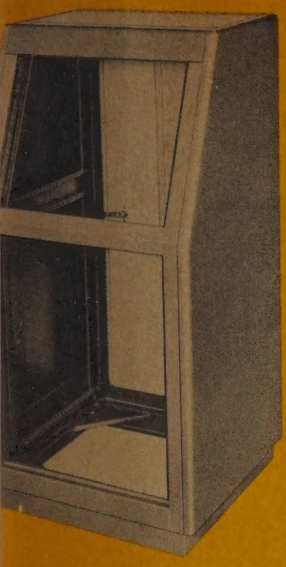

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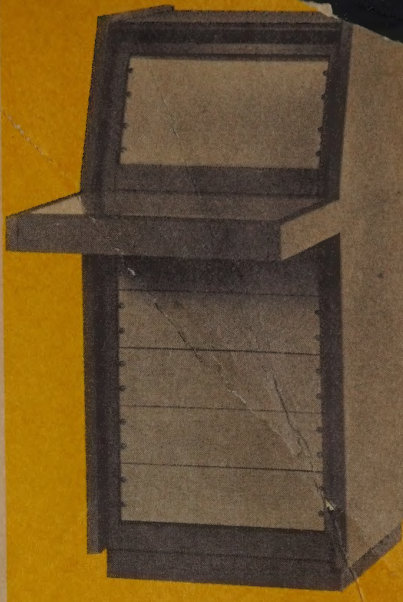

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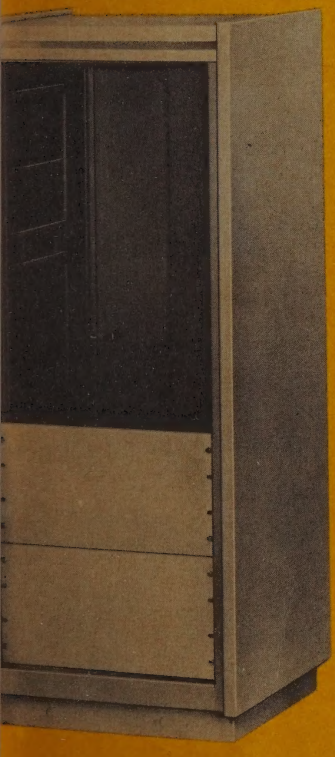

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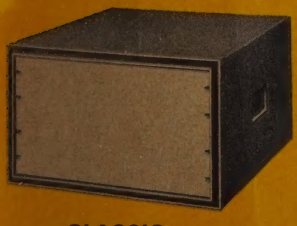

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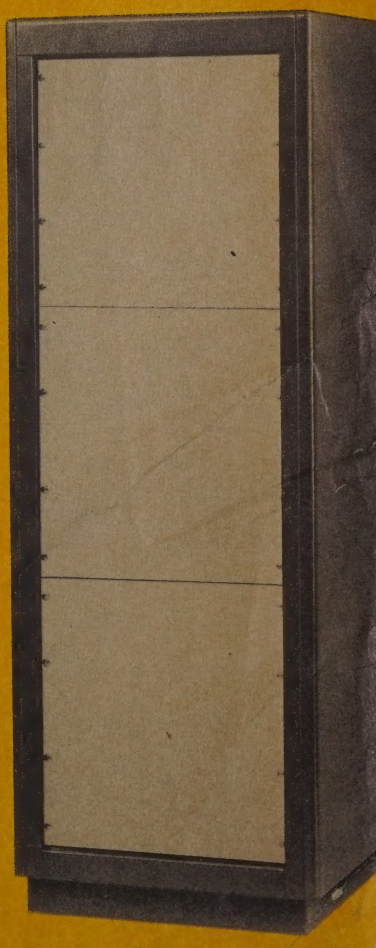

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